



Historic England

**APPENDICES TO WRITTEN REPRESENTATIONS
ON BEHALF OF THE
HISTORIC BUILDINGS AND MONUMENTS COMMISSION
FOR ENGLAND
("HBMCE")**

**Application by
Highways England for an Order granting Development
Consent for the A303 Amesbury to Berwick Down**

PINS Reference No: TR010025

HBMCE Reference No: 20019871

Deadline 2 Submission

03 May 2019

APPENDIX 1	Advice Note 9: Using the Rochdale Envelope (Planning Inspectorate 2018)	1
APPENDIX 2	National Heritage List for England Entry for the Stonehenge, Avebury and Associated Sites WHS	10
APPENDIX 3	Plan of designated heritage assets in relation to the Scheme. 13	
APPENDIX 4	List of Scheduled Monuments within the WHS.	15
APPENDIX 5	The 1972 Convention Concerning the Protection of the World Cultural and Natural Heritage	20
APPENDIX 6	HBMCE Response to First Public Consultation, March 2017... 38	
APPENDIX 7	HBMCE Response to EIA Scoping Consultation, November 2017.....	51
APPENDIX 8	HBMCE Response to Public Consultation, April 2018.....	54
APPENDIX 9	HBMCE Supplementary Response, August 2018.....	73
APPENDIX 10	Stonehenge A303 Improvement: Assessment of aspects of the Preferred Route as at 04 December 2017, N. Snashall & C. Young 2018.....	77
APPENDIX 11	UNESCO World Heritage Centre/ICOMOS Advisory Missions, State of Conservation Reports and UNESCO World Heritage Committee Decisions	114
APPENDIX 12	Report on the joint World Heritage Centre/ICOMOS Advisory mission to Stonehenge, Avebury and associated sites, 27-30 October 2015.....	130
APPENDIX 13	Report on the joint World Heritage Centre/ICOMOS Advisory mission to Stonehenge, Avebury and associated sites, 31 January – 3 February 2017.....	160
APPENDIX 14	Report on the joint World Heritage Centre/ICOMOS Advisory mission to Stonehenge, Avebury and associated sites, 5-7 March 2018	262
APPENDIX 15	State of Conservation Report, 2017	324
APPENDIX 16	State of Conservation Report, 2018	338
APPENDIX 17	State of Conservation Report, 2019	348
APPENDIX 18	World Heritage Committee Decision 41.COM 7B.56 (2017)....	372
APPENDIX 19	Draft 2018 World Heritage Committee Decision.....	376
APPENDIX 20	Extract from 2018 World Heritage Committee Decision	378

APPENDIX 21	Guidance on Heritage Impact Assessment for Cultural World Properties. A publication of the International Council on Monuments and Sites, January 2011	382
APPENDIX 22	Designated and Non-Designated Heritage Assets Mentioned in HBMCE's Written Representations	407

**APPENDIX 1 Advice Note 9: Using the Rochdale Envelope
(Planning Inspectorate 2018)**



Using the Rochdale Envelope

Advice Note Nine: Rochdale Envelope

This advice note explains the use of the 'Rochdale Envelope' approach under the Planning Act 2008 (PA2008). In particular the advice note addresses the use of the Rochdale Envelope applicable to the Environmental Impact Assessment (EIA) process set out in The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations).

Whilst this advice note is aimed primarily at applicants, it should also be helpful for other persons involved in the PA2008 process.

The EIA Regulations include transitional provisions for certain projects. Where the transitional provisions are met The Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 continue to apply.

This advice note makes reference to other advice notes which can be found at:

<http://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/>

1. Introduction

1.1 This advice note forms part of a suite of advice notes produced by the Planning Inspectorate. A number of applicants have sought advice on the degree of flexibility that would be considered appropriate in order to address uncertainties associated with applications for development consent through the PA2008 process. This advice note addresses the use of the 'Rochdale Envelope' approach under the Planning Act 2008 (PA2008) and provides background to the case law and its origins in UK Environmental Impact Assessment (EIA) practice.

1.2 The 'Rochdale Envelope' approach is employed where the nature of the Proposed Development means that some details of the whole project have not been confirmed (for instance the precise dimensions of structures) when the application is submitted, and flexibility is sought to address uncertainty. Such an approach has been used under other consenting regimes (the Town and Country Planning Act 1990 and the Electricity Act 1989) where an application has been made at a time when the details of a project have not been resolved.

1.3 The need for flexibility is identified in a number of National Policy Statements (NPS)¹ which suggest the Rochdale Envelope as an approach to address uncertainties inherent to the Proposed Development e.g. changing market conditions. However, Energy (EN-1), the NPS for Renewable Energy Infrastructure (EN-3) and the NPS for

Contents

1. Introduction
2. The Rochdale Envelope: background
3. Consultation and publicity at the Pre-application stage
4. Environmental Impact Assessment and the Environmental Statement
5. Consistency across application documents
6. Conclusions

1. Available via: <https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/national-policy-statements/>



National Networks all stress the need to ensure that the significant effects of a Proposed Development have been properly assessed.

1.4 Applicants need to choose whether or not there is a need to incorporate flexibility (and how much) into their application for development consent to address uncertainty. If flexibility is sought then it is essential that Applicants ensure the following is achieved:

- that the approach is explained clearly for the purpose of **consultation and publicity at the Pre-application stage**;
- that the Environmental Statement (ES) explains fully how the flexibility sought has been taken into account in the assessments and why it is required; and
- that there is **consistency across the application documents** including any other relevant environmental assessments (e.g Habitats Regulations Assessment (HRA) or Water Framework Directive (WFD) assessment).

1.5 This advice note provides advice as to the main issues to be considered and suggests a way forward, in the context of the PA2008 process. This advice note does not address every situation where uncertainty exists and flexibility is required. It is likely that there are other situations at a project level that are relevant to the approach discussed in this advice note. Applicants should also have regard to the wider suite of advice notes provided by the Planning Inspectorate.

2. The Rochdale Envelope: background

2.1 The Rochdale Envelope arises from two cases: R. v Rochdale MBC ex parte Milne (No. 1) and R. v Rochdale MBC ex parte Tew [1999] and R. v Rochdale MBC ex parte Milne (No. 2) [2000]. These cases dealt with outline planning applications for a proposed business park in Rochdale.

2.2 They address:

- applications for outline planning permission under the Town and Country Planning Act 1990; and
- consideration of an EIA in the context of an outline planning consent to enable compliance with the Council Directive 85/337/EEC as transposed by The Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1988.

2.3 To understand the implications arising from the comprehensive consideration of the issues by the Judge² in Milne (No. 2) ('the Judgment'), it is helpful to note some of the key propositions, as follows:

- the assessment should be based on cautious 'worst case' approach:
"such an approach will then feed through into the mitigation measures envisaged [...] It is important that these should be adequate to deal with the worst case, in order to optimise the effects of the development on the environment" (para 122 of the Judgment);
- the level of information required should be:
"sufficient information to enable 'the main,' or the 'likely significant' effects on the environment to be assessed [...] and the mitigation measures to be described" (para 104 of the Judgment);
- the need for 'flexibility' should not be abused:
"This does not give developers an excuse to provide inadequate descriptions of their projects. It will be for the authority responsible for issuing the development consent to decide whether it is satisfied, given the nature of the project in question, that it has 'full knowledge' of its likely significant effects on the environment. If it considers that an unnecessary degree of flexibility, and hence uncertainty as to the likely significant environmental effects, has been incorporated into the description of the development, then it can require more detail, or refuse consent" (para 95 of the Judgment);

2.4 The Encyclopedia of Planning Law and Practice³ provides additional insight into the purpose and practical application

2. Sullivan J. (as he then was)



of the Judgment and other relevant case law. Key principles from this analysis have been considered and summarised in context of the DCO application process below and should be taken into account:

- the DCO application documents should explain the need for and the timescales associated with the flexibility sought and this should be established within clearly defined parameters;
- the clearly defined parameters established for the Proposed Development must be sufficiently detailed to enable a proper assessment of the likely significant environmental effects and to allow for the identification of necessary mitigation, if necessary within a range of possibilities;
- the assessments in the ES should be consistent with the clearly defined parameters and ensure a robust assessment of the likely significant effects;
- the DCO must not permit the Proposed Development to extend beyond the 'clearly defined parameters' which have been requested and assessed. The Secretary of State may choose to impose requirements to ensure that the Proposed Development is constrained in this way;
- the more detailed the DCO application is, the easier it will be to ensure compliance with the Regulations.

2.5 it is ultimately for the decision maker to determine what degree of flexibility can be permitted in the particular case having regard to the specific facts of an application. The Applicant should ensure they have assessed the range of possible effects implicit in the flexibility provided by the DCO. In some cases, this may well prove difficult.

3. Consultation and publicity at the Pre-application stage

3.1 The process introduced by the PA2008 places a duty upon applicants to engage meaningfully with affected communities, local authorities and other statutory consultees over their proposals at Pre-application stage. The Applicant must produce and publicise a Statement of Community Consultation (SoCC). In preparing this, they must consult with and have regard to the views of any relevant local authority on the content of the SoCC.

3.2 The PA2008 process therefore seeks to ensure there are opportunities for the public, local authorities, consultees and other interested persons to get involved and have their say during the Pre-application stage. Clearly for consultation to be effective there will need to be a genuine possibility of influencing the proposal and therefore a Proposed Development should not be so fixed as to be unable to respond to comments from consultees.

3.3 The importance of consultation during the Pre-application stage cannot be overemphasised, given the 'front loaded' approach established by the PA2008. Such consultation needs to be appropriate, proportionate (in terms of content, timing and clarity) and reported fully in the Consultation Report such that the response of the Applicant to the comments made in terms of the evolution of the Proposed Development can be clearly understood.

3.4 There is opportunity within the statutory Pre-application procedure for applicants to determine the most appropriate consultation programme for their needs and to time the consultation to appropriate stages in the evolution of the Proposed Development. However, the consultation must be undertaken on issues that have been clearly identified and on a Proposed Development that is as detailed as possible. The bodies consulted need to be able to understand the proposals. The details of the Proposed Development should therefore be described as clearly and simply as possible. Obviously fewer options and variations within a project description make it easier to understand, especially by those less familiar with the PA2008 process. Applicants may also find it helpful to use, for example, figures, cross sections, photomontages or wireframe images to illustrate their proposals. Careful consideration needs to be given on the timing of consultation. Early in the development of a project it may be difficult to provide enough detail to allow consultees

3. Encyclopedia of Planning Law and Practice ISBN: 9780421007406, General Editors: Christopher Lockhart-Mummary, QC; David Elvin, QC; Landmark Chambers Team. See in particular para 3B-949B.2373.2.10



to make meaningful comments but if the project proposals are highly developed there will be fewer opportunities for changes to respond to consultee comments⁴.

3.5 Applicants must be able to demonstrate that the statutory consultation requirements under the PA2008 (sections 42 and 47) have been complied with. It is possible to comply with these sections of the PA2008 with less than full information about the Proposed Development, but unless there is a clear iterative consultation process followed and further documentation provided to consultees during the process, the Applicant may risk being unable to demonstrate that the proposals have been considered in the light of consultation responses received. Applicants should take care to ensure that the description of the Proposed Development is clear so that it is able to demonstrate that the statutory requirements regarding consultation have been met.

4. Environmental Impact Assessment and the Environmental Statement

4.1 EIA is a process consisting of:

- the preparation of an ES or updated ES, as appropriate, by the Applicant;
- the carrying out of any consultation, publication and notification as required under the Regulations or, as necessary, any other enactment in respect of EIA development; and
- the steps that are required to be undertaken by the Secretary of State or by the relevant authority under the Regulations.

4.2 A Proposed Development that is subject to Council Directive 85/337/EEC as amended by Council Directive 97/11/EC⁵ and Directive 2014/52/EU⁶ must be accompanied by an ES describing the aspects of the environment likely to be significantly affected by the Proposed Development.

4.3 It is likely that most applications for a Development Consent Order (DCO) made under the PA2008 will be EIA development.

4.4 It is typical that the request for a Scoping Opinion (as part of the preparation for the ES⁷) represents the first formal procedural step in the DCO process. The majority of applicants choose to combine this process with the notification confirming that the Proposed Development is EIA development⁸.

4.5 At the time of the Scoping Request, it may be necessary to leave certain matters open. For example, details of the Proposed Development may not have been finalised and, indeed, may not be finalised for some time. For example, in relation to offshore wind farms, detailed information that may not be available at the time of making the request for a Scoping Opinion could include:

- type and number of turbines;
- foundation type (this may depend upon the height and type of turbine and the seabed conditions);
- location of the export cable route (whether this is buried or on the seabed);
- location of the landfall point;
- the definitive location of any onshore substation;

4. More information on the Pre-application stage can be found in the Planning Inspectorate's Advice Note 8.1 (available here: <https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/>); Community Consultation FAQ (available here: <https://infrastructure.planninginspectorate.gov.uk/application-process/frequently-asked-questions/>); and in government guidance on Pre-application consultation (available here: <https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/guidance/>)

5. As transposed in relation to the PA2008 process by The Infrastructure Planning (Environmental Impact Assessment) Regulations 2009

6. As transposed in relation to the PA2008 process by The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017

7. Regulation 10 of The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017

8. Regulation 8 of The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017



- location of the grid connection point;
- construction methods and timing; or
- re-powering.

4.6 The Planning Inspectorate considers that there is an opportunity as part of the consultation process and within the ES to explain how the Proposed Development's design has evolved over time. The application should explain the key changes that have occurred as the Proposed Development's design progressed towards submission of the application.

4.7 The EIA Regulations require that where a Scoping Opinion has been adopted the ES must be based on the most recent Scoping Opinion adopted (so far as the Proposed Development remains materially the same as the Proposed Development which was subject to that opinion⁹). Applicants should take this into consideration in determining when to request a Scoping Opinion from the Planning Inspectorate.

The Environmental Statement and establishing the worst case scenario

4.8 The ES should include the information specified in the EIA Regulations 2017¹⁰ and support the Proposed Development as described by the DCO application.

4.9 If, in the course of preparing an ES, it becomes clear that it will not be possible to specify all the details of the Proposed Development, the ES must explain why and how this has been addressed. The ES will need to establish the relevant parameters for the purposes of the assessment. Where this approach is adopted the assessments in the ES should be undertaken on the basis of the relevant design parameters applicable to the characteristics of the Proposed Development included within the DCO. The assessment should establish those parameters likely to result in the maximum adverse effect (the worst case scenario) and be undertaken accordingly to determine significance.

4.10 The ES should support the application for a DCO and must contain clear information presenting the significant effects applicable to the Proposed Development. If flexibility is sought it will be necessary for the ES to include information taking into account the variations applicable to the Proposed Development.

4.11 The ES should explain the reasons that lead to the uncertainty to characteristics of the Proposed Development in order to justify the flexibility sought. Applicants should take care to ensure that the approach taken in the assessment is not overly complex, as this may impede the understanding of the assessment and the finding of likely significant effects.

4.12 Establishing a robust worst case scenario(s) for the purposes of assessment is a particular challenge where there is a large degree of uncertainty and extensive flexibility in the DCO is sought. Applicants should carefully consider the approach to assessing uncertainty and understand how this will influence the complexity of their assessment in the ES. The characteristics of the Proposed Development that are yet to be finalised should be clearly identified in the description of the development in the ES. The Applicant should consider whether it is possible to robustly assess a range of impacts resulting from a large number of undecided parameters. The description of the development in the ES must not be so wide that it is insufficiently certain to comply with requirements of the EIA Regulations.

4.13 Where the Applicant chooses to follow a parameters-led assessment to establish the worst case scenario for the ES, they should ensure that the applicable parameters are explained and clearly set out in order to;

- ensure that interactions¹¹ between aspect¹² assessments are taken into account relevant to the worst case scenario(s) established and that careful consideration is given to how these are assessed; and
- ensure that the assessment of the worst case scenario(s) addresses impacts which may not be significant on their own but could become significant when they inter-relate with other impacts alone or cumulatively with impacts from other

9. Regulation 14 (3)(a) of The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017

10. Regulation 14 of The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017

11. Interactions between aspect assessments includes where a number of separate impacts, eg noise and air quality, affect a single receptor such as fauna

12. The Planning Inspectorate refers to 'aspects' as meaning the relevant descriptions of the environment identified in accordance with the EIA Regulations



development (including those identified in other aspect assessments).

4.14 The potential cumulative impacts with other developments will also need to be carefully identified such that the likely significant effects can be shown to have been identified and assessed against the baseline position (which would include built and operational development). In assessing cumulative impacts, other development should be identified through consultation with the local planning authorities and other relevant authorities. Applicants should have regard to the staged approach to cumulative effects assessment set out in Planning Inspectorate's Advice Note Seventeen: Cumulative Effects Assessment¹³.

The examination of the environmental information

4.15 When examining a Proposed Development the Examining Authority (ExA) must be satisfied that the likely significant effects, including any significant residual effects taking account of any proposed mitigation measures or any adverse effects of those measures, have been adequately assessed.

4.16 At the time the application is submitted, the parameters within the DCO should not be so wide ranging as to represent an effectively different Proposed Development from that which was consulted on and assessed in the ES. The Applicant is encouraged to make effort to limit the parameters applicable to the Proposed Development. The parameters used for the assessment need to be clearly defined in the DCO and therefore in the accompanying ES. This will simplify the assessment and give confidence that the Proposed Development within the DCO (as built) would not result in significant effects beyond those assessed in the ES.

4.17 Any ES submitted with an application for a DCO should demonstrate that the likely significant environmental effects have been assessed. Any limitations in the assessment should be identified and explained. The environmental information should be sufficient for an ExA to make a recommendation, and for the relevant Secretary of State to make a decision on the application.

4.18 During the examination of an application, if it comes to light that the ES should contain further information for example to assess variations associated with flexibility within the DCO application, consideration of the application would be suspended pending receipt of that further information¹⁴.

5. Consistency across the application documents

5.1 The PA2008 introduced a streamlined decision-making process for Nationally Significant Infrastructure Projects. As such, the consideration of an application is undertaken in a relatively short period but following substantial Pre-application consultation. The Secretary of State cannot accept an application for Examination unless, among other things, the quality of the Applicant's statutory consultation has been adequate.

5.2 Implementation of the Rochdale Envelope assessment approach should only be used where it is necessary and should not be treated as a blanket opportunity to allow for insufficient detail in the assessment. Applicants should make every effort to finalise details applicable to the Proposed Development prior to submission of their DCO application. Indeed, as explained earlier in this advice note, it will be in all parties' interests for the Applicant to provide as much information as possible to inform the Pre-application consultation process.

13. Available here: <https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/>

14. Regulation 20 of The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017



5.3 Greater detail will aid the Examination and reduce the possibility of a delay in the examination process or a successful legal challenge, for example on the adequacy of the ES. It is essential that flexibility is proportionately used such that there is no question of the DCO (if granted) being for a distinct project. Failure to do so may result in successful legal challenge. Ensuring consistency of approach to flexibility across application documents is therefore essential.

The Development Consent Order

5.4 The DCO is the principal document in the PA2008 process in as much that (if granted) it provides the powers to implement the Proposed Development. In most cases the DCO will be made as a statutory instrument and sets out the powers and consent for the Proposed Development. A DCO can also include provisions authorising the Compulsory Acquisition of land or of interests in or rights over land which is the subject of a DCO application.

5.5 An Applicant may choose to include parameters within the DCO as a practical way to address uncertainty and provide the required flexibility. Parameters can be secured within the DCO in a variety of ways; for example by inclusion within principal powers, by inclusion within schedules detailing the Authorised Development or by inclusion within Requirements. Applicants should take care to ensure that any flexibility sought in their DCO has been consistently and robustly assessed within their ES.

5.6 Relevant parameters enabling flexibility within a DCO will be project and sector-specific. Examples include:

- maximum/ minimum number of turbines, or maximum turbine blade tip height, associated with an offshore wind farm;
- maximum/ minimum heights or widths of buildings/ structures associated with a strategic rail freight interchange; or
- maximum stack height associated with a gas-fired power station.

5.7 In determining what is an acceptable level of flexibility applicants should have regard to information contained within relevant NPSs, notably:

- NPS EN-3 which states (paragraph 2.6.43) that the “wind farm operators are unlikely to know precisely which turbines will be procured for the site until sometime after the consent has been granted”;
- NPS for National Networks which states (paragraph 2.45) that for strategic rail freight interchanges “some degree of flexibility is needed when schemes are being developed, in order to allow the development to respond to market requirements as they arise”; and
- NPS for National Networks (paragraphs 4.18 to 4.19) which explains that “in some instances it may not be possible at the time of the application for development consent for all aspects of the proposal to have been settled in precise detail”.

5.8 The examination will, amongst other things, consider the need for and acceptability of the flexibility included within the DCO having regard to the relevant NPS (as applicable). Applicants should take particular care to ensure that any flexibility requested would not (if granted) result in materially different options which could in itself constitute a different Proposed Development from that assessed in the ES.

5.9 The same principles apply to the scope of powers proposed in any Deemed Marine Licence(s) scheduled to a DCO.

5.10 When drafting other application documents, such as Land Plans or the Statement of Reasons the Applicant will also need to consider how they take account of the flexibility sought through the DCO.



Other application documents

5.11 With consistency of approach in mind, where a DCO/ ES seeks to address uncertainty by incorporating a degree of flexibility, applicants will also need to consider how this is approached in the following other application documents:

- Compulsory Acquisition information:
 - Land Plans
 - Statement of Reasons
- Consultation Report
- Environmental Permits (if included)

This list is not exhaustive.

6. Conclusions

6.1 The Rochdale Envelope assessment approach is an acknowledged way of assessing a Proposed Development comprising EIA development where uncertainty exists and necessary flexibility is sought.

6.2 This advice note explains how the Rochdale Envelope assessment approach may be applied in the context of the PA2008 process and suggests ways to address uncertainty and allowing sufficient flexibility in the DCO to enable the delivery of the Proposed Development. There are key points and documents required in the PA2008 process where the implications of seeking that flexibility need to be addressed:

- during Pre-application consultation process;
- within the ES; and
- within the description of the project in the application documents, particularly the DCO but also other application documents identified elsewhere in this note.

6.3 The challenge for applicants is to ensure that where uncertainty exists and flexibility is sought the following is achieved:

- that the statutory consultation and publication requirements under the PA2008 (sections 42, 47 and 48) have been complied with;
- that the likely significant environmental effects from the Proposed Development have been properly assessed and presented in the ES; and
- that there is a consistent approach to the description of the development addressing the uncertainty and necessary flexibility across all relevant application documents.

Further information

The Planning Inspectorate, Major Casework Directorate, Temple Quay House, Temple Quay, Bristol BS1 6PN

Email: enquiries@pins.gsi.gov.uk

Telephone: 0303 444 5000

Web: <http://infrastructure.planninginspectorate.gov.uk>

**APPENDIX 2 National Heritage List for England Entry for the
Stonehenge, Avebury and Associated Sites WHS**

<https://historicengland.org.uk/listing/the-list/list-entry/1000097>

World Heritage Site Summary (Published)

World Heritage Site inscribed by the World Heritage Committee of UNESCO in 1986.

Name: Stonehenge, Avebury and Associated Sites

Brief Description:

Stonehenge and Avebury, in Wiltshire, are among the most famous groups of megaliths in the world. The two sanctuaries consist of circles of menhirs arranged in a pattern whose astronomical significance is still being explored. These holy places and the nearby Neolithic sites are an incomparable testimony to prehistoric times.

Criteria:

This entry is compiled from information provided by UNESCO who hold the official record for all World Heritage Sites at their Paris Head Quarters. This entry is provided for information only and those requiring further assistance should contact the World Heritage Centre at UNESCO.

Criterion (i): The monuments of the Stonehenge, Avebury, and Associated Sites World Heritage Site demonstrate outstanding creative and technological achievements in prehistoric times.

Criterion (ii): 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.

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.

Statement of Significance:

The Stonehenge, Avebury, and Associated Sites World Heritage property is internationally important for its complexes of outstanding prehistoric monuments.

It comprises two areas of chalkland in Southern Britain within which complexes of Neolithic and Bronze Age ceremonial and funerary monuments and associated sites were built. Each area contains a focal stone circle and henge and many other major monuments. At Stonehenge these include the Avenue, the Cursuses, Durrington Walls, Woodhenge, and the densest concentration of burial mounds in Britain. At Avebury, they include Windmill Hill, the West Kennet Long Barrow, the Sanctuary, Silbury Hill, the West Kennet and Beckhampton Avenues, the West Kennet Palisaded Enclosures, and important barrows.

The World Heritage property is of Outstanding Universal Value for the following qualities:

Stonehenge is one of the most impressive prehistoric megalithic monuments in the world on account of the sheer size of its megaliths, the sophistication of its concentric plan and architectural design, the shaping of the stones, uniquely using both Wiltshire Sarsen sandstone and Pembroke Bluestone, and the precision with which it was built.

At Avebury, the massive Henge, containing the largest prehistoric stone circle in the world, and Silbury Hill, the largest prehistoric mound in Europe, demonstrate the outstanding engineering skills which were used to create masterpieces of earthen and megalithic architecture.

There is an exceptional survival of prehistoric monuments and sites within the World Heritage site including settlements, burial grounds, and large constructions of earth and stone. Today, together with their settings, they form landscapes without parallel. These complexes would have been of major significance to those who created them, as is apparent by the huge investment of time and effort they represent. They provide an insight into the mortuary and ceremonial practices of the period, and are evidence of prehistoric technology, architecture, and astronomy. The careful siting of monuments in relation to the landscape helps us to further understand the Neolithic and Bronze Age.

Criterion (i): The monuments of the Stonehenge, Avebury, and Associated Sites World Heritage Site demonstrate outstanding creative and technological achievements in prehistoric times.

Stonehenge is the most architecturally sophisticated prehistoric stone circle in the world. It is unrivalled in its design and unique engineering, featuring huge horizontal stone lintels capping the outer circle and the trilithons, locked together by carefully shaped joints. It is distinguished by the unique use of two different kinds of stones (Bluestones and Sarsens), their size (the largest weighing over 40t), and the distance they were transported (up to 240km). The sheer scale of some of the surrounding monuments is also remarkable: the Stonehenge Cursus and the Avenue are both about 3km long, while Durrington Walls is the largest known henge in Britain, around 500m in diameter, demonstrating the ability of prehistoric peoples to conceive, design and construct features of great size and complexity.

Avebury prehistoric stone circle is the largest in the world. The encircling henge consists of a huge bank and ditch 1.3km in circumference, within which 180 local, unshaped standing stones formed the large outer and two smaller inner circles. Leading from two of its four entrances, the West Kennet and Beckhampton Avenues of parallel standing stones still connect it with other monuments in the landscape. Another outstanding monument, Silbury Hill, is the largest prehistoric mound in Europe. Built around 2400 BC, it stands 39.5m high and comprises half a million tonnes of chalk. The purpose of this imposing, skilfully engineered monument remains obscure.

Criterion (ii): 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.

The megalithic and earthen monuments of the World Heritage Site demonstrate the shaping of the landscape through monument building for around 2000 years from c 3700 BC, reflecting the importance and wide influence of both areas.

Since the 12th century when Stonehenge was considered one of the wonders of the world by the chroniclers Henry de Huntington and Geoffrey de Monmouth, the Stonehenge and Avebury sites have excited curiosity and been the subject of study and speculation. Since early investigations by John Aubrey, Inigo Jones, and William Stukeley, they have had an unwavering influence on architects, archaeologists, artists, and historians. The two parts of the World Heritage Site provide an excellent opportunity for further research.

Today, the Site has spiritual associations for some.

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.

The design, position, and inter-relationship of the monuments and sites are evidence of a wealthy and highly organised prehistoric society able to impose its concepts on the environment. An outstanding example is the alignment of the Stonehenge Avenue (probably a processional route) and Stonehenge stone circle on the axis of the midsummer sunrise and midwinter sunset, indicating their ceremonial and astronomical character. At Avebury the length and size of some of the features such as the West Kennet Avenue, which connects the Henge to the Sanctuary over 2km away, are further evidence of this.

A profound insight into the changing mortuary culture of the periods is provided by the use of Stonehenge as a cremation cemetery, by the West Kennet Long Barrow, the largest known Neolithic stone-chambered collective tomb in southern England, and by the hundreds of other burial sites illustrating evolving funerary rites.

Statement of Outstanding Universal Value:

Draft Statements of Outstanding Universal Value have been submitted by DCMS in February 2011 for consideration by the World Heritage Committee.

Justification for Inscription:

Date of Inscription: 1986

Date of most recent amendment: 2008

Other Information:

This site is a cultural site in England and is located at N51 10 44 W1 49 31. Its constituent elements measure 4,985 hectares.

There is a World Heritage Site Management Plan for both main parts of the World Heritage Site with the Stonehenge coordinator based at English Heritage and the Avebury coordinator based at Wiltshire Council. Implementation of the objectives and action plan is undertaken by the World Heritage Coordinators and Steering Groups made up of key stakeholders oversee World Heritage activities.

Map/Chart

The below map is for quick reference purposes only and may not be to scale. For a copy of the full scale map, please see the attached PDF - [125.pdf](#)



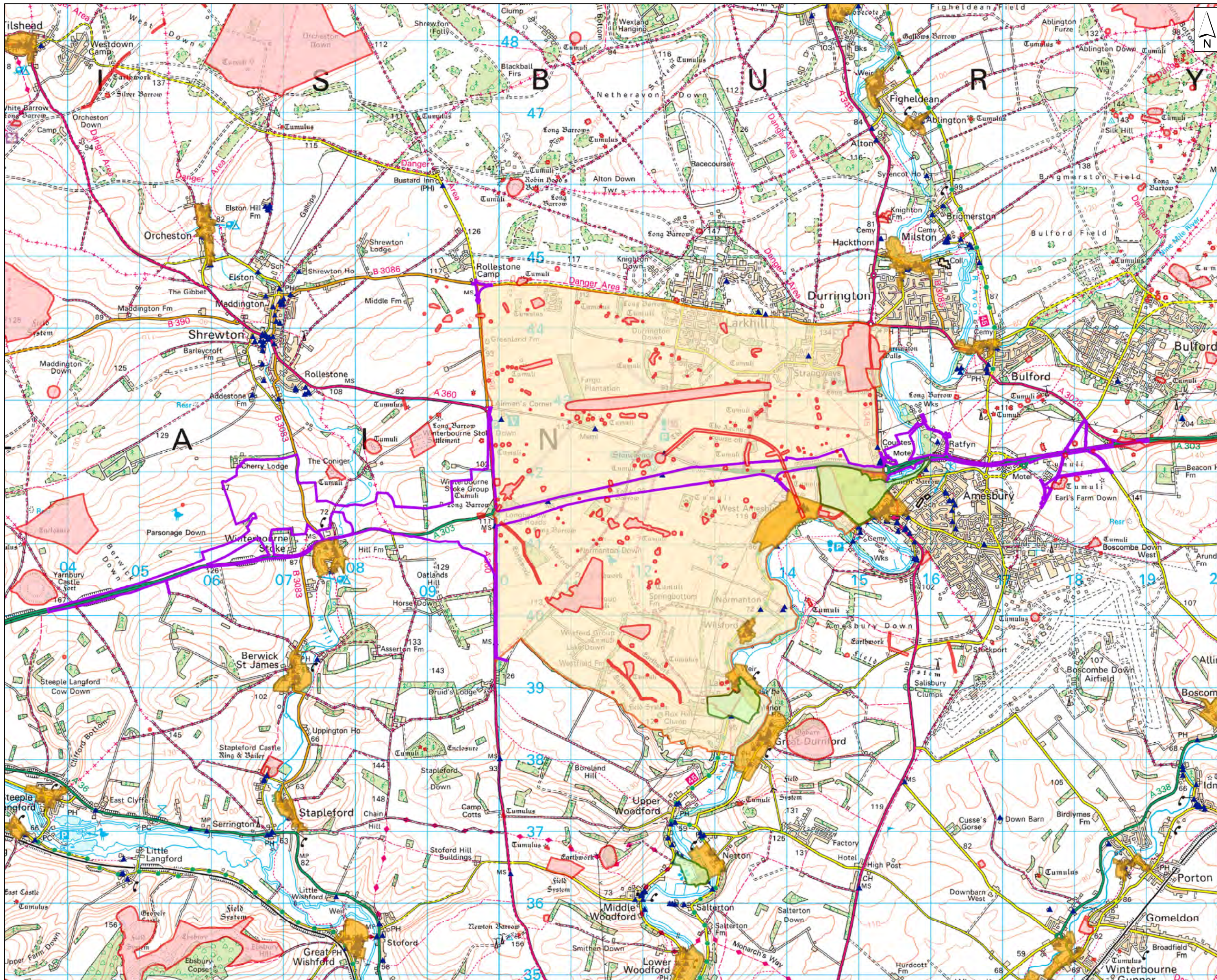
© Crown Copyright and database right 2019. All rights reserved. Ordnance Survey Licence number 100024900.

© British Crown and SeaZone Solutions Limited 2019. All rights reserved. Licence number 102006.006.



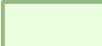



This copy shows the entry on 02-May-2019 at 12:07:03.

APPENDIX 3 Plan of designated heritage assets in relation to the Scheme

Appendix 3: Location of Designated Heritage Assets in Relation to the Scheme



Designated Heritage Assets

-  Listed Buildings
-  Scheduled Monuments
-  Parks and Gardens
-  Conservation Areas
-  World Heritage Site
-  DCO Limit

© Crown Copyright and database right 2018.
All rights reserved.
Ordnance Survey Licence number 100024900.

© British Crown and SeaZone Solutions Limited 2018.
All rights reserved. Licence number 102006.006

Historic OS Mapping: Copyright and database right
Crown Copyright and Landmark Information Group Ltd
(All rights reserved) License numbers 000394 and TP0024

Map Centre: 412230, 142180
Map Scale: 1:50,000
Print Date: 26 April 2019

 Historic England
HistoricEngland.org.uk

 ENGLISH HERITAGE
www.english-heritage.org.uk

APPENDIX 4 List of Scheduled Monuments within the WHS.

Appendix 5: Scheduled Monuments within the Stonehenge World Heritage Site

HA Uid (NHLE)	Name	Date Designated	SM Uid	NGR	Capture Scale	Link to NHLE Entry Report
1008943	Nine bowl barrows, two disc barrows and two saucer barrows forming the majority of a round barrow cemetery on Durrington Down	17/03/1965	10235	SU 11825 44095	1:10000	List Entry Report
1008944	Bowl barrow forming part of the Durrington Down round barrow cemetery	17/03/1965	10236	SU 11995 44088	1:10000	List Entry Report
1008945	Bowl barrow 160m south of Fargo Road, forming part of a nucleated round barrow cemetery	24/03/1995	10242	SU 12240 43586	1:10000	List Entry Report
1008946	Bowl barrow 400m west of New King Barrows	10/06/1952	10302	SU 13027 42378	1:10000	List Entry Report
1008947	Bowl barrow 300m south west of New King Barrows	10/06/1952	10303	SU 13146 42054	1:10000	List Entry Report
1008948	Bowl barrow 100m north of The Avenue and west of Old King Barrows	10/06/1952	10304	SU 13285 42647	1:10000	List Entry Report
1008950	Bowl barrow 550m south of Airman's Corner on Winterbourne Stoke Down	23/03/1995	10308	SU 09953 42373	1:10000	List Entry Report
1008952	Bell barrow 400m south of Greenland Farm, forming part of a linear round barrow cemetery west of the Lesser Cursus	10/03/1925	10310	SU 09975 43374	1:10000	List Entry Report
1008953	Long barrow 250m north of Normanton Gorse	10/03/1925	10313	SU 11542 41753	1:10000	List Entry Report
1009057	Bowl barrow immediately north of Fargo Road	24/03/1995	10406	SU 12274 43778	1:10000	List Entry Report
1009059	Disc barrow on Fargo Road	24/03/1995	10408	SU 11689 43817	1:10000	List Entry Report
1009062	Six of the eight round barrows making up a nucleated round barrow cemetery 100m south of Fargo Road	17/03/1965	10238	SU 12159 43577	1:10000	List Entry Report
1009063	Three bowl barrows 200m north of The Cursus	17/03/1965	10239	SU 12158 43341	1:10000	List Entry Report
1009064	Three bowl barrows 120m south of Fargo Road	24/03/1995	10240	SU 12499 43585	1:10000	List Entry Report
1009065	Two bowl barrows 30m north of The Cursus	17/03/1965	10244	SU 13167 43231	1:10000	List Entry Report
1009066	Three bowl barrows 40m north of The Cursus	24/03/1995	10245	SU 13315 43258	1:10000	List Entry Report
1009067	Nine round barrows forming a round barrow cemetery 400m north of the eastern end of The Cursus	17/03/1965	10246	SU 13578 43610	1:10000	List Entry Report
1009068	Six bowl barrows forming the majority of a round barrow cemetery in Larkhill Camp south of The Packway	17/03/1965	10280	SU 13121 44015	1:10000	List Entry Report
1009069	Bowl barrow 100m south of Fargo Road	24/03/1995	10315	SU 12400 43625	1:10000	List Entry Report
1009070	Bowl barrow 250m south of Fargo Road	17/03/1965	10399	SU 11817 43554	1:10000	List Entry Report
1009071	Bowl barrow 50m south of Fargo Road, forming part of a nucleated round barrow cemetery	23/03/1995	10401	SU 12180 43701	1:10000	List Entry Report
1009072	Two bowl barrows 250m north of The Cursus	23/03/1995	10403	SU 12785 43417	1:10000	List Entry Report
1009073	Bowl barrow 25m north of The Cursus	23/03/1995	10404	SU 13598 43261	1:10000	List Entry Report
1009074	Pond barrow 30m north of The Cursus	23/03/1995	10405	SU 13472 43259	1:10000	List Entry Report
1009124	Six bowl barrows and two disc barrows forming the majority of a round barrow cemetery 300m north west of Fargo Road ammunition compound	12/07/1973	10233	SU 10321 44654	1:10000	List Entry Report
1009125	Two bowl barrows 100m west of Durrington Down Plantation	17/03/1965	10234	SU 11503 44171	1:10000	List Entry Report
1009126	Two bowl barrows on Durrington Down, 150m south of The Packway	17/01/1966	10279	SU 11089 44355	1:10000	List Entry Report
1009127	Bowl barrow 200m west of Durrington Down Plantation	23/03/1995	10395	SU 11415 44299	1:10000	List Entry Report
1009128	Pond barrow on the western margin of Durrington Down Plantation	23/03/1995	10398	SU 11639 44159	1:10000	List Entry Report
1009130	Long barrow 450m WSW of Woodhenge	03/05/1995	10432	SU 14652 43241	1:10000	List Entry Report
1009131	Bowl barrow 70m west of A345 on Countess Farm	03/05/1995	10434	SU 15154 43071	1:10000	List Entry Report
1009132	The Cursus, two round barrows situated within its western end, and a long barrow situated at its eastern end	30/01/1952	10324	SU 12351 43043	1:10000	List Entry Report
1009133	Henge monuments at Durrington Walls and Woodhenge, a round barrow cemetery, two additional round barrows and four settlements	19/11/1928	10365	SU 14955 43598	1:10000	List Entry Report
1009134	Bowl barrow 800m north east of The Avenue on Countess Farm	12/04/1995	10373	SU 14425 42896	1:10000	List Entry Report
1009135	Two bowl barrows 800m north east of The Avenue on Countess Farm	12/04/1995	10411	SU 14450 42772	1:10000	List Entry Report
1009136	Pond barrow 400m south east of Strangways	12/04/1995	10412	SU 14421 42985	1:10000	List Entry Report
1009137	Bowl barrow 450m north of the A303, on Countess Farm	12/04/1995	10413	SU 14570 42598	1:10000	List Entry Report
1009138	Bowl barrow 400m north of the A303 on Countess Farm	12/04/1995	10414	SU 14851 42504	1:10000	List Entry Report
1009139	Bowl barrow 260m north of the A303 on Countess Farm	11/04/1995	10415	SU 14550 42400	1:10000	List Entry Report
1009140	Bowl barrow 150m west of A345 on Countess Farm	11/04/1995	10417	SU 15092 42942	1:10000	List Entry Report
1009141	Bowl barrow 60m west of A345 on Countess Farm	11/04/1995	10418	SU 15165 42950	1:10000	List Entry Report
1009142	Bowl barrow 140m north of the A303 on Countess Farm	12/04/1995	10419	SU 14698 42286	1:10000	List Entry Report
1009143	Bowl barrow 100m north of the A303 on Countess Farm	25/04/1995	10421	SU 14340 42240	1:10000	List Entry Report
1009144	Bowl barrow 200m north of the A303 on Countess Farm	25/04/1995	10423	SU 14232 42331	1:10000	List Entry Report
1009145	Bowl barrow 170m south east of Strangways on Countess Farm	25/04/1995	10424	SU 14169 43070	1:10000	List Entry Report
1009146	Two bowl barrows 70m north east of The Avenue on Countess Farm	03/05/1995	10426	SU 13929 42354	1:10000	List Entry Report
1009147	Bowl barrow 200m south west of Strangways forming part of a linear round barrow cemetery known as the Old King Barrows	03/05/1995	10427	SU 13829 43039	1:10000	List Entry Report
1009148	Bowl barrow 300m south west of Strangways forming part of a linear round barrow cemetery known as the Old King Barrows	03/05/1995	10428	SU 13772 42985	1:10000	List Entry Report
1009149	Bowl barrow 150m NNE of Seven Barrow Cottages forming part of a round barrow cemetery known as Old King Barrows	03/05/1995	10429	SU 13760 42922	1:10000	List Entry Report
1009150	Bowl barrow 500m north of the A303 on Countess Farm	03/05/1995	10430	SU 14419 42623	1:10000	List Entry Report
1009151	Bowl barrow 150m north of the A303 on Countess Farm	03/05/1995	10431	SU 14243 42270	1:10000	List Entry Report
1009614	Long barrow and 18 round barrows, forming the greater part of Normanton Down round barrow cemetery	10/03/1925	10470	SU 12056 41230	1:10000	List Entry Report
1009615	Disc barrow forming part of the Normanton Down round barrow cemetery	17/03/1995	10471	SU 12433 41152	1:10000	List Entry Report
1009616	Bowl barrow forming part of the Normanton Down round barrow cemetery	17/03/1995	10472	SU 12534 41135	1:10000	List Entry Report
1009617	Bowl barrow and a disc barrow in Normanton Gorse, forming part of the Normanton Down round barrow cemetery	10/03/1925	10316	SU 11392 41421	1:10000	List Entry Report
1009618	Bowl barrow known as 'Bush Barrow' and two disc barrows south east of Normanton Gorse forming part of Normanton Down round barrow cemetery	10/03/1925	10317	SU 11589 41266	1:10000	List Entry Report

1009619	Bowl barrow 120m south of Normanton Down round barrow cemetery	10/03/1925	10325	SU 11782 41086	1:10000	List Entry Report
1009620	Three bowl barrows 150m south of Normanton Down round barrow cemetery	10/03/1925	10326	SU 11688 41027	1:10000	List Entry Report
1009621	Long barrow 350m south west of the Normanton Down round barrow cemetery	10/03/1925	10327	SU 11410 41068	1:10000	List Entry Report
1009622	Bowl barrow south of Normanton Gorse on the southern edge of Normanton Down	10/03/1925	10328	SU 11311 41055	1:10000	List Entry Report
1009623	Bowl barrow 400m south of Normanton Gorse	10/03/1925	10329	SU 11356 40997	1:10000	List Entry Report
1009624	Two round barrows 300m south of Normanton Down round barrow cemetery	10/03/1925	10331	SU 12205 40885	1:10000	List Entry Report
1009625	Bowl barrow 700m north of Springbottom Farm	10/03/1925	10332	SU 12167 40756	1:10000	List Entry Report
1009626	Bowl barrow in Normanton Gorse, forming part of the Normanton Down round barrow cemetery	10/03/1925	10469	SU 11440 41341	1:10000	List Entry Report
1010140	Stonehenge, the Avenue, and three barrows adjacent to the Avenue forming part of a round barrow cemetery on Countess Farr	18/08/1882	10390	SU 14057 41825	1:10000	List Entry Report
1010330	Bowl barrow forming part of Normanton Down round barrow cemetery	10/03/1925	10440	SU 12535 41161	1:10000	List Entry Report
1010331	A bell barrow and two bowl barrows east of The Avenue on Countess Farm: part of a linear round barrow cemetery	09/04/1948	10441	SU 13977 42272	1:10000	List Entry Report
1010830	Long barrow on Wilsford Down 300m north of The Diamond	23/06/1925	10330	SU 10404 41184	1:10000	List Entry Report
1010831	Bowl barrow 400m west of Normanton Gorse	10/03/1925	10355	SU 10818 41353	1:10000	List Entry Report
1010832	Bowl barrow south of the A303 and north west of Normanton Gorse	10/03/1925	10477	SU 11115 41627	1:10000	List Entry Report
1010833	Pond barrow south of the A303 and 400m west of Normanton Gorse containing the 'Wilsford Shaft'	10/03/1925	10478	SU 10864 41475	1:10000	List Entry Report
1010834	Seven bowl barrows and a pond barrow forming a round barrow cemetery 200m north of The Diamond on Wilsford Down	23/06/1925	10480	SU 10537 41144	1:10000	List Entry Report
1010835	Bowl barrow 250m south of Westfield Farm buildings	16/05/1955	10485	SU 11582 38935	1:10000	List Entry Report
1010836	Bowl barrow 50m south west of Rox Hill Clump	05/04/1995	10487	SU 12181 38541	1:10000	List Entry Report
1010837	Linear boundary from south east of Winterbourne Stoke crossroads to south west of The Diamond on Wilsford Down	21/03/1995	10489	SU 10297 41054	1:10000	List Entry Report
1010838	Linear boundary within Normanton Gorse	22/03/1995	10492	SU 11292 41412	1:10000	List Entry Report
1010863	Lake Barrow Group, North Kite earthwork enclosure, four sections of linear boundary, and a bowl barrow within the North Kite	30/03/1995	10300	SU 11041 40235	1:10000	List Entry Report
1010871	Bowl barrow forming part of a round barrow cemetery 350m north of Springbottom Farm buildings on Wilsford Down	23/06/1925	10333	SU 12081 40393	1:10000	List Entry Report
1010872	Bowl barrow forming part of a round barrow cemetery 350m north of Springbottom Farm buildings on Wilsford Down	23/06/1925	10334	SU 12102 40464	1:10000	List Entry Report
1010874	Ten bowl barrows, five disc barrows, a bell barrow, a pond barrow and a saucer barrow forming the Wilsford round barrow cemetery	23/06/1925	10356	SU 11893 39787	1:10000	List Entry Report
1010875	Ten round barrows forming the Lake Down round barrow cemetery and a section of linear boundary crossing Lake Down	21/04/1925	10357	SU 11846 39056	1:10000	List Entry Report
1010876	Bell barrow north east of Westfield Farm and 150m south of Wilsford round barrow cemetery	22/02/1995	10358	SU 11849 39587	1:10000	List Entry Report
1010877	Two bowl barrows 700m south of Springbottom Farm buildings	23/02/1995	10359	SU 12321 39316	1:10000	List Entry Report
1010878	Bowl barrow 200m east of Lake Down round barrow cemetery north of Rox Hill	21/04/1925	10361	SU 12062 39174	1:10000	List Entry Report
1010879	Deserted medieval village, a bowl barrow, and part of a prehistoric field system opposite Lake House in Lake Bottom	03/03/1927	10362	SU 13143 38766	1:10000	List Entry Report
1010880	Six bowl barrows forming the greater part of a round barrow cemetery on Wilsford Down 350m north of Springbottom Farm buildings	23/02/1995	10486	SU 12202 40483	1:10000	List Entry Report
1010881	Section of a linear boundary from 350m north east of Westfield Farm on Lake Down to Lake Bottom	22/02/1995	10490	SU 12092 39303	1:10000	List Entry Report
1010882	Bowl barrow 250m north west of Lake House	23/02/1995	10493	SU 13168 39072	1:10000	List Entry Report
1010883	Bowl barrow 300m north west of Lake House	22/02/1995	10494	SU 13096 39054	1:10000	List Entry Report
1010884	Bowl barrow 200m WNW of Lake House	23/02/1995	10495	SU 13185 38985	1:10000	List Entry Report
1010885	Bowl barrow 450m north of Springbottom Farm	22/02/1995	10496	SU 12178 40613	1:10000	List Entry Report
1010891	Disc barrow and pond barrow 350m NNW of Greenland Farm	12/06/1995	10458	SU 09740 44174	1:10000	List Entry Report
1010893	Bowl barrow 450m south of Greenland Farm	10/03/1925	10460	SU 09858 43274	1:10000	List Entry Report
1010894	Saucer barrow and bowl barrow 250m north of A344, south of the Lesser Cursus	10/06/1952	10466	SU 10397 43104	1:10000	List Entry Report
1010895	Pond barrow 50m north of A344 west of The Cursus	10/06/1952	10467	SU 10435 42868	1:10000	List Entry Report
1010896	Bowl barrow 120m south west of the west end of The Cursus	10/06/1952	10468	SU 10879 42795	1:10000	List Entry Report
1010897	Bowl barrow 400m SSE of Greenland Farm, forming part of a linear round barrow cemetery west of the Lesser Cursus	10/03/1925	10347	SU 10047 43419	1:10000	List Entry Report
1010898	Bowl barrow 400m south east of Greenland Farm, forming part of a linear round barrow cemetery west of the Lesser Cursus	10/03/1925	10348	SU 10120 43461	1:10000	List Entry Report
1010899	Bell barrow 450m south east of Greenland Farm, forming part of a linear round barrow cemetery west of the Lesser Cursus	10/03/1925	10349	SU 10180 43458	1:10000	List Entry Report
1010900	Bowl barrow 500m south east of Greenland Farm, forming part of a linear round barrow cemetery west of the Lesser Cursus	10/03/1925	10350	SU 10241 43444	1:10000	List Entry Report
1010901	The Lesser Cursus and a triple bowl barrow forming part of a linear round barrow cemetery south east of Greenland Farm on Winterbourne Stoke Down	10/03/1925	10351	SU 10511 43486	1:10000	List Entry Report
1010902	Disc barrow 400m north of A344, south east of Greenland Farm	10/06/1952	10352	SU 10163 43275	1:10000	List Entry Report
1010903	Bowl barrow 300m north of A344, south west of the Lesser Cursus	10/06/1952	10353	SU 10318 43138	1:10000	List Entry Report
1010905	Bowl barrow 250m north of Greenland Farm	18/04/1955	10397	SU 09885 44089	1:10000	List Entry Report
1011039	Bell barrow 450m south of A344 on Winterbourne Stoke Down	10/03/1925	10344	SU 10047 42378	1:10000	List Entry Report
1011040	Bowl barrow 400m south of A344 on Winterbourne Stoke Down	10/03/1925	10345	SU 10137 42384	1:10000	List Entry Report
1011041	Pond barrow 700m south of A344 on Winterbourne Stoke Down	10/03/1925	10346	SU 10234 42156	1:10000	List Entry Report
1011042	Bowl barrow 160m south of the west end of The Cursus	10/06/1952	10473	SU 10975 42697	1:10000	List Entry Report
1011043	Bowl barrow 430m south of A344 on Winterbourne Stoke Down	20/03/1995	10474	SU 10382 42385	1:10000	List Entry Report
1011044	Bowl barrow 600m south of A344 on Winterbourne Stoke Down	20/03/1995	10475	SU 10344 42240	1:10000	List Entry Report
1011046	Bowl barrow 400m south east of Longbarrow Cross Roads, east of A360	20/03/1995	10481	SU 10103 41029	1:10000	List Entry Report

1011047	Five bowl barrows and two saucer barrows forming a round barrow cemetery on Winterbourne Stoke Down	09/07/1923	10483	SU 09971 41856	1:10000	List Entry Report
1011708	Bowl barrow 100m south east of the southern edge of The Diamond south of the A303	22/03/1995	26262	SU 10791 40701	1:10000	List Entry Report
1011709	Bowl barrow 450m east of The Diamond south of the A303	22/03/1995	26263	SU 11093 40905	1:10000	List Entry Report
1011841	Long barrow north east of Winterbourne Stoke crossroads	09/07/1923	10462	SU 09995 41500	1:10000	List Entry Report
1011842	Bowl barrow immediately east of the A360 forming part of the Winterbourne Stoke crossroads round barrow cemetery	21/03/1995	10463	SU 09961 41550	1:10000	List Entry Report
1011843	Bowl barrow east of the A360 forming part of the Winterbourne Stoke crossroads round barrow cemetery	09/07/1923	10464	SU 09979 41612	1:10000	List Entry Report
1012126	Vespasian's Camp	02/05/1940	10360	SU 14647 41737	1:10000	List Entry Report
1012127	Bowl barrow 320m west of Vespasian's Camp	09/04/1948	10366	SU 14099 41929	1:10000	List Entry Report
1012128	Bowl barrow 80m north of the A303, north east of Vespasian's Camp	03/05/1955	10420	SU 14742 42226	1:10000	List Entry Report
1012129	Bowl barrow 150m east of Stonehenge Cottages on A303	23/05/1995	10497	SU 13670 42015	1:10000	List Entry Report
1012130	Bowl barrow 70m south of A303	23/05/1995	10498	SU 13914 41899	1:10000	List Entry Report
1012131	Bowl barrow 50m south of A303	23/05/1995	10499	SU 13970 41945	1:10000	List Entry Report
1012132	Three bowl barrows 220m west of Vespasian's Camp	23/05/1995	26261	SU 14217 41793	1:10000	List Entry Report
1012168	Two bowl barrows and a saucer barrow 280m south of The Packway	03/05/1995	10241	SU 10094 44290	1:10000	List Entry Report
1012169	Bowl barrow 340m south of The Packway, north of the Lesser Cursus	18/04/1955	10243	SU 10395 44258	1:10000	List Entry Report
1012170	A bell barrow and three disc barrows west of Fargo Road ammunition compound	18/04/1955	10376	SU 10535 44352	1:10000	List Entry Report
1012367	Bowl barrow 120m north of The Avenue forming part of a linear round barrow cemetery known as the Old King Barrows	10/03/1925	10305	SU 13479 42630	1:10000	List Entry Report
1012368	Eighteen round barrows forming the greater part of the Winterbourne Stoke crossroads round barrow cemetery	09/07/1923	10306	SU 10180 41765	1:10000	List Entry Report
1012369	Three bowl barrows immediately north of the A303 on Stonehenge Down	10/03/1925	10312	SU 11551 41845	1:10000	List Entry Report
1012370	Bell barrow situated 50m north of Normanton Gorse and 170m south of the A303	10/03/1925	10314	SU 11502 41610	1:10000	List Entry Report
1012371	Bowl barrow 650m SSE of Stonehenge	10/06/1952	10318	SU 12605 41542	1:10000	List Entry Report
1012372	Three bowl barrows 150m south of the A303, north of Luxenborough Plantation	10/03/1925	10319	SU 12955 41840	1:10000	List Entry Report
1012373	Bowl barrow on the north eastern edge of Luxenborough Plantation	10/03/1925	10320	SU 12997 41451	1:10000	List Entry Report
1012374	Bowl barrow on the eastern edge of Luxenborough Plantation	10/03/1925	10321	SU 12964 41393	1:10000	List Entry Report
1012375	King Barrow and another bowl barrow on Coneybury Hill	10/03/1925	10322	SU 13548 41393	1:10000	List Entry Report
1012376	Henge monument 400m south of Stonehenge Cottages	01/08/1977	10323	SU 13434 41602	1:10000	List Entry Report
1012377	Bowl barrow south of The Cursus in Fargo Plantation forming part of The Cursus round barrow cemetery	10/03/1925	10335	SU 11178 42837	1:10000	List Entry Report
1012378	Bowl barrow 200m north of The Avenue forming part of a linear round barrow cemetery known as the Old King Barrows	10/03/1925	10444	SU 13492 42735	1:10000	List Entry Report
1012379	Three bowl barrows 350m north of The Avenue forming part of a linear round barrow cemetery known as the Old King Barrows	10/03/1925	10445	SU 13614 42832	1:10000	List Entry Report
1012380	Bowl barrow 475m north of The Avenue forming part of a linear round barrow cemetery known as the Old King Barrows	10/03/1925	10446	SU 13708 42941	1:10000	List Entry Report
1012381	Two bowl barrows and four bell barrows forming the greater part of a round barrow cemetery known as the New King Barrows	10/03/1925	10447	SU 13453 42241	1:10000	List Entry Report
1012382	Two bowl barrows forming part of the Winterbourne Stoke crossroads round barrow cemetery	30/03/1995	10448	SU 10416 42015	1:10000	List Entry Report
1012383	Five bowl barrows forming the greater part of a round barrow cemetery 200m south west of Stonehenge on Stonehenge Down	10/06/1952	10368	SU 12028 42121	1:10000	List Entry Report
1012384	Bowl barrow 230m west of Stonehenge forming part of a round barrow cemetery on Stonehenge Down	30/03/1995	10369	SU 11936 42164	1:10000	List Entry Report
1012385	Disc barrow 220m south west of Stonehenge forming part of a round barrow cemetery on Stonehenge Down	10/03/1925	10370	SU 12010 41985	1:10000	List Entry Report
1012386	Bell barrow 100m east of Stonehenge immediately south of the A344	10/03/1925	10371	SU 12424 42172	1:10000	List Entry Report
1012387	Bowl barrow 300m WSW of Stonehenge, forming part of a round barrow cemetery on Stonehenge Down	10/06/1952	10389	SU 11885 42090	1:10000	List Entry Report
1012388	Bowl barrow 500m WNW of New King Barrows north of the A303	30/03/1995	10435	SU 12942 42468	1:10000	List Entry Report
1012389	Bowl barrow 220m west of Old King Barrows north of the A303	30/03/1995	10436	SU 13215 42695	1:10000	List Entry Report
1012390	Bowl barrow on Coneybury Hill, 450m south of the A303	05/04/1995	10437	SU 13509 41510	1:10000	List Entry Report
1012391	Three bowl barrows on the southern edge of Luxenborough Plantation	03/05/1995	10438	SU 12868 41322	1:10000	List Entry Report
1012392	Bowl barrow on Coneybury Hill, 130m NNE of Luxenborough Plantation	05/04/1995	10439	SU 13060 41590	1:10000	List Entry Report
1012393	Bowl barrow 450m south of the A344 on Stonehenge Down	05/04/1995	10442	SU 11245 42168	1:10000	List Entry Report
1012394	Four bowl barrows 140m north of the A303 on Stonehenge Down	30/03/1995	10443	SU 10615 41763	1:10000	List Entry Report
1012395	Bell barrow known as the Monarch of the Plain on the western edge of Fargo Plantation and south of The Cursus: part of The Cursus round barrow cemetery	10/03/1925	10336	SU 11085 42756	1:10000	List Entry Report
1012396	Bowl barrow south of The Cursus in Fargo Plantation forming part of The Cursus round barrow cemetery	10/03/1925	10337	SU 11236 42733	1:10000	List Entry Report
1012397	Bowl barrow south of The Cursus on the eastern edge of Fargo Plantation forming part of The Cursus round barrow cemetery	10/03/1925	10338	SU 11303 42743	1:10000	List Entry Report
1012398	Bell barrow situated south of The Cursus and east of Fargo Plantation forming part of The Cursus round barrow cemetery	10/03/1925	10339	SU 11427 42727	1:10000	List Entry Report
1012399	Bowl barrow located south of The Cursus and east of Fargo Plantation forming part of The Cursus round barrow cemetery	10/03/1925	10340	SU 11470 42675	1:10000	List Entry Report
1012400	Two bowl barrows situated south of The Cursus and east of Fargo Plantation forming part of The Cursus round barrow cemetery	10/03/1925	10341	SU 11525 42785	1:10000	List Entry Report
1012401	A bowl barrow and three bell barrows forming part of The Cursus round barrow cemetery	10/03/1925	10342	SU 11786 42780	1:10000	List Entry Report
1012402	Hengi-form monument in Fargo Plantation south of The Cursus	10/06/1952	10363	SU 11250 42795	1:10000	List Entry Report
1012403	Disc barrow near the southern edge of Fargo Plantation forming part of The Cursus round barrow cemetery	12/12/1975	10367	SU 11126 42694	1:10000	List Entry Report

1012420	Bowl barrow forming part of a round barrow cemetery known as the New King Barrows	10/03/1925	10465	SU 13452 42028	1:10000	List Entry Report
1012586	A twin bell barrow and a bell barrow forming the eastern part of The Cursus round barrow cemetery	10/03/1925	10452	SU 12003 42785	1:10000	List Entry Report
1012587	Bowl barrow within Luxenborough Plantation	05/04/1995	10453	SU 12877 41412	1:10000	List Entry Report
1013812	Bowl barrow 350m south west of Normanton Gorse	22/03/1995	10479	SU 10893 41290	1:10000	List Entry Report
1013813	Bowl barrow 100m north of Rox Hill Clump	21/03/1995	10488	SU 12270 38756	1:10000	List Entry Report
1013871	Bowl barrow 200m north of The Cursus	23/03/1995	10402	SU 12618 43336	1:10000	List Entry Report
1014087	Bowl barrow 250m north of the A303 on Countess Farm	11/04/1995	10416	SU 14490 42380	1:10000	List Entry Report
1014088	Two bowl barrows 200m north of the A303 on Countess Farm	25/04/1995	10422	SU 14165 42316	1:10000	List Entry Report
1014147	Two bowl barrows 700m north west of Normanton Down House	28/03/1995	10491	SU 13139 40699	1:10000	List Entry Report
1021348	Bowl barrow 510m south east of Strangways on Countess Farm	25/04/1995	10425	SU 14415 43017	1:10000	List Entry Report
1021349	Henge monument 300m south of Longbarrow Cross Roads, east of A360	20/03/1995	10482	SU 10022 41122	1:10000	List Entry Report

**APPENDIX 5 The 1972 Convention Concerning the Protection of
the World Cultural and Natural Heritage**



UNITED NATIONS EDUCATIONAL, SCIENTIFIC
AND CULTURAL ORGANISATION

CONVENTION CONCERNING THE
PROTECTION OF THE WORLD CULTURAL
AND NATURAL HERITAGE

Adopted by the General Conference at its seventeenth session
Paris, 16 november 1972



English Text

CONVENTION CONCERNING THE PROTECTION OF THE WORLD CULTURAL AND NATURAL HERITAGE

The General Conference of the United Nations Educational, Scientific and Cultural Organization meeting in Paris from 17 October to 21 November 1972, at its seventeenth session,

Noting that the cultural heritage and the natural heritage are increasingly threatened with destruction not only by the traditional causes of decay, but also by changing social and economic conditions which aggravate the situation with even more formidable phenomena of damage or destruction,

Considering that deterioration or disappearance of any item of the cultural or natural heritage constitutes a harmful impoverishment of the heritage of all the nations of the world,

Considering that protection of this heritage at the national level often remains incomplete because of the scale of the resources which it requires and of the insufficient economic, scientific, and technological resources of the country where the property to be protected is situated,

Recalling that the Constitution of the Organization provides that it will maintain, increase, and diffuse knowledge by assuring the conservation and protection of the world's heritage, and recommending to the nations concerned the necessary international conventions,

Considering that the existing international conventions, recommendations and resolutions concerning cultural and natural property demonstrate the importance, for all the peoples of the world, of safeguarding this unique and irreplaceable property, to whatever people it may belong,

Considering that parts of the cultural or natural heritage are of outstanding interest and therefore need to be preserved as part of the world heritage of mankind as a whole,

Considering that, in view of the magnitude and gravity of the new dangers threatening them, it is incumbent on the international community as a whole to participate in the protection of the cultural and natural heritage of outstanding universal value, by the granting of collective assistance which, although not taking the place of action by the State concerned, will serve as an efficient complement thereto,

Considering that it is essential for this purpose to adopt new provisions in the form of a convention establishing an effective system of collective protection of the cultural and natural heritage of outstanding universal value, organized on a permanent basis and in accordance with modern scientific methods,

Having decided, at its sixteenth session, that this question should be made the subject of an international convention,

Adopts this sixteenth day of November 1972 this Convention.

I. DEFINITION OF THE CULTURAL AND NATURAL HERITAGE

Article 1

For the purpose of this Convention, the following shall be considered as "cultural heritage":

monuments: architectural works, works of monumental sculpture and painting, elements or structures of an archaeological nature, inscriptions, cave dwellings and combinations of features, which are of outstanding universal value from the point of view of history, art or science;

groups of buildings: groups of separate or connected buildings which, because of their architecture, their homogeneity or their place in the landscape, are of outstanding universal value from the point of view of history, art or science;

sites: works of man or the combined works of nature and man, and areas including archaeological sites which are of outstanding universal value from the historical, aesthetic, ethnological or anthropological point of view.

Article 2

For the purposes of this Convention, the following shall be considered as "natural heritage":

natural features consisting of physical and biological formations or groups of such formations, which are of outstanding universal value from the aesthetic or scientific point of view;

geological and physiographical formations and precisely delineated areas which constitute the habitat of threatened species of animals and plants of outstanding universal value from the point of view of science or conservation;

natural sites or precisely delineated natural areas of outstanding universal value from the point of view of science, conservation or natural beauty.

Article 3

It is for each State Party to this Convention to identify and delineate the different properties situated on its territory mentioned in Articles 1 and 2 above.

II. NATIONAL PROTECTION AND INTERNATIONAL PROTECTION OF THE CULTURAL AND NATURAL HERITAGE

Article 4

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 and, where appropriate, with any international assistance and co-operation, in particular, financial, artistic, scientific and technical, which it may be able to obtain.

Article 5

To ensure that effective and active measures are taken for the protection, conservation and presentation of the cultural and natural heritage situated on its territory, each State Party to this Convention shall endeavor, in so far as possible, and as appropriate for each country:

- (a) to adopt a general policy which aims to give the cultural and natural heritage a function in the life of the community and to integrate the protection of that heritage into comprehensive planning programmes;
- (b) to set up within its territories, where such services do not exist, one or more services for the protection, conservation and presentation of the cultural and natural heritage with an appropriate staff and possessing the means to discharge their functions;
- (c) to develop scientific and technical studies and research and to work out such operating methods as will make the State capable of counteracting the dangers that threaten its cultural or natural heritage;
- (d) to take the appropriate legal, scientific, technical, administrative and financial measures necessary for the identification, protection, conservation, presentation and rehabilitation of this heritage; and

- (e) to foster the establishment or development of national or regional centres for training in the protection, conservation and presentation of the cultural and natural heritage and to encourage scientific research in this field.

Article 6

1. Whilst fully respecting the sovereignty of the States on whose territory the cultural and natural heritage mentioned in Articles 1 and 2 is situated, and without prejudice to property right provided by national legislation, the States Parties to this Convention recognize that such heritage constitutes a world heritage for whose protection it is the duty of the international community as a whole to co-operate.
2. The States Parties undertake, in accordance with the provisions of this Convention, to give their help in the identification, protection, conservation and presentation of the cultural and natural heritage referred to in paragraphs 2 and 4 of Article 11 if the States on whose territory it is situated so request.
3. Each State Party to this Convention undertakes not to take any deliberate measures which might damage directly or indirectly the cultural and natural heritage referred to in Articles 1 and 2 situated on the territory of other States Parties to this Convention.

Article 7

For the purpose of this Convention, international protection of the world cultural and natural heritage shall be understood to mean the establishment of a system of international co-operation and assistance designed to support States Parties to the Convention in their efforts to conserve and identify that heritage.

III INTERGOVERNMENTAL COMMITTEE FOR THE PROTECTION OF THE WORLD CULTURAL AND NATURAL HERITAGE

Article 8

1. An Intergovernmental Committee for the Protection of the Cultural and Natural Heritage of Outstanding Universal Value, called "the World Heritage Committee", is hereby established within the United Nations Educational, Scientific and Cultural Organization. It shall be composed of 15 States Parties to the Convention, elected by States Parties to the Convention meeting in general assembly during the ordinary session of the General Conference of the United Nations Educational, Scientific and Cultural Organization. The number of States members of the Committee shall be increased to 21 as from the date of the ordinary session of the General Conference following the entry into force of this Convention for at least 40 States.

2. Election of members of the Committee shall ensure an equitable representation of the different regions and cultures of the world.
3. A representative of the International Centre for the Study of the Preservation and Restoration of Cultural Property (Rome Centre), a representative of the International Council of Monuments and Sites (ICOMOS) and a representative of the International Union for Conservation of Nature and Natural Resources (IUCN), to whom may be added, at the request of States Parties to the Convention meeting in general assembly during the ordinary sessions of the General Conference of the United Nations Educational, Scientific and Cultural Organization, representatives of other intergovernmental or non-governmental organizations, with similar objectives, may attend the meetings of the Committee in an advisory capacity.

Article 9

1. The term of office of States members of the World Heritage Committee shall extend from the end of the ordinary session of the General Conference during which they are elected until the end of its third subsequent ordinary session.
2. The term of office of one-third of the members designated at the time of the first election shall, however, cease at the end of the first ordinary session of the General Conference following that at which they were elected; and the term of office of a further third of the members designated at the same time shall cease at the end of the second ordinary session of the General Conference following that at which they were elected. The names of these members shall be chosen by lot by the President of the General Conference of the United Nations Educational, Scientific and Cultural Organization after the first election.
3. States members of the Committee shall choose as their representatives persons qualified in the field of the cultural or natural heritage.

Article 10

1. The World Heritage Committee shall adopt its Rules of Procedure.
2. The Committee may at any time invite public or private organizations or individuals to participate in its meetings for consultation on particular problems.
3. The Committee may create such consultative bodies as it deems necessary for the performance of its functions.

Article 11

1. Every State Party to this Convention shall, in so far as possible, submit to the World Heritage Committee an inventory of property forming part of the cultural and natural heritage, situated in its territory and suitable for inclusion in the list provided for in paragraph 2 of this Article. This inventory, which shall not be considered exhaustive, shall include documentation about the location of the property in question and its significance.
2. On the basis of the inventories submitted by States in accordance with paragraph 1, the Committee shall establish, keep up to date and publish, under the title of "World Heritage List," a list of properties forming part of the cultural heritage and natural heritage, as defined in Articles 1 and 2 of this Convention, which it considers as having outstanding universal value in terms of such criteria as it shall have established. An updated list shall be distributed at least every two years.
3. The inclusion of a property in the World Heritage List requires the consent of the State concerned. The inclusion of a property situated in a territory, sovereignty or jurisdiction over which is claimed by more than one State shall in no way prejudice the rights of the parties to the dispute.
4. The Committee shall establish, keep up to date and publish, whenever circumstances shall so require, under the title of "List of World Heritage in Danger", a list of the property appearing in the World Heritage List for the conservation of which major operations are necessary and for which assistance has been requested under this Convention. This list shall contain an estimate of the cost of such operations. The list may include only such property forming part of the cultural and natural heritage as is threatened by serious and specific dangers, such as the threat of disappearance caused by accelerated deterioration, large-scale public or private projects or rapid urban or tourist development projects; destruction caused by changes in the use or ownership of the land; major alterations due to unknown causes; abandonment for any reason whatsoever; the outbreak or the threat of an armed conflict; calamities and cataclysms; serious fires, earthquakes, landslides; volcanic eruptions; changes in water level, floods and tidal waves. The Committee may at any time, in case of urgent need, make a new entry in the List of World Heritage in Danger and publicize such entry immediately.
5. The Committee shall define the criteria on the basis of which a property belonging to the cultural or natural heritage may be included in either of the lists mentioned in paragraphs 2 and 4 of this article.
6. Before refusing a request for inclusion in one of the two lists mentioned in paragraphs 2 and 4 of this article, the Committee shall consult the State Party in whose territory the cultural or natural property in question is situated.

7. The Committee shall, with the agreement of the States concerned, co-ordinate and encourage the studies and research needed for the drawing up of the lists referred to in paragraphs 2 and 4 of this article.

Article 12

The fact that a property belonging to the cultural or natural heritage has not been included in either of the two lists mentioned in paragraphs 2 and 4 of Article 11 shall in no way be construed to mean that it does not have an outstanding universal value for purposes other than those resulting from inclusion in these lists.

Article 13

1. The World Heritage Committee shall receive and study requests for international assistance formulated by States Parties to this Convention with respect to property forming part of the cultural or natural heritage, situated in their territories, and included or potentially suitable for inclusion in the lists mentioned referred to in paragraphs 2 and 4 of Article 11. The purpose of such requests may be to secure the protection, conservation, presentation or rehabilitation of such property.
2. Requests for international assistance under paragraph 1 of this article may also be concerned with identification of cultural or natural property defined in Articles 1 and 2, when preliminary investigations have shown that further inquiries would be justified.
3. The Committee shall decide on the action to be taken with regard to these requests, determine where appropriate, the nature and extent of its assistance, and authorize the conclusion, on its behalf, of the necessary arrangements with the government concerned.
4. The Committee shall determine an order of priorities for its operations. It shall in so doing bear in mind the respective importance for the world cultural and natural heritage of the property requiring protection, the need to give international assistance to the property most representative of a natural environment or of the genius and the history of the peoples of the world, the urgency of the work to be done, the resources available to the States on whose territory the threatened property is situated and in particular the extent to which they are able to safeguard such property by their own means.
5. The Committee shall draw up, keep up to date and publicize a list of property for which international assistance has been granted.

6. The Committee shall decide on the use of the resources of the Fund established under Article 15 of this Convention. It shall seek ways of increasing these resources and shall take all useful steps to this end.
7. The Committee shall co-operate with international and national governmental and non-governmental organizations having objectives similar to those of this Convention. For the implementation of its programmes and projects, the Committee may call on such organizations, particularly the International Centre for the Study of the Preservation and Restoration of Cultural Property (the Rome Centre), the International Council of Monuments and Sites (ICOMOS) and the International Union for Conservation of Nature and Natural Resources (IUCN), as well as on public and private bodies and individuals.
8. Decisions of the Committee shall be taken by a majority of two-thirds of its members present and voting. A majority of the members of the Committee shall constitute a quorum.

Article 14

1. The World Heritage Committee shall be assisted by a Secretariat appointed by the Director-General of the United Nations Educational, Scientific and Cultural Organization.
2. The Director-General of the United Nations Educational, Scientific and Cultural Organization, utilizing to the fullest extent possible the services of the International Centre for the Study of the Preservation and the Restoration of Cultural Property (the Rome Centre), the International Council of Monuments and Sites (ICOMOS) and the International Union for Conservation of Nature and Natural Resources (IUCN) in their respective areas of competence and capability, shall prepare the Committee's documentation and the agenda of its meetings and shall have the responsibility for the implementation of its decisions.

IV FUND FOR THE PROTECTION OF THE WORLD CULTURAL AND NATURAL HERITAGE

Article 15

1. A Fund for the Protection of the World Cultural and Natural Heritage of Outstanding Universal Value, called "the World Heritage Fund", is hereby established.

2. The Fund shall constitute a trust fund, in conformity with the provisions of the Financial Regulations of the United Nations Educational, Scientific and Cultural Organization.
3. The resources of the Fund shall consist of:
 - (a) compulsory and voluntary contributions made by States Parties to this Convention,
 - (b) Contributions, gifts or bequests which may be made by:
 - (i) other States;
 - (ii) the United Nations Educational, Scientific and Cultural Organization, other organizations of the United Nations system, particularly the United Nations Development Programme or other intergovernmental organizations;
 - (iii) public or private bodies or individuals;
 - (c) any interest due on the resources of the Fund;
 - (d) funds raised by collections and receipts from events organized for the benefit of the fund; and
 - (e) all other resources authorized by the Fund's regulations, as drawn up by the World Heritage Committee.
4. Contributions to the Fund and other forms of assistance made available to the Committee may be used only for such purposes as the Committee shall define. The Committee may accept contributions to be used only for a certain programme or project, provided that the Committee shall have decided on the implementation of such programme or project. No political conditions may be attached to contributions made to the Fund.

Article 16

1. Without prejudice to any supplementary voluntary contribution, the States Parties to this Convention undertake to pay regularly, every two years, to the World Heritage Fund, contributions, the amount of which, in the form of a uniform percentage applicable to all States, shall be determined by the General Assembly of States Parties to the Convention, meeting during the sessions of the General Conference of the United Nations Educational, Scientific and Cultural Organization. This decision of the General Assembly requires the majority of the States Parties present and voting, which have not made the declaration referred to in paragraph 2 of this Article. In no case shall the compulsory contribution of States Parties to the Convention exceed 1% of the contribution to the regular budget of the United Nations Educational, Scientific and Cultural Organization.
2. However, each State referred to in Article 31 or in Article 32 of this Convention may declare, at the time of the deposit of its instrument of ratification, acceptance or accession, that it shall not be bound by the provisions of paragraph 1 of this Article.
3. A State Party to the Convention which has made the declaration referred to in paragraph 2 of this Article may at any time withdraw the said declaration by notifying the Director-General of the United Nations Educational, Scientific and Cultural Organization. However, the withdrawal of the declaration shall not take effect in regard to the compulsory contribution due by the State until the date of the subsequent General Assembly of States Parties to the Convention.
4. In order that the Committee may be able to plan its operations effectively, the contributions of States Parties to this Convention which have made the declaration referred to in paragraph 2 of this Article, shall be paid on a regular basis, at least every two years, and should not be less than the contributions which they should have paid if they had been bound by the provisions of paragraph 1 of this Article.
5. Any State Party to the Convention which is in arrears with the payment of its compulsory or voluntary contribution for the current year and the calendar year immediately preceding it shall not be eligible as a Member of the World Heritage Committee, although this provision shall not apply to the first election.

The terms of office of any such State which is already a member of the Committee shall terminate at the time of the elections provided for in Article 8, paragraph 1 of this Convention.

Article 17

The States Parties to this Convention shall consider or encourage the establishment of national public and private foundations or associations whose purpose is to invite donations for the protection of the cultural and natural heritage as defined in Articles 1 and 2 of this Convention.

Article 18

The States Parties to this Convention shall give their assistance to international fund-raising campaigns organized for the World Heritage Fund under the auspices of the United Nations Educational, Scientific and Cultural Organization. They shall facilitate collections made by the bodies mentioned in paragraph 3 of Article 15 for this purpose.

V. CONDITIONS AND ARRANGEMENTS FOR INTERNATIONAL ASSISTANCE

Article 19

Any State Party to this Convention may request international assistance for property forming part of the cultural or natural heritage of outstanding universal value situated within its territory. It shall submit with its request such information and documentation provided for in Article 21 as it has in its possession and as will enable the Committee to come to a decision.

Article 20

Subject to the provisions of paragraph 2 of Article 13, sub-paragraph (c) of Article 22 and Article 23, international assistance provided for by this Convention may be granted only to property forming part of the cultural and natural heritage which the World Heritage Committee has decided, or may decide, to enter in one of the lists mentioned in paragraphs 2 and 4 of Article 11.

Article 21

1. The World Heritage Committee shall define the procedure by which requests to it for international assistance shall be considered and shall specify the content of the request, which should define the operation contemplated, the work that is necessary, the expected cost thereof, the degree of urgency and the reasons why the resources of the State requesting assistance do not allow it to meet all the expenses. Such requests must be supported by experts' reports whenever possible.

2. Requests based upon disasters or natural calamities should, by reasons of the urgent work which they may involve, be given immediate, priority consideration by the Committee, which should have a reserve fund at its disposal against such contingencies.
3. Before coming to a decision, the Committee shall carry out such studies and consultations as it deems necessary.

Article 22

Assistance granted by the World Heritage Fund may take the following forms:

- (a) studies concerning the artistic, scientific and technical problems raised by the protection, conservation, presentation and rehabilitation of the cultural and natural heritage, as defined in paragraphs 2 and 4 of Article 11 of this Convention;
- (b) provisions of experts, technicians and skilled labour to ensure that the approved work is correctly carried out;
- (c) training of staff and specialists at all levels in the field of identification, protection, conservation, presentation and rehabilitation of the cultural and natural heritage;
- (d) supply of equipment which the State concerned does not possess or is not in a position to acquire;
- (e) low-interest or interest-free loans which might be repayable on a long-term basis;
- (f) the granting, in exceptional cases and for special reasons, of non-repayable subsidies.

Article 23

The World Heritage Committee may also provide international assistance to national or regional centres for the training of staff and specialists at all levels in the field of identification, protection, conservation, presentation and rehabilitation of the cultural and natural heritage.

Article 24

International assistance on a large scale shall be preceded by detailed scientific, economic and technical studies. These studies shall draw upon the most advanced techniques for the protection, conservation, presentation and rehabilitation of the natural and cultural heritage and shall be consistent with the objectives of this Convention. The studies shall also seek means of making rational use of the resources available in the State concerned.

Article 25

As a general rule, only part of the cost of work necessary shall be borne by the international community. The contribution of the State benefiting from international assistance shall constitute a substantial share of the resources devoted to each programme or project, unless its resources do not permit this.

Article 26

The World Heritage Committee and the recipient State shall define in the agreement they conclude the conditions in which a programme or project for which international assistance under the terms of this Convention is provided, shall be carried out. It shall be the responsibility of the State receiving such international assistance to continue to protect, conserve and present the property so safeguarded, in observance of the conditions laid down by the agreement.

VI. EDUCATIONAL PROGRAMMES

Article 27

1. The States Parties to this Convention shall endeavor by all appropriate means, and in particular by educational and information programmes, to strengthen appreciation and respect by their peoples of the cultural and natural heritage defined in Articles 1 and 2 of the Convention.
2. They shall undertake to keep the public broadly informed of the dangers threatening this heritage and of the activities carried on in pursuance of this Convention.

Article 28

States Parties to this Convention which receive international assistance under the Convention shall take appropriate measures to make known the importance of the property for which assistance has been received and the role played by such assistance.

VII. REPORTS

Article 29

1. The States Parties to this Convention shall, in the reports which they submit to the General Conference of the United Nations Educational, Scientific and Cultural Organization on dates and in a manner to be determined by it, give information on the legislative and administrative provisions which they have adopted and other action which they have taken for the application of this Convention, together with details of the experience acquired in this field.
2. These reports shall be brought to the attention of the World Heritage Committee.
3. The Committee shall submit a report on its activities at each of the ordinary sessions of the General Conference of the United Nations Educational, Scientific and Cultural Organization.

VIII. FINAL CLAUSES

Article 30

This Convention is drawn up in Arabic, English, French, Russian and Spanish, the five texts being equally authoritative.

Article 31

1. This Convention shall be subject to ratification or acceptance by States members of the United Nations Educational, Scientific and Cultural Organization in accordance with their respective constitutional procedures.
2. The instruments of ratification or acceptance shall be deposited with the Director-General of the United Nations Educational, Scientific and Cultural Organization.

Article 32

1. This Convention shall be open to accession by all States not members of the United Nations Educational, Scientific and Cultural Organization which are invited by the General Conference of the Organization to accede to it.

2. Accession shall be effected by the deposit of an instrument of accession with the Director-General of the United Nations Educational, Scientific and Cultural Organization.

Article 33

This Convention shall enter into force three months after the date of the deposit of the twentieth instrument of ratification, acceptance or accession, but only with respect to those States which have deposited their respective instruments of ratification, acceptance or accession on or before that date. It shall enter into force with respect to any other State three months after the deposit of its instrument of ratification, acceptance or accession.

Article 34

The following provisions shall apply to those States Parties to this Convention which have a federal or non-unitary constitutional system:

- (a) with regard to the provisions of this Convention, the implementation of which comes under the legal jurisdiction of the federal or central legislative power, the obligations of the federal or central government shall be the same as for those States parties which are not federal States;
- (b) with regard to the provisions of this Convention, the implementation of which comes under the legal jurisdiction of individual constituent States, countries, provinces or cantons that are not obliged by the constitutional system of the federation to take legislative measures, the federal government shall inform the competent authorities of such States, countries, provinces or cantons of the said provisions, with its recommendation for their adoption.

Article 35

1. Each State Party to this Convention may denounce the Convention.
2. The denunciation shall be notified by an instrument in writing, deposited with the Director-General of the United Nations Educational, Scientific and Cultural Organization.
3. The denunciation shall take effect twelve months after the receipt of the instrument of denunciation. It shall not affect the financial obligations of the denouncing State until the date on which the withdrawal takes effect.

Article 36

The Director-General of the United Nations Educational, Scientific and Cultural Organization shall inform the States members of the Organization, the States not members of the Organization which are referred to in Article 32, as well as the United Nations, of the deposit of all the instruments of ratification, acceptance, or accession provided for in Articles 31 and 32, and of the denunciations provided for in Article 35.

Article 37

1. This Convention may be revised by the General Conference of the United Nations Educational, Scientific and Cultural Organization. Any such revision shall, however, bind only the States which shall become Parties to the revising convention.
2. If the General Conference should adopt a new convention revising this Convention in whole or in part, then, unless the new convention otherwise provides, this Convention shall cease to be open to ratification, acceptance or accession, as from the date on which the new revising convention enters into force.

Article 38

In conformity with Article 102 of the Charter of the United Nations, this Convention shall be registered with the Secretariat of the United Nations at the request of the Director-General of the United Nations Educational, Scientific and Cultural Organization.

Done in Paris, this twenty-third day of November 1972, in two authentic copies bearing the signature of the President of the seventeenth session of the General Conference and of the Director-General of the United Nations Educational, Scientific and Cultural Organization, which shall be deposited in the archives of the United Nations Educational, Scientific and Cultural Organization, and certified true copies of which shall be delivered to all the States referred to in Articles 31 and 32 as well as to the United Nations.

**APPENDIX 6 HBMCE Response to First Public Consultation,
March 2017**



Historic England

SOUTH WEST OFFICE

Direct Dial: 0117 975 0699

A303 Amesbury to Berwick Down team
A303Stonehenge@highwaysengland.co.uk

Date: 2nd March 2017

Our Ref: PL69442/1

BY EMAIL ONLY

Dear Sirs,

RE: A303 Stonehenge - Amesbury to Berwick Down, response to first phase of public consultation on route options

Role of Historic England

We are the government's expert advisor on England's heritage and we have a statutory role in the planning system. Central to our role is the advice we give to local planning authorities, government departments, developers and owners on development proposals affecting the historic environment.

'Constructive Conservation' expresses the role we play in promoting a positive and collaborative approach to conservation that focuses on actively managing change. The aim is to accommodate the changes necessary to ensure the continued use and enjoyment of heritage assets while recognising and reinforcing their historic significance. Our advice seeks to minimise the loss of significance to these assets. We also look for opportunities to enhance the historic environment.

Prior Engagement

Historic England has been engaged with the current proposals to consider the improvement of the A303 through the Stonehenge World Heritage Site (WHS) since the Department for Transport (DfT) announced a feasibility study to look at potential solutions in early 2014. Prior to April 2015 our engagement took place as part of English Heritage.

Our engagement with the feasibility study primarily took place through a DfT Technical Working Group, together with heritage partners the National Trust, English Heritage and Wiltshire Council. Our constructive engagement in this process was instrumental in the securing the Government's December 2014 announcement that it would invest in a bored tunnel of "at least" 2.9km to improve the A303 through the WHS.



Historic England

SOUTH WEST OFFICE

Over the past two years we have continued to provide advice and guidance to the project as it has gone through the process of scoping, sifting and initial assessment of route options. A key aspect of this engagement was our recommendation that the advice of the UNESCO World Heritage Centre (WHC) and their heritage advisors ICOMOS be sought at the earliest opportunity, so that the project had the benefit of their ongoing advice throughout the development of the scheme and identification of routes.

As a result of this an initial Advisory Mission was made at the invitation of UK Government in October 2015. The helpful and constructive mission technical report was received in April 2016, and we acknowledge the positive efforts made by Highways England to absorb the WHC and ICOMOS's recommendations in the drawing up of the current route option proposals.

We also recognise that this present phase of non-statutory public consultation represents Highways England's commitment to demonstrating best practice throughout the life of the scheme's evolution and design, beyond that required by the Development Consent Order statutory process, and that this early stage in identifying route options provides the flexibility necessary to achieve the best possible scheme. We understand that another stage of public consultation on amended /revised proposals will take place later in 2017.

An early achievement in drawing up the parameters of the project was the inclusion within Highways England's over-arching Client Scheme Requirements of commitments "*To contribute to the conservation and enhancement of the WHS by improving access both within and to the site*" and "*To contribute to the enhancement of the historic landscape within the WHS...*"¹ The following advice is mindful both of these welcome commitments and of the preliminary nature of these proposals.

SIGNIFICANCE OF THE STONEHENGE WORLD HERITAGE SITE (WHS)

The Stonehenge WHS forms one half of a larger world heritage property together with Avebury, and was inscribed on the World Heritage List in 1986 as the Stonehenge, Avebury and Associated Sites WHS.

The international significance of Stonehenge and its WHS landscape cannot be overemphasised. As a globally famous and iconic monument and enduring symbol of man's prehistoric past, it is an internationally recognised symbol of Britain. It is difficult to overstate its importance as one of the best-known and best-loved monuments in the world. The Stonehenge World Heritage Site is globally important not just for Stonehenge, but for its

¹ A303 Amesbury to Berwick Down Technical Appraisal Report, Section 2.2, page 30



Historic England

SOUTH WEST OFFICE

unique and dense concentration of outstanding prehistoric monuments and sites, which together form a landscape without parallel.

The significance of the WHS is well summarised in the Statement of Outstanding Universal Value (SOUV) adopted by the UNESCO World Heritage Committee in June 2013. The full SOUV can be found here: <http://www.stonehengeandaveburywhs.org/assets/Stonehenge-and-Avebury-WHS-SOUV.pdf> but the key attributes of that significance are worth reiterating:

The Attributes of Outstanding Universal Value of the Stonehenge World Heritage Site

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.

The protection of OUV as expressed through these Attributes, together with the Authenticity and Integrity of the WHS are therefore key considerations in assessing proposals within the site or its setting.



Historic England

SOUTH WEST OFFICE

POTENTIAL IMPACT OF ROUTE OPTIONS D061 and D062

Aspects common to both route options (from east to west)

Countess Roundabout/junction – the proposals to improve Countess by means of a flyover for the A303 and grade-separated junction would not appear, from the information available in the consultation documents, to have any significant impact upon the OUV of the WHS, given the baseline condition of this part of the site. However, the infrastructure associated with the junction improvements, including signage, lighting, fencing, cameras etc will require sensitive consideration. Although it appears that all the proposed works will take place within the existing highway land-take, we note the potential for indirect (setting and visual) impacts upon the following designated heritage assets, which will require careful assessment:

- Amesbury Abbey – Grade I, Grade II* and Grade II Listed Buildings, Grade II* Registered Park & Garden
- Amesbury Conservation Area – we note that the northern edge of the conservation area abuts the highway land-take at Countess
- Countess Farm – group of Grade II Listed Buildings on north-west edge of the junction.

From Countess to proposed Eastern Portal – the consultation documents suggest that this section remains entirely within the existing highway land-take up to the point where the road would divert to the north to enter the eastern portal approach. It does not appear that this section will impact upon the OUV of the WHS, however any new signage etc will require very careful consideration.

- **Blick Mead** – whilst of an earlier period than that for which the WHS is designated, this fairly recently discovered Mesolithic site is likely to be of national importance. It lies immediately south of the existing highway land-take along this section of the route. We are aware of concerns regarding the potential impact of changes in the water table as a result of the scheme's development, and the detrimental effect this could have upon the preservation of the site. We understand that the site excavations are due to be published in 2017 and should enable its significance to be properly characterised. In terms of the proposed road improvement, its impact on groundwater levels and hydrogeology must be thoroughly assessed to demonstrate its sustainability and whether there would be any material effect upon the archaeology at Blick Mead.



Historic England

SOUTH WEST OFFICE

Eastern tunnel portal – the proposed location of the eastern portal follows one of the key recommendations of the 2016 WHC & ICOMOS report in placing the portal to the east of the Stonehenge Avenue. The Avenue in this location is known to survive as buried archaeological remains and runs nearly perpendicular to the existing A303 dual carriageway, by which it is bisected. By placing the portal to the east of the Avenue and removing the existing A303 from the eastern portal westwards to Longbarrow junction, it brings forward the eventual prospect of making much of its course through the landscape legible or even accessible to future generations.

This would be a significant achievement for the conservation and enhancement of the WHS and a major improvement on the present surface road.

The proposed portal location is also favourable in terms of its archaeological impact. Historic England, as part of the Heritage Monitoring and Advisory Group (HMAG – also set up in response to a recommendation of the 2016 WHC and ICOMOS report) was involved in the design and monitoring of the archaeological assessment and evaluation of the portal site. This work was undertaken to a very high standard and sampled a high percentage of the portal site and approach. Surprisingly, the results demonstrated a very low archaeological presence at this location within the WHS. We understand that Highways England will be making the results of this archaeological work publicly available as soon as it is ready to issue.

The combination of negligible archaeological impact, preservation of the Avenue and the relatively low intervisibility between the portal site and OUV-relevant sites & monuments leads us to the view that the eastern portal proposals are acceptable in-principle and should preserve OUV. However, it is critical that the infrastructure is designed and located sensitively if this improvement is to be properly realised.

The bored tunnel – the twin, fully-bored tunnel of at least 2.9km would deliver huge benefits for the WHS by facilitating the removal of the damaging and intrusive surface road that presently severs the Stonehenge WHS in two. It would entail the removal of the surface dual and single carriageway road from the eastern portal location on the east side of King Barrow Ridge across to Longbarrow junction on the west side of the WHS. This would enable the reunification of the WHS north and south of the current road.

At present, around two thirds of the WHS lie to the south of the A303, effectively isolated from the northern part which contains Stonehenge and the other major ceremonial monuments. The land to the south of the current A303 contains some of the most spectacular groups of funerary monuments and a more diverse landscape than that which visitors are familiar with to the north of the road. At present none of this heritage is promoted for visitors because of the dangers inherent in crossing a busy trunk road.



Historic England

SOUTH WEST OFFICE

The bored tunnel presents an opportunity to hugely improve the visitor experience to the whole WHS landscape, opening up new views and new approaches to Stonehenge along public rights of way, in addition to the rich heritage of the southern part of the Stonehenge landscape.

Removal of the surface road via the bored tunnel will significantly enhance the OUV of this part of the WHS, improve the setting of some of the country's most important and best-preserved prehistoric monuments including Stonehenge itself, and restore tranquillity to this ancient landscape.

Western Portal – the western portal position as shown in the consultation documents requires significant improvement. The current location is very close to the Normanton Down barrow cemetery, one of the best preserved and most significant Neolithic and Bronze Age cemeteries in the UK. The portal would certainly have a significant adverse impact upon the setting of this barrow group and upon the OUV of the WHS. In addition, the harmful OUV impact is compounded by the portal location requiring a deep cut into the shoulder of Normanton Down, which will also have a significant adverse impact upon the inter-relationship between the Normanton Down, Lake and Winterbourne Stoke barrow groups – three of the key monument groups that carry OUV.

To ensure that the scheme is fit for this world-class landscape it is essential that the location at which traffic emerges into the landscape is one that can demonstrate it protects the OUV. As part of Historic England and National Trust's consideration of the proposals, we have undertaken an outline assessment of potential OUV impacts, to help inform our position on the two route options presently in consultation. A copy of this technical report² is included as an appendix to this response.

We recommend that the report is carefully considered by Highways England, with particular reference to the conclusions on potential solutions for the western portal. Highways England will also need to consider the forthcoming report of the second Advisory Mission that took place at the beginning of February this year to consider the current proposals. The WHC and ICOMOS report should be given due regard in addition to our advice.

West of the Western Portal – here the two options D061 and D062 diverge and follow different routes to the western WHS boundary. The following comments are route option specific, followed by issues applicable to both options in this section of the scheme:

2

Historic England and National Trust, *Stonehenge A303 improvement: outline assessment of the impacts on the Outstanding Universal Value of the World Heritage property of potential route options presented by Highways England for January 2017, 2017*



Historic England

SOUTH WEST OFFICE

- **D061** – the more northerly of the two options, the proposed route would bisect the Diamond Wood heading due west and leave the WHS approximately 600m south of Longbarrow junction. Archaeological assessment and evaluation was undertaken by Highways England in Autumn 2016 on land to the west of Diamond Wood, in consideration of a previous route iteration. This work confirmed the presence of a suspected long barrow, and identified a further, previously unknown long barrow and a hengiform monument. These newly identified monuments are of direct relevance to the OUV of the WHS and in our outline OUV assessment (see above) have been associated with other Neolithic and Bronze Age monuments to form the Diamond Group

Whilst D061 has been designed to avoid direct impacts upon this archaeology, it would nonetheless run between the members of the Diamond Group of monuments, severing the most southerly of the long barrows from its neighbours. The severance and negative setting impact of the road cut through such a tightly knit group of monuments directly relevant to the inscription of the WHS would undoubtedly have a significant adverse effect on OUV.

- **D062** – This route option runs through the southern part of Diamond Wood before following a relatively low-lying contour to exit the WHS at a low point approximately 1.3km south of Longbarrow roundabout, passing across the A360 road into the woodland-enclosed field known as The Park.

This route option seeks to utilise the topography of the WHS to advantage in providing a relatively unobtrusive path through the landscape. However, the consultation materials suggest a working assumption that much of the route would be 'at grade' or even on embankment. Our joint outline OUV assessment with National Trust suggests that a route option such as D062 (or any future variant) must be largely in cutting if it is to mitigate effectively a significant impact of any new road – the sight of heavy goods vehicles moving through the WHS landscape. We refer you to the report and its recommendations in terms of cuttings for the surface road alignment.



Historic England

SOUTH WEST OFFICE

An additional advantage of D062 is that the exit point from the WHS coincides with a small dry valley opposite The Park. Any junction necessary for the A303/A360 interchange would be located within The Park. The design assumption that neither the junction nor the new surface road would be lit is certainly to be welcomed, however it is potentially of concern that the new junction within The Park, and much of the new surface road, will lie on the midwinter solstice sunset alignment as viewed from Stonehenge.

Attribute 4 of the SOUV reminds us that “*The design of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the skies and astronomy*” is an important component of the OUV of the WHS. The scheme will therefore need to demonstrate that the infrastructure can be delivered without harming this attribute of OUV. The midwinter solstice sunset issue is primarily about the potential intrusion caused by approaching headlights, while there is a wider WHS landscape issue to consider around developing infrastructure upon one of the key alignments through the site. Identifying whether there are likely to be any impacts arising from these parts of the route option – and avoiding them - should be an important aspect of the future evolution of the scheme.

- **Archaeological assessment and evaluation** – the Diamond Group of OUV-relevant monuments referred to above was identified through early archaeological assessment and evaluation undertaken to inform a previous route iteration. Historic England was involved in both the design and monitoring of this archaeological work, which was carried out to a very high standard and intensively inspected. The results of that work allowed us a relatively high degree of confidence in the archaeological potential of the areas it covered. Both D061 and D062 were designed to avoid archaeology found in previous investigations, however the new alignments they take through the WHS will themselves require archaeological assessment and evaluation in that same way. It is strongly recommended that this work takes place in consultation with HMAG as soon as possible.

Until the archaeological character of these routes is understood there remains the risk of significant finds being made along their alignments. Dependent upon the significance of that archaeology (if present) it could prove a substantive constraint to



Historic England

SOUTH WEST OFFICE

that particular route, therefore an early understanding of archaeological potential is essential.

- **Scheduled linear earthwork along west side of Diamond Wood** – both route options would bisect Scheduled Monument No. 1010837 *Linear boundary from south east of Winterbourne Stoke crossroads to south west of The Diamond on Wilsford Down*. This monument is part a middle Bronze Age land boundary which runs for several kilometres along a general north-west/south-east alignment. A circa 1.2km length of the boundary is scheduled from southwest of Longbarrow junction to south of the Diamond Wood where it survives as an extant earthwork, albeit variably preserved within arable land.

As it is later than the Neolithic/Early Bronze Age period for which the WHS is inscribed this monument does not carry OUV, but is nonetheless a nationally-important, protected site. Ordinarily Scheduled Monument Consent would be required for the loss of part of this monument, but under the Planning Act 2008 that consent is subsumed within the Development Consent Order process.

Regardless of how consent is determined, NPPF identifies Scheduled Monuments as one of the most important types of designated heritage asset, and provides plain guidance on the wholly exceptional circumstances in which harm to or loss of part of such an asset might be contemplated. This includes a requirement to set out a clear and convincing justification of the significant public benefits that would be secured in order to offset that harm. We would expect Highways England to set out a strong justification for the loss of part of this linear monument if either of these route options are progressed to a DCO application.

Winterbourne Stoke Bypass – At the time of writing neither bypass option has been subjected to archaeological assessment and evaluation as part of the current scheme. We recommend that this is progressed as soon as possible to inform considerations over the best route around Winterbourne Stoke. Our concerns with regard to the WHS will be in terms of avoiding harmful impacts upon its setting caused by the route outside its boundary, however we are aware that there is a very rich archaeological potential for archaeology of all periods (not just OUV-relevant) within this landscape and the advice of Wiltshire Council's Archaeology service should be sought to assist in this.



Historic England

SOUTH WEST OFFICE

RELEVANT POLICY FRAMEWORK

International - In 1984 the UK ratified the World Heritage Convention 1972, article 4 of which requires State Parties to do “*all they can, to the utmost of their abilities*” to protect and transmit the OUV of their WHSs. Details on the scope and nature of relevant protection efforts are set out in the Operational Guidelines for the Implementation of the World Heritage Convention (World Heritage Committee 2005).

In addition, ICOMOS International, heritage advisers to the UNESCO World Heritage Centre, has produced supplementary guidance on Heritage Impact Assessments (HIA) for development within WHSs (ICOMOS 2011), to gauge the effect of proposals on OUV. It recommends an iterative series of HIAs, undertaken as a project moves from initial scoping through design and application. We are aware that Highways England has commissioned HIA iterations for the early stages of the scheme, but note that a full and thorough Heritage Impact Assessment in line with the ICOMOS 2011 guidance will be required to accompany any scheme going forward.

As noted above, the special qualities of the WHS were formally set out in the Statement of Outstanding Universal Value (SOUV) adopted by the WH Committee in June 2013. The SOUV describes the Attributes of OUV that are central to the significance of the WHS. Importantly, these not only refer to Stonehenge and its relationship to the other major monuments, but also to the relationship between individual groups of monuments themselves and the value of night skies & relevant astronomical alignments. The value of the whole WHS as a “landscape without parallel” is also recognised as an Attribute.

National - As a nationally-significant infrastructure project (NSIP) the A303 Stonehenge Improvement will seek consent via the Development Consent Order (DCO) process under the Planning Act 2008. Schemes seeking DCO must demonstrate that they comply with relevant international treaties to which the UK is a signatory. The 1972 World Heritage Convention is one such treaty.

The DCO process follows the policy and guidance in the National Planning Policy Framework (DCLG2012), supplemented by the online Planning Practice Guidance (Gov.uk website). Both sources contain clear guidance on how to approach historic environment issues within the context of development. NPPF identifies World Heritage Sites as one of the most important forms of designated heritage asset, whilst the supplementary PPG contains further guidance on how to treat WHSs, including a link to the ICOMOS 2011 HIA guidance.

Local - the scheme should comply with the 2015 Stonehenge and Avebury WHS Management Plan, which contains a series of policies agreed by all WHS partners (including Highways England) for the protection & enhancement of the WHS. The Plan includes policies on the



Historic England

SOUTH WEST OFFICE

impact of roads and transport and broadly states that solutions to intrusive traffic issues, including the A303, should protect the OUV of the WHS. The Plan carries weight in the local planning process and although the current Plan has not been formally adopted as SPD it can be expected to be a document of interest in consideration of the DCO.

From our prior engagement in the scheme we are aware that Highways England and their consultants are working to all of the policy requirements set out here, in order to develop a scheme fit for the WHS – we encourage them to continue work closely with us and other heritage partners to ensure the emerging scheme accords with this strong raft of policy protection.

HISTORIC ENGLAND POSITION

Both options D061 and D062 include a tunnel of at least 2.9km within the Stonehenge World Heritage Site. This would remove the majority of the existing damaging A303 road and its traffic from the WHS, finally reuniting the north and south sides of this extraordinary ancient landscape and allowing people to enjoy and understand it better. It would also allow for the reinstatement of the line of the Stonehenge Avenue, the ancient processional route to the stones. This is the first time that a scheme to improve the A303 within the Stonehenge landscape has recognised and respected the importance of the Avenue.

However the current proposals for the tunnel's western portal are a cause for significant concern. This is due to the portal's current proximity to the Normanton Down barrow group and the wider adverse impacts on OUV presented by its position. We hope that these concerns can be resolved with careful and sensitive revision to the positioning and design of the western portal. This is a key issue to resolve for the development of a successful scheme that we would be able to support through the DCO process.

We are committed to working with Highways England to find an alignment and design for the western portal and new western surface road that is appropriate for this internationally-important place and protects its Outstanding Universal Value.

We believe that this scheme presents the best chance in a generation to resolve the long-running traffic problems that blight the WHS, and that the current proposals contain many positive aspects which deserve recognition. They represent a huge opportunity to develop a road improvement within the WHS, but the scheme must improve its western elements for this to be the exemplary scheme that the Stonehenge WHS so deserves.

Yours sincerely,



Historic England

SOUTH WEST OFFICE

PHIL MCMAHON

Inspector of Ancient Monuments

phil.mcmahon@historicengland.org.uk

Enclosure: Appendix 1, Historic England and National Trust, *Stonehenge A303 improvement: outline assessment of the impacts on the Outstanding Universal Value of the World Heritage property of potential route options presented by Highways England for January 2017, 2017*

Please note that Historic England operates an access to information policy. Correspondence or information which you send us may therefore become publicly available.

**APPENDIX 7 HBMCE Response to EIA Scoping Consultation,
November 2017**

Mr Richard Kent
The Planning Inspectorate
3/18 Eagle Wing
Temple Quay House
Temple Quay
Bristol
BS1 6PN

Direct Dial: 0117 9750699

Our ref: PL00201547

15 November 2017

Dear Mr Kent

Planning Act 2008 (as amended) and The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) - Regulations 10 and 11

Application by Highways England for an Order granting Development Consent for the A303 Stonehenge -Amesbury to Berwick Down

Scoping consultation response

Thank you for consulting Historic England in respect of the scope of Environmental Impact Assessment on this scheme proposal.

In line with the advice in the National Planning Policy Framework (paragraph 128), we would expect any Environmental Statement to contain a thorough assessment of the likely effects which the proposed development might have upon the historic environment. In terms of detailed assessment methodology, we would expect any assessment of settings to be undertaken in accordance with our recently-published guidance (HE 2015 *Good Practice Advice in Planning, Note 3, The Setting of Heritage Assets*). Similarly, we would expect the over-arching EIA methodology to accord with the guidance given in Highways Agency note 20807 of 2007, commonly known as DMBRB 2.

The Highways England Scoping Report (ref. P03, S4) dated 20th October 2017 sets out proposals for undertaking the appropriate assessment within those parameters. Whilst the Scoping Report is broadly acceptable, we would advise that the following points are addressed by the applicant to ensure that the heritage dimension of the Environmental Statement is robust and fully scoped to properly assess heritage impacts. Reference numbers reflect those used in the Scoping Report:

6.2.2 - We note that a HIA scoping report compliant with the 2011 ICOMOS guidance



29 QUEEN SQUARE BRISTOL BS1 4ND

Telephone 0117 975 1308
HistoricEngland.org.uk



SOUTH WEST OFFICE

is in preparation, to set out the extent of work required to assess the impacts of the scheme upon the Outstanding Universal Value (OUV) of the Stonehenge component of the Stonehenge, Avebury and Associated Sites World Heritage Site (the WHS). We want to emphasise the need for the OUV HIA to be fully integrated into the ES Cultural Heritage chapter - that is, for the links between the two pieces of assessment to be clarified at this stage. With the WHS being identified by NPPF as one of the most important types of designated heritage assets, it is important that the effects of development upon it are clearly set out in the main ES and not just relegated to an appendix to it.

6.2.7 (Planning Policy Context) - the Scoping Report should in our view set out the relevant international policy and guidance governing WHSs in addition to the national and local planning context - that is: the UK's ratification of the 1972 World Heritage Convention; the relevant Operational Guidelines for the management of Cultural World Heritage Properties; and the International Council for Monuments and Sites (ICOMOS) guidance for Heritage Impact Assessment.

6.2.15 (non-designated assets) - the Scoping Report should acknowledge that some of the undesignated heritage assets will be relevant to the OUV of the WHS and that in addition some may be of national importance in their own right.

6.2.19 - the potential impact of the scheme upon dark skies should also be assessed. Within and adjacent to the WHS the preservation (or improvement of) dark skies contributes directly to the OUV of the WHS via Attribute 4 of the 2013 Statement of Outstanding Universal Value (SOUV): *The design of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the skies and astronomy.*

6.2.21 - please note that whilst HMAG is part of the Scientific Committee the reverse, as suggested by the Scoping Report text, is not true. The Scientific Committee does not have a role in providing formal curatorial advice on planning matters.

6.2.2.5 - as noted above, it is in our view essential that the results of the OUV HIA are integrated into the main ES and the applicant should set out how this is to be achieved.

Table 6.5 - NPPF clearly states that WHSs, Scheduled Monuments and Grade I and II* Listed Buildings are heritage assets of the highest significance. The table should be revised to reflect this showing these assets as having equal Very High importance.

6.2.3.8 - here, or later at 6.2.41, the importance of dark skies as an aspect of setting both for the OUV of the WHS and for the setting of individual Scheduled Monuments were relevant, should be acknowledged and in this section of the Scoping Report, appropriate assessment methodology set out. The impact of any scheme lighting is of particular sensitivity to the significance of the WHS.



29 QUEEN SQUARE BRISTOL BS1 4ND

Telephone 0117 975 1308
HistoricEngland.org.uk



6.2.52 - the applicant should reference the Overarching Written Scheme of Investigation (OWSI) which will inform individual Site Specific WSIs together with the Archaeological Evaluation Strategy.

6.3 - Landscape and Visual - should set out how effects on dark skies will be assessed

6.3.8 - what work has been done to establish these parameters of assessment? The WHS lies within an open, rolling landscape with very long views on clear days. We are concerned that any potential for visual impact beyond 5km is established at this early stage. This comment is also relevant to our concerns about the preservation of dark skies where they exist and contribute to the OUV of the WHS or the setting of a Scheduled Monument.

6.3.60b) - our understanding is that no bunds or other earthworks will be constructed within the WHS - can this please be clarified? Such features will impact upon OUV.

I hope that this advice is clear but please don't hesitate to contact me again should you wish to discuss any aspect of this letter.

Yours sincerely,

Phil McMahon
Inspector of Ancient Monuments
phil.mcmahon@HistoricEngland.org.uk

cc: Melanie Pomeroy-Kellinger, Clare King, Wiltshire Council Archaeology Service



29 QUEEN SQUARE BRISTOL BS1 4ND

Telephone 0117 975 1308
HistoricEngland.org.uk



**APPENDIX 8 HBMCE Response to Public Consultation, April
2018**



Historic England

SOUTH WEST OFFICE

Direct Dial: 0117 975 0699

A303 Amesbury to Berwick Down team
A303Stonehenge@highwaysengland.co.uk

Date: 20 April 2018

Our Ref: PL00326762

BY EMAIL ONLY

Dear Sirs,

RE: A303 Stonehenge - Amesbury to Berwick Down, response to public consultation on proposed route

Role of Historic England

We are the government's expert advisor on England's heritage and we have a statutory role in the planning system. Central to our role is the advice we give to local planning authorities, government departments, developers and owners on development proposals affecting the historic environment.

'Constructive Conservation' expresses the role we play in promoting a positive and collaborative approach to conservation that focuses on actively managing change. The aim is to accommodate the changes necessary to ensure the continued use and enjoyment of heritage assets while recognising and reinforcing their historic significance. Our advice seeks to minimise the loss of significance to these assets. We also look for opportunities to enhance the historic environment.

Part of our role involves advising the Department for Digital, Culture, Media and Sport (DDCMS) on matters relating to World Heritage, as DDCMS act as the State Party responsible for fulfilling the government's responsibilities as a signatory to the 1972 World Heritage Convention. In this capacity we have taken part in the 2015 and 2017 advisory missions where the UNESCO World Heritage Centre and their advisory body ICOMOS International (not to be confused with ICOMOS-UK) were invited by DDCMS to visit the Stonehenge WHS and consider the evolving scheme proposals. In formulating this response we have taken into account the reports of both advisory missions and the decision of the 2017 World Heritage Committee which was informed by the 2015 and 2017 mission reports. A third advisory mission took place in March 2018 and although the mission report will not be issued within the statutory



Historic England

SOUTH WEST OFFICE

consultation deadline, we have also taken into account discussions held with the mission team in writing our advice.

SUMMARY

Historic England sees the proposed scheme as great improvement on the route options taken to non-statutory public consultation by Highways England in January 2017. The evolution of the scheme from that time has been significant in terms of improving the impact of the proposals upon the Stonehenge World Heritage Site (the WHS). The route has been revised to bring the proposed alignment close to that of the existing, surface A303, thus resolving the serious adverse impacts the previous route options would have caused within the south-west quadrant of the WHS, including upon the winter solstice sunset alignment as viewed from Stonehenge itself. The location of the tunnel portals, with appropriate landscape mitigation by means of covered extensions, utilises the topography of the WHS to minimise the impact of these elements upon its Outstanding Universal Value (OUV). The positioning of the new surface approach road to the west of the western portal within a deep, steep sided cutting will remove from sight the visual intrusion of traffic passing through the western part of the WHS from a number of viewpoints relevant to OUV whilst minimising the footprint of the scheme within it. The removal of the current Longbarrow Roundabout, the creation of a new A303/A360 junction some 600m west of the current western boundary, and the diversion west of the A360 road where it formerly approached Longbarrow Roundabout from the north and south, will have a significant, positive impact upon the setting of the Winterbourne Stoke and Diamond monument groups, especially when combined with the removal of the current roundabout and old A303/A360 roads and their transition to traditional green ways.

Welcome commitments from Highways England to avoid intrusive lighting within the WHS and the new junctions, and to avoid intrusive signage within and adjacent to the WHS, will bring further benefits to bear in conserving a dark skies environment important for the appreciation of significant astronomical alignments as viewed from those monuments designed for this purpose. We are keen to learn more on how intrusive lighting will be avoided at the proposed new A303/A360 junction.

The overall effect of these improvements when combined with the removal of over 3km of the current surface A303 and the reunification of the landscape it presently severs, effectively preventing safe access to the WHS to its south, will substantially improve the ability of the public to appreciate the extraordinary archaeology of the whole Stonehenge WHS, rather than only the part to the north of the A303 as is the case at present. There are potentially substantial public benefits arising from the scheme, which if secured could transform the



Historic England

SOUTH WEST OFFICE

public's understanding of the WHS, allow its improved interpretation and the transmission of its significance in manner fit for Britain's pre-eminent archaeological WHS.

However, whilst recognising the progress made by Highways England in improving the scheme it is our view that further work is needed in two key areas to create a road improvement that can be demonstrated to protect the OUV of the WHS. The scheme proposals include a 'green bridge' over the proposed deep cutting of the new A303 on the site of the current Longbarrow Roundabout, to provide connectivity between the north and south parts of the WHS at this location. An independent outline assessment of potential impacts on OUV, jointly commissioned by Historic England and National Trust to inform our positions on the proposals, suggests that the proposed green bridge will do little to mitigate the impacts of the scheme upon the WHS at this location. It identifies the need for a wider land-bridge at a position east of the proposed green-bridge to provide meaningful landscape connectivity between the Winterbourne Stoke and Diamond monument groups. The purpose of such a land-bridge would be to reinstate the appearance of a rural land-form between the two monument groups at their closest point, not only for visual mitigation, but also to provide landscape context and to facilitate the impression of walking through a green landscape when moving between the two groups (should future land access allow), rather than moving across a narrow strip of land above the new A303 cutting. Such a land-bridge would need to be wider than the proposed 45m wide green-bridge. Our commissioned study suggests it would need to be carefully located and a minimum of 150m wide to be provide effective mitigation of the impacts upon OUV the scheme would have within this part of the WHS.

Our latest outline OUV assessment, titled '*Stonehenge A303 improvement: Assessment of aspects of the Preferred Route as at 4th December 2017, March 2018*' assesses the proposed scheme as put forward by Highways England for statutory consultation. Our response to the statutory consultation is informed by this assessment but it, and any future assessments are subject to change as the scheme design progresses. Our definitive advice on the scheme, or any individual element of it, can only be undertaken once the design is finalised.

The second area where further work is required is the proposal to create a link for motorised vehicles between Byways Open To All Traffic (BOATs) 11 and 12. This proposal would have an adverse impact upon the OUV of the WHS by encouraging the proliferation of motorised vehicle traffic along the byways within the WHS, something not only harmful to OUV in its own right, but seemingly at odds with the major thrust of the scheme in removing the intrusive sight and sound of traffic from much of the Stonehenge WHS. Whilst we acknowledge and support the improvement of public access routes within the WHS we cannot support the creation of a new byway for motor vehicles and strongly advise that any such link should be a Restricted Byway only, for walkers, cyclist and horse riders/carriages.



Historic England

SOUTH WEST OFFICE

Historic England is closely involved in the strategy, direction, oversight and monitoring of the archaeological assessment and evaluation work necessary to inform the scheme proposals. This reflects our role as the Government's lead adviser on heritage and is undertaken as part of the Heritage Monitoring and Advisory Group (HMAG) we are part of together with Wiltshire Council Archaeology Service (WCAS), the National Trust and English Heritage. Historic England and WCAS have formal curatorial roles within the planning process whilst National Trust and English Heritage provide valuable expert advice as major conservation bodies responsible for managing significant aspects of the WHS. Going forward HMAG will be closely involved in advising upon requirements for archaeological mitigation within the WHS and the wider scheme area once the results of assessment and evaluation are available.

Beyond these headline issues, we are also in ongoing pre-application discussion with Highways England on a range of issues of detail, all of which require careful consideration and sensitive design to avoid adverse impacts upon the WHS or to maximise any benefits we may consider they have the potential to deliver.

SIGNIFICANCE OF THE STONEHENGE WORLD HERITAGE SITE

The Stonehenge WHS forms one half of a larger world heritage property together with Avebury, and was inscribed on the World Heritage List in 1986 as the Stonehenge, Avebury and Associated Sites WHS.

The international significance of Stonehenge and its WHS landscape cannot be overemphasised. As a globally famous and iconic monument and enduring symbol of man's prehistoric past, it is an internationally recognised symbol of Britain. It is difficult to overstate its importance as one of the best-known and best-loved monuments in the world. The Stonehenge World Heritage Site is globally important not just for Stonehenge, but for its unique and dense concentration of outstanding prehistoric monuments and sites, which together form a landscape without parallel.

The significance of the WHS is well summarised in the Statement of Outstanding Universal Value (SOUV) adopted by the UNESCO World Heritage Committee in June 2013. The full SOUV can be found here: <http://www.stonehengeandaveburywhs.org/assets/Stonehenge-and-Avebury-WHS-SOUV.pdf> but the key attributes of that significance are worth reiterating:

The Attributes of Outstanding Universal Value of the Stonehenge World Heritage Site

1. Stonehenge itself as a globally famous and iconic monument.



Historic England

SOUTH WEST OFFICE

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.

The protection of OUV as expressed through these Attributes, together with the Authenticity and Integrity of the WHS are therefore key considerations in assessing proposals within the site or its setting.

POTENTIAL IMPACT OF THE PROPOSED ROUTE (from east to west)

East of Countess Roundabout – the proposals for this section of the scheme would appear to have a limited impact upon designated heritage assets. The scheme elements in this location have in our view little or no impact upon the setting of the WHS or those designated assets clustered to the west of Countess Roundabout and the A345 Amesbury-Durrington road. The works proposed to byways in this area should have a positive impact upon Scheduled Monument No 1009566 *Two disc barrows and a bell barrow, 400m east of the Pennings, Earl's Farm Down* by diverting the course of a Byway Open To All Traffic (BOAT) away from the monument, which is at present suffering damage and erosion through its partial location within the byway. It is vital that measures are taken to protect the monument from further vehicle damage once the byway diversion has been created.

Countess Roundabout/junction – the proposals to improve Countess by means of a flyover for the A303 and grade-separated junction would not appear, from the information available in the consultation documents, to have any significant impact upon the OUV of the WHS,



Historic England

SOUTH WEST OFFICE

given the baseline condition of this part of the site. However, the infrastructure associated with the junction improvements, including signage, lighting, fencing, cameras etc will require sensitive consideration. Although it appears that all the proposed works will take place within the existing highway land-take, we note the potential for indirect (setting and visual) impacts upon the following designated heritage assets, which will require careful assessment to determine the level of impact and suitable mitigation measures.

- Amesbury Abbey – Grade I, Grade II* and Grade II Listed Buildings, Grade II* Registered Park & Garden
- Amesbury Conservation Area – we note that the northern edge of the conservation area abuts the highway land-take at Countess
- Countess Farm – group of Grade II Listed Buildings on north-west edge of the junction.

We would welcome the opportunity to discuss these potential impacts further with Highways England, to advise upon the proposed impact assessment methodology and ensure the best approach to protect these designated heritage assets. We would recommend that any such discussion includes the relevant Wiltshire Council Conservation Officer, who is normally the lead source of advice for Grade II Listed Buildings and Conservation Areas. Historic England will be able to advise on assessing the setting impacts upon the Grade I Listed Building and the Grade II* Registered Park and Garden.

From Countess to proposed Eastern Portal – the consultation documents indicate that this section remains entirely within the existing highway land-take up to the point where the road would divert to the north to enter the eastern portal approach. It does not appear that this section will impact negatively upon the OUV of the WHS, due to the confined nature of the land-form where the route diverts from the existing highway boundary to approach the eastern portal. Any new signage will require very careful consideration at this location due to the proximity of both the Amesbury Abbey Registered Park & Garden and SM No 1012126 *Vespasian's Camp*, an Iron Age hillfort.

- **Blick Mead** – whilst of an earlier period than that for which the WHS is designated, this recently discovered Mesolithic site is considered to be of national importance for the significant collection of prehistoric worked flint and other finds emerging from the site. It lies immediately south of the existing highway land-take along this section of the route. We are aware that Highways England is engaged in discussions with the Blick Mead excavation leaders with a view to including data from the site within the scheme's hydrology assessment. It may be that the significance of the Blick Mead site is dependent in part on the maintenance of groundwater levels within the site and an



Historic England

SOUTH WEST OFFICE

appropriate assessment following the recently published Historic England guidance on preserving archaeological remains (<https://www.historicengland.org.uk/images-books/publications/preserving-archaeological-remains/>) will be important in identifying any such sensitivities and designing effective mitigation.

From ongoing discussions with Highways England it appears that there will be no harmful effect upon the Blick Mead site from the proposed tunnel or its portals impacting upon chalk groundwater levels/flow, or from any potential underlying ground compaction from the proposed new Countess flyover embankments. Any groundwater sensitivity within the Blick Mead site may instead be due to fluctuations in surface water entering the site through the drainage ditches alongside the existing A303. It is therefore important that Highways England understand what role the existing drainage ditches play in maintaining waterlogged conditions at Blick Mead and to ensure that the scheme has no negative impact upon that flow if it can be demonstrated to be vital to preserving the significance of Mesolithic archaeological remains. The water environment within the Blick Mead site is complex and likely to lie beyond the conclusions of the landscape-scale groundwater modelling undertaken for the new tunnel and portals. It is our view that targeted assessment of the small-scale groundwater environment within the relatively restricted area of Blick Mead would be advantageous in both establishing baseline conditions and in helping to demonstrate the neutral impact of the scheme upon this nationally-important archaeological site.

We note that there will be no direct impact upon the Blick Mead site from the engineering/infrastructure of the proposed road improvement as shown in the consultation documents, as all works at this location will be within the existing highway boundary.

Eastern tunnel portal – the proposed location of the eastern portal improves upon that of the 2017 public consultation by moving the portal further to the east, thus providing greater separation between the portal and the Stonehenge Avenue (part of SM No 1010140 together with Stonehenge itself). The Avenue in this part of the WHS is the section that runs from the River Avon at West Amesbury and runs roughly north-west towards King Barrow Ridge. It is severed by the minor road from West Amesbury to Great Woodford, the old A303 alignment along Stonehenge Road from Amesbury and by the current, surface A303. The Avenue in this location is known to survive as buried archaeological remains as demonstrated by both



Historic England

SOUTH WEST OFFICE

geophysical survey and archaeological investigation (the latter not in connection with the present road proposals) and runs nearly perpendicular to the existing A303 dual carriageway, by which it is bisected. By placing the portal to the east of the Avenue and removing the existing A303 from the eastern portal westwards to Longbarrow junction, it brings forward the eventual prospect of making much of the course of the Avenue through the landscape legible or even accessible to future generations.

This would be a significant achievement for the conservation and enhancement of the WHS and a major improvement on the present surface road.

The proposed portal location is also favourable in terms of its archaeological impact. Historic England, as part of the Heritage Monitoring and Advisory Group (HMAG), is involved in the design and monitoring of the archaeological assessment and evaluation of the portal site and approach road (further comments on archaeological work undertaken to inform the scheme proposals are set out towards the foot of this letter). This work is being undertaken to a high standard and has sampled a high percentage of the portal site and approach. The results demonstrated a very low archaeological presence at this location within the WHS.

The combination of negligible archaeological impact, preservation of the Avenue and the low intervisibility between the latest, revised portal site and OUV-relevant sites & monuments leads us to the view that the eastern portal proposals are acceptable in-principle and should preserve OUV. In fact, the location now proposed for the portal site greatly reduces its intervisibility with OUV-relevant sites and monuments compared to the 2017 location, due to the steepening and narrowing of the minor dry valley within which it sits as the valley runs east. However, it is critical that the infrastructure is designed and located sensitively if this improvement is to be properly realised. The CGI visualisations produced for the public consultation indicate the potential for this aspect of the scheme's infrastructure to be delivered with little visual intrusion on the WHS, however we are concerned that the impact upon the setting of Vespasian's Camp scheduled monument is also assessed and any impacts identified properly mitigated.

The bored tunnel – the twin, fully-bored tunnel of 3km would deliver huge benefits for the WHS by facilitating the removal of much of the damaging and intrusive surface road that presently severs the Stonehenge WHS in two. It would entail the removal of the surface dual and single carriageway road from the eastern portal location on the east side of King Barrow Ridge across to Longbarrow junction on the west side of the WHS. This would enable the reunification of the WHS north and south of the current road.

At present, around two thirds of the WHS lie to the south of the A303, effectively isolated from the northern part which contains Stonehenge and the other major ceremonial monuments. The land to the south of the current A303 contains some of the most spectacular groups of



Historic England

SOUTH WEST OFFICE

funerary monuments within the WHS and a more diverse landscape than that which visitors are familiar with to the north of the road. At present none of this heritage is promoted for visitors because of the dangers inherent in crossing a busy trunk road. The bored tunnel presents an opportunity to hugely improve the visitor experience to the whole WHS landscape, opening up new views and new approaches to Stonehenge along public rights of way, in addition to opening up to public appreciation the rich heritage of the southern part of the Stonehenge landscape. The benefits that could be secured by the tunnel for the appreciation, understanding and interpretation of the whole of the Stonehenge WHS are potentially substantial and could significantly enhance the protection and transmission of its OUV.

In addition, the removal of the surface road via the bored tunnel will significantly improve the setting of some of the country's most important and best-preserved prehistoric monuments including Stonehenge itself, and restore tranquillity to this ancient landscape.

Proposed byways connection - The proposal to provide connectivity for motor vehicles between Byways Open To All Traffic (BOATs) 11 and 12 causes us serious concern. This proposal would have an adverse impact upon the OUV of the WHS by encouraging the proliferation of motorised vehicle traffic along the byways within it, something not only harmful to OUV in its own right, but seemingly at odds with the major thrust of the scheme in removing the intrusive sight and sound of traffic from much of the Stonehenge WHS. The connection of byways 11 and 12 in this way, whether on the line shown in the consultation documents, or along the line of the old surface A303 (as would become likely should National Trust object to the loss of inalienable land on the proposed alignment), would result in the existing negative impact on the WHS of motor vehicle traffic on the byways increasing along the proposed new connection. Whilst we acknowledge and support the improvement of public access routes within the WHS we cannot support the creation of a new byway for motor vehicles and strongly advise that any such link should be a Restricted Byway only, for walkers, cyclists and horse riders/carriages. This would provide the required connectivity between these rights of way without impacting negatively upon OUV. It would allow non-motorised users to travel through and explore the WHS along the new connection without impacting negatively upon the tranquillity and setting of the WHS and its monuments.

Western section of proposed scheme within the WHS – the scheme section from the western tunnel portal to the relocated A303/A360 junction has the potential to impact adversely upon the WHS and its OUV unless very carefully and sensitively designed. To help inform our view on the scheme proposals, and to allow us to provide balanced, expert advice to Highways England on the evolution of the scheme, Historic England has jointly commissioned with the National Trust a series of preliminary, outline OUV impact assessments, as different scheme iterations have arisen.



Historic England

SOUTH WEST OFFICE

Our latest outline OUV assessment, titled 'Stonehenge A303 improvement: Assessment of aspects of the Preferred Route as at 4th December 2017, March 2018' focuses on the western section of the scheme within and adjacent to the WHS as put forward for statutory consultation by Highways England, where significant changes to the scheme are proposed compared to the 2017 public consultation. A copy of that document is included as an appendix to this letter and the views expressed in the following paragraphs are informed by its conclusions. While our response to the statutory consultation is informed by this assessment, it and any future assessments are subject to change as the scheme design progresses. Our definitive advice on the scheme, or any individual element of it, can only be provided once the design is finalised.

Western Portal – the proposed western portal position is now aligned close to the south side of the existing A303 and has been extended from 2.9km to 3km in length in order to avoid impacting upon a scheduled round barrow No 1010832, which is an outlier of the major Normanton Down barrow cemetery that lies to its south-east. The proposed portal location is acceptable in OUV terms provided that it is mitigated by the proposed 200m long extension, to provide essential landscape mitigation. Thus mitigated, the western portal is in our view well located to make best use of the natural topography, with the point at which traffic would emerge from underground having a relatively low visual impact when viewed from most sites and monuments that convey OUV (where intervisibility exists). Our preferred treatment for the portal extension is for the option that best replicates the existing landform within its footprint.

From the proposed Western Portal to the new A303/A360 junction location – the appropriate design treatment and mitigation of this section will be central to protecting the OUV of the WHS. Our view is that the preferred treatment for this section is to set the road within the steep-sided 'abutment' cutting rather than a gently-sloped 'open' cutting. The steep-sided cutting has two essential functions – it minimises the land-take necessary for the new road, thus reducing the impact upon buried archaeological remains, and will effectively remove from view, from many sites and monuments that convey OUV, the intrusive sight of heavy traffic moving through the WHS. The proposed depth of the cutting means that the traffic removed from view will include heavy goods vehicles, which form a substantial part of the traffic upon the A303.

We understand that the steep-sided cutting will require retaining walls – the design of these features will require sensitive consideration. The proposal to provide rounded, grassed 'shoulders' to the cutting is a welcome one, which will provide some mitigation of the presence of the cutting within views north and south perpendicular to the line of the road. However, it is our view that further landscape mitigation will be required to minimise the impact upon OUV within this section.



Historic England

SOUTH WEST OFFICE

The scheme proposals include a 45m wide green bridge across the cut at what is now the location of Longbarrow Roundabout. Whilst this feature will provide connectivity between the WHS to north and south of the new road (as part of future proposals to improve access to the southern part of the Stonehenge WHS), it is our view that this feature will do little to provide the landscape mitigation required to offset the impact of the cutting upon two key groups of sites and monuments that convey OUV.

The Winterbourne Stoke barrow group lies to the north and east of the present Longbarrow Roundabout, focused on the Winterbourne Stoke 1 long barrow which currently sits close to the roundabout. The Diamond group of monuments lies to the south and east of Longbarrow Roundabout and includes three long barrows, several round barrows, a henge and a hengiform monument. These two monument groups convey OUV not only through the evidence they hold for Neolithic and Early Bronze Age funerary and ceremonial activities and culture, but also through their relationship to the surrounding landscape and to each other as monument groups. Our assessment indicates that notwithstanding the steep sided cutting and rounded grassed shoulders, where the Winterbourne Stoke and Diamond groups lie in close proximity to each other an additional form of landscape mitigation is required to effectively reduce the impacts upon OUV at this location to an acceptable minimum.

Our assessment indicates that the proposed green bridge provides connectivity but not effective landscape mitigation. To do this, the proposed green bridge would need to be much wider and be located to the east of the proposed old-A360 location. The purpose of the wider green bridge would be to provide the impression to a future visitor of moving through an unbroken grassland/rural landscape when travelling between the two monument groups, rather than moving across a narrow corridor that merely links the land parcels within which the two groups sit. The beneficial effect of this wider green bridge (perhaps more accurately termed a *land bridge*) would be twofold – firstly, to provide effective landscape mitigation of visual impacts when viewed between the two monument groups, and particularly when viewed between the two well-preserved long barrow mounds of SM No 1011841 *Long barrow north east of Winterbourne Stoke crossroads [now roundabout]* (north of the road) and SM No1010830 *Long barrow on Wilsford Down* (south of the road). This is necessary to mitigate the impact at this location upon SOUV Attribute 5 - *The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other*. Secondly, it would provide landscape context mitigation important to the setting of the two monument groups as described in Attribute 3 - *The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape*.

With the caveat that our joint OUV assessment with NT is preliminary and outline, based upon the information available in the consultation documents and CGI visualisations as currently available, rather than the full suite of data that will need to be provided by Highways England for the forthcoming Environmental Statement, the indication is that an



Historic England

SOUTH WEST OFFICE

appropriately-located land bridge would need to be a minimum of 150m in length to effectively mitigate the identified impacts upon OUV.

Proposed new A303/A360 junction –this aspect of the proposed scheme has the potential to impact positively upon the OUV of the WHS and the setting of the Winterbourne Stoke and Diamond monument groups, provided the design detail of the new junction is sensitive to its location within the setting of the WHS. The proposal to move the A303/A360 junction some 600m west of the present Longbarrow Roundabout; the realignment of the A360 to the north and south of Longbarrow Roundabout some distance to the west; and the subsequent removal of Longbarrow Roundabout, the old surface A303 and the lengths of old A360 presently approaching it, will have a significant, beneficial impact in this part of the WHS. The digital visualisations give an indication of the change to setting that these measures will bring, however a site visit to the Winterbourne Stoke barrow group, particularly its southern end, makes clear the scale of improvement that the junction relocation will make possible by removing the very intrusive infrastructure, clutter and sight of traffic that dominates the setting of these monuments at present.

These positive improvements at Longbarrow Roundabout are made possible by the new road in cutting to the south of the line of the existing A303, which we discuss above in the preceding section of this letter with recommendations for its appropriate mitigation.

The design of the new junction as shown on the consultation documents has the diverted A360 crossing over the A303 in cutting. The ‘dumb-bell’ roundabouts to north and south of the A303, and their approach roads, will be in cutting and the ‘green bridge’ over the A303 will be landscaped to minimise its appearance as hard infrastructure. These measures will provide some mitigation of the sight and sound of moving traffic and will reduce the visual impact of the junction itself.

The commitment to avoid intrusive lighting on the new junction is a welcome one, and is necessary to maximise the benefits of removing the current, intrusively lit Longbarrow Roundabout. We are keen to be engaged in the evolving discussion about lighting at the new junction, whether it can be avoided completely, or if not, how it can be achieved without causing an intrusive impact upon the WHS or its setting. If the latter, we would wish to be involved in any impact assessment/modelling of proposed lighting solutions to ensure a positive outcome for the WHS.

Finally, we note the indicative proposed tree/scrub planting proposed around parts of the proposed green bridge and approaches and would recommend that landscape planting is avoided at this location, in accord with the draft WHS Woodland Strategy currently being produced by the National Trust. The document is very near completion and any finalisation will not affect the recommendation to avoid screen planting within or adjacent to the WHS,



Historic England

SOUTH WEST OFFICE

intended to mitigate the visual impact of any development which would otherwise be unacceptable. In this instance we recommend that careful design and use of subtle landscaping techniques would be preferable to screen planting.

Winterbourne Stoke Bypass (section west of proposed new A303/A360 junction) – beyond the new road junction the proposed alignment runs to the north of Winterbourne Stoke, crossing the River Till on embankment and viaduct. This section will largely be out of sight of much of the WHS and is unlikely in our view to have an adverse impact on its setting. However, the new road, its embankment and viaduct will all be visible from the suite of scheduled monuments to the north of the new road, between Winterbourne Stoke and Shrewton. These include SM 1015020 *Winterbourne Stoke East round barrow cemetery and earthwork enclosure on Fore Down*, SM 1015019 *Winterbourne Stoke West round barrow cemetery and Conigre enclosure*, and SM 1015222 *Romano-British settlement on Winterbourne Stoke Down*. As with all scheduled monuments (and other designated heritage assets) likely to be within visual range of the scheme, a thorough assessment of the potential setting impact upon these assets must be carried out so that effects can be determined and potential mitigation measures agreed.

Archaeological assessment, evaluation and mitigation – Historic England is part of the Heritage Monitoring and Advisory Group (HMAG) set up to ensure a high quality, thorough approach to archaeological assessment, evaluation and ultimately, mitigation. Within HMAG the formal curatorial advice roles of Historic England and Wiltshire Council Archaeology Service are supplemented by prehistory specialists from the two heritage conservation bodies with significant responsibilities within the WHS – National Trust and English Heritage. HMAG is advised and augmented by the independent Scientific Committee of prominent archaeologists, all of whom are subject matter experts in areas relevant to the significance of the WHS. HMAG and the Scientific Committee advises on archaeological matters arising from the scheme proposals within the WHS, whereas outside of the WHS boundaries curatorial responsibilities lie with Historic England for designated heritage assets such as Scheduled Monuments and WCAS for undesignated assets.

The weight and calibre of advice provided by HMAG, augmented by the Scientific Committee, for the scheme proposals within the WHS has ensured that archaeological assessment and evaluation strategies are of a high standard appropriate for its significance. The same high standards have translated across into the scheme areas beyond the WHS boundaries where responsibility lies with Historic England and WCAS rather than HMAG.

The production of a robust Archaeological Evaluation Strategy and Overarching Written Scheme of Investigation has enabled equally robust Site-Specific Written Schemes of Investigation to be developed. Archaeological investigations are now underway or planned for land likely to be affected by the scheme. A substantial programme of evaluation is



Historic England

SOUTH WEST OFFICE

required to allow us to understand the direct impacts of the proposed scheme. This includes the evaluation not only the tunnel portal sites and new surface road, but all areas within the red line boundary where potential heritage impacts may occur through works associated with the scheme, including land that may be affected by temporary infrastructure necessary to undertake construction and land earmarked for landscape mitigation, such as the proposed extension to the Parsonage Down National Nature Reserve.

The results of the ongoing archaeological evaluation programme will need to be carefully considered by HMAG/Historic England and WCAS to identify detailed scheme impacts on buried archaeology and to allow us to advise on suitable mitigation measures, which may take the form of design solutions and/or archaeological excavation. Where archaeological excavation is required, it is important that the project commits to a full and timely programme of post-excavation analysis, archive preparation and appropriate publication, including integration of the results of assessment and evaluation. Adequate funding must be made available for the full publication of the results of archaeological work in a format suitable for the international significance of the WHS, and appropriate to the rich archaeological landscape beyond the WHS boundaries. As part of these commitments, the scheme should also ensure that adequate resources are available and secured for the long-term museum storage of the archive arising from archaeological work.

Matters subject to ongoing discussion – the public consultation documents represent a point in time of the development of scheme proposals and at this stage necessarily do not contain finalised proposals on all matters of detail. Discussions are ongoing with Highways England on a number of different areas of detail, and given the rapidly evolving situation with these aspects of proposals I do not intend to offer extensive comment upon them in this consultation response. However, it is important that as with the major scheme infrastructure a heritage-centred approach is maintained to ensure that these scheme elements are designed with the significance, setting and character of the WHS, and designated heritage assets within and adjacent to it, foremost in considerations.

These elements include, but are not restricted to: tunnel portal and abutment designs; tunnel control facilities; detailed design of green bridges; the treatment of the old A303 and A360 roadbeds and associated infrastructure, including embankments supporting the current road within the WHS; fencing; lighting; access for non-motorised users; drainage; signage; temporary works (compounds, haul roads, processing plants, etc). We will wish to continue our present close engagement in the design development of these details to ensure they are fit for the WHS and its environs.



Historic England

SOUTH WEST OFFICE

RELEVANT POLICY FRAMEWORK

International - In 1984 the UK ratified the World Heritage Convention 1972, article 4 of which requires State Parties to do “*all they can, to the utmost of their abilities*” to protect and transmit the OUV of their WHSs. Details on the scope and nature of relevant protection efforts are set out in the Operational Guidelines for the Implementation of the World Heritage Convention (World Heritage Committee 2005).

In addition, ICOMOS International, heritage advisers to the UNESCO World Heritage Centre, has produced supplementary guidance on Heritage Impact Assessments (HIA) for development within WHSs (ICOMOS 2011), to gauge the effect of proposals on OUV. It recommends an iterative series of HIAs, undertaken as a project moves from initial scoping through design and application. Highways England has produced a robust HIA Scoping Report which should inform a full and thorough Heritage Impact Assessment in line with the ICOMOS 2011 guidance. We would be pleased to provide further advice on this matter as the full HIA is drafted

As noted above, the special qualities of the WHS were formally set out in the Statement of Outstanding Universal Value (SOUV) adopted by the WH Committee in June 2013. The SOUV describes the Attributes of OUV that are central to the significance of the WHS. Importantly, these not only refer to Stonehenge and its relationship to the other major monuments, but also to the relationship between individual groups of monuments themselves and the value of night skies & relevant astronomical alignments. The value of the whole WHS as a “landscape without parallel” is also recognised as an Attribute.

National - As a nationally-significant infrastructure project (NSIP) the A303 Stonehenge Improvement will seek consent via the Development Consent Order (DCO) process under the Planning Act 2008. Schemes seeking DCO must demonstrate that they comply with relevant international treaties to which the UK is a signatory. The 1972 World Heritage Convention is one such treaty.

The DCO process follows the policy and guidance in the National Planning Policy Framework, and, for infrastructure, the National Policy Statement for National Networks (NPSNN), supplemented by the online Planning Practice Guidance (Gov.uk website). Both sources contain clear guidance on how to approach historic environment issues within the context of development. NPPF identifies World Heritage Sites as one of the most important forms of designated heritage asset, whilst the supplementary PPG contains further guidance on how to treat WHSs, including a link to the ICOMOS 2011 HIA guidance.

Aside from assessing the impact of the scheme upon the WHS as a single heritage asset, the impact of the proposals upon the setting of individual heritage assets (whether designated or



Historic England

SOUTH WEST OFFICE

not) must also be assessed to allow informed advice to be provided on impacts and mitigation options. Detailed comments on this aspect of assessment have been provided in response to the scheme's development of the recent Environmental Impact Assessment and Heritage Impact Assessment Scoping Reports and are not repeated here.

Local - the scheme should comply with the 2015 Stonehenge and Avebury WHS Management Plan, which contains a series of policies agreed by all WHS partners (including Highways England) for the protection & enhancement of the WHS. The Plan includes policies on the impact of roads and transport and broadly states that solutions to intrusive traffic issues, including the A303, should protect the OUV of the WHS. The Plan carries weight in the local planning process and although the current Plan has not been formally adopted as SPD it can be expected to be a document of interest in consideration of the DCO.

From our prior engagement in the scheme we are aware that Highways England and their consultants are working to all of the policy requirements set out here, in order to develop a scheme fit for the WHS – we encourage them to continue work closely with us and other heritage partners to ensure the emerging scheme accords with this strong raft of policy protection.

HISTORIC ENGLAND POSITION

We believe that this scheme presents the best opportunity in a generation to resolve the long-running traffic problems that blight the WHS, and that the current proposals contain many positive aspects which deserve recognition. The present scheme is a huge improvement on that taken to public consultation in January 2017 and in our view has the potential to protect the OUV of the WHS whilst delivering substantial public benefits through the removal of the intrusive current surface A303 and the reunification of the two halves of the Stonehenge WHS that would result from this. However to achieve this it is in our view important to resolve the two outstanding issues of the scheme within the WHS which are needed to provide satisfactory mitigation of OUV impacts – the question of additional landscape mitigation east of Longbarrow Roundabout (the land bridge) and the issue of the proposed byway link for motorised vehicles to the south of Stonehenge. Important matters of detail must also be satisfactorily resolved as the scheme moves towards DCO submission, and the programme of archaeological assessment and evaluation must be completed across the red line boundary to allow informed advice to be provided on the scheme's direct impacts on buried archaeology.



Historic England

SOUTH WEST OFFICE

Yours sincerely,

PHIL MCMAHON

Inspector of Ancient Monuments

phil.mcmahon@historicengland.org.uk

Enclosure: Appendix 1, Historic England and National Trust, *Stonehenge A303 improvement: Assessment of aspects of the Preferred Route as at 4th December 2017*, March 2018

Please note that Historic England operates an access to information policy. Correspondence or information which you send us may therefore become publicly available.

APPENDIX 9 HBMCE Supplementary Response, August 2018



SOUTH WEST OFFICE

Direct Dial: 0117 975 0699

A303 Amesbury to Berwick Down team
A303Stonehenge@highwaysengland.co.uk

Date: 14 August 2018

Our Ref: PL00326762/2

BY EMAIL ONLY

Dear Sirs,

RE: A303 Stonehenge - Amesbury to Berwick Down, response to supplementary public consultation on proposed route

Role of Historic England

We are the government's expert advisor on England's heritage and we have a statutory role in the planning system. Central to our role is the advice we give to local planning authorities, government departments, developers and owners on development proposals affecting the historic environment.

'Constructive Conservation' expresses the role we play in promoting a positive and collaborative approach to conservation that focuses on actively managing change. The aim is to accommodate the changes necessary to ensure the continued use and enjoyment of heritage assets while recognising and reinforcing their historic significance. Our advice seeks to minimise the loss of significance to these assets. We also look for opportunities to enhance the historic environment.

Supplementary Consultation – the changes proposed by Highways England

1) Removing the previously proposed link between Byways 11 & 12

We are supportive of the removal of the previously proposed link for motorised vehicles between Byways Open To All Traffic (BOATs) 11 and 12. This proposal would have had an adverse impact upon the Outstanding Universal Value (OUV) of the Stonehenge component of the Stonehenge, Avebury and Associated Sites World Heritage Site (the WHS) by encouraging the proliferation of motorised vehicle traffic along the byways within the WHS.

This would not only have been harmful to OUV in its own right, but was seemingly at odds with the major thrust of the scheme in removing the intrusive sight and sound of traffic from much of the WHS. Whilst we acknowledge and support the improvement of public access routes within the WHS for walkers, cyclists and horse riders/carriages we could not support the creation of a new byway for motor vehicles.

2) Green Bridge near the existing Longbarrow Roundabout

Historic England is pleased to see the revised proposals at this location. An independent outline assessment of potential impacts on OUV we jointly commissioned with the National Trust to inform our positions on the Proposed Route proposal¹ (and previously submitted to Highways England as supporting information in our response to the main Proposed Route public consultation), suggested that the originally proposed narrow green bridge on the line of the existing A360 would do little to mitigate the impacts of the scheme upon the WHS at this location. Our commissioned assessment identified the need for a wider land-bridge at a position east of the proposed green-bridge to provide meaningful landscape connectivity between the Winterbourne Stoke Crossroads (sic) and Diamond monument groups, two groups of Neolithic and Early Bronze Age funerary and ceremonial monuments that convey the OUV of the WHS.

The land-bridge proposed in the current Supplementary Consultation would reinstate the appearance of a rural land-form between the Winterbourne Stoke Crossroads and Diamond monument groups at their closest point. This will not only provide visual mitigation, but will also provide landscape context and facilitate the impression of walking through a green landscape when moving between the two monument groups (should future land access allow), rather than merely traversing a narrow strip of land elevated above the new A303 cutting. The proposed land-bridge would assist in mitigating the impact of the scheme at this location upon Attribute 5 of OUV – “*The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other*” (Statement of Outstanding Universal Value, 2013) in addition to contributing to the mitigation of setting impacts upon individual Scheduled Monuments within these two monument groups.

The design of the proposed land-bridge will be important to ensuring the protection of OUV. We have not yet had sight of the detailed design for the land-bridge portals or the treatment of green parapets/bunds. We are concerned to ensure that these details are sensitively executed and minimally intrusive and would welcome further early discussion on these matters.

3) Rollestone crossroads

We have carefully considered the revised junction proposals at this location. Initially, the proposal to bring the junction infrastructure within the boundary of the WHS appeared concerning, however archaeological assessment and evaluation has demonstrated that the

¹ ‘Stonehenge A303 improvement: Assessment of aspects of the Preferred Route as at 4th December 2017, March 2018’ Historic England and National Trust

proposed revision to the junction layout is unlikely to impact adversely on buried archaeological remains that convey OUV, given the high density of Neolithic and Early Bronze Age outside the WHS boundary at this location and the near absence of archaeology within the footprint of the new layout. The junction proposals involve no new lighting, landscaping or planting within the design. It is important that this remains the case as detailed proposals are worked up, as each of those elements has the potential to harm OUV. The A360 road bisects a scheduled monument at the southern tip of the proposed new junction. While we understand that the proposals will not impact upon this monument it is important that it is protected from inadvertent damage through the passage of plant or heavy machinery at construction stage.

4) Clarifications to Public Rights of Way (PRoWs) proposals

It is helpful to see these proposals laid out so clearly across the four plans. Historic England's focus here is on the treatment of byways within the WHS. We are supportive of the proposal that the former A303 and A360 roads be downgraded to Restricted Byways, which will facilitate safe use by walkers, cyclists, horse riders and carriages. The creation of safe rights of way for these non-motorised users will greatly assist in increasing the public appreciation of the WHS and its monuments and thus help to 'transmit' the OUV of the WHS (the transmission of OUV is a central requirement of the World Heritage Convention as set out clearly in Article 4). The key to realising the maximum benefit for the WHS from these proposals lies in the careful and sensitive treatment of the infrastructure necessary to create the byways: the removal of the existing A303 and A360 roads; the nature, form and appearance of byway surfacing; the avoidance of any suburbanising clutter such as litter bins, benches, lighting, obtrusive signage etc; minimally intrusive fencing; and sensitive treatment where carriage gates are necessary. We have commenced pre-application discussions with Highways England on some of these issues but reiterate the need to have all details agreed to ensure the protection of OUV.

Please do not hesitate to contact me should you wish to clarify any aspect of the advice given in this letter.

Yours sincerely,

PHIL MCMAHON

Inspector of Ancient Monuments

phil.mcmahon@historicengland.org.uk

Please note that Historic England operates an access to information policy. Correspondence or information which you send us may therefore become publicly available.

**APPENDIX 10 Stonehenge A303 Improvement: Assessment of
aspects of the Preferred Route as at 04 December
2017, N. Snashall & C. Young 2018**

Stonehenge A303 improvement:

Assessment of aspects of the Preferred Route
as at 4th December 2017

Nicola Snashall BA MA PhD MCifA
National Trust

Christopher Young BA MA DPhil FSA
Christopher Young Heritage Consultancy

March 2018

©Historic England and the National Trust



Executive Summary

This is the latest of series of outline Heritage Impact Assessments on successive iterations of the proposals by Highways England for the improvement of the A303 which have been prepared to inform the comments of Historic England and the National Trust. On this occasion the report specifically assesses the western end of revised proposals (the **Preferred Route as of 4th December 2017**) – looking at the proposed section of new road from the western portal of the bored tunnel beneath the Stonehenge component of the World Heritage property to the western boundary of that property. The report also assesses proposals for creating a new Byway Open to All Traffic (BOAT) to link the existing Byways 12 and 11 once the existing A303 is no longer a highway.

We have examined seven options for the design approach to the road in the western part of the World Heritage property with different variations for the construction of the cutting and for mitigation measures. As a result, we have also proposed further mitigation measures to reduce unacceptable adverse impacts on the Outstanding Universal Value of the World Heritage property.

As in our previous reports ((Snashall, Young 2014, 2017a, 2017b), we have used the methodology for Heritage Impact Assessment recommended by ICOMOS (ICOMOS 2011). Also, as previously, we have assessed visual impacts of the road line separately (in Chapter 2) from direct physical impacts of road construction on archaeological features (Chapter 3). For the visual impacts, we have used the eighteen key groups of monuments that convey attributes of Outstanding Universal Value as a measure of the overall impact. Direct physical impacts have been assessed for all archaeological sites which might be impacted. The impact of the proposed new BOAT has been assessed separately (Chapter 4). Chapter 5 discusses potential overall impacts on the Outstanding Universal Value of the World Heritage property with brief conclusions in Chapter 6. We have not been able to consider the impacts of noise and light pollution as the necessary data was not available.

Based on the current information available the direct physical impact of the new proposed route appears to be negligible though the normal precautions will be needed for carrying out development in such a sensitive archaeological area. In addition to this, as a result of the new location of the Western Portal, significant visual impacts are confined to the three key monument groups closest to the road line. These are the Normanton Down, Winterbourne Stoke and the Diamond barrow cemeteries. This is clearly a key group of monuments that conveys attributes of OUV. Without mitigation, the proposed scheme would cause unacceptable damage to the links between Normanton Down (just to the east of the tunnel portal) more or less along the line of the new road to the Winterbourne Stoke and Diamond Groups close to the western boundary of the World Heritage property, and also to the links between the two latter groups which will be directly severed by the new road cutting.

Highways England have proposed mitigation measures (adding an additional 200m of cover to the cutting immediately west of the tunnel portal) which is likely to reduce satisfactorily the adverse impacts to the relationships between Normanton Down and the other two barrow groups. Highways England have demonstrated that it may be possible to mitigate the impact on the link between the Winterbourne Stoke and the Diamond groups but have not yet included sufficient mitigation proposals in their road proposals. Without adequate mitigation, the impact on these two key monument groups will be so severe as to outweigh the general benefits to the Outstanding Universal Value of the property as a whole.

The proposals for a new BOAT have a moderate adverse impact of large significance because it would introduce a new vehicle route in the middle of the World Heritage property which would

impact adversely, for example on the links between Stonehenge and the Normanton Down Barrow Group. There is also a possibility that the linking of the existing Byways 11 and 12 will increase vehicular use of the two tracks with further adverse impacts on the Outstanding Universal Value of the World Heritage property. These would be unacceptable adverse impacts on the Outstanding Universal Value of the World Heritage property.

Overall, the impact of the proposed scheme for improvement of the A303 through Stonehenge is broadly positive. However, this particular option for the western surface stretch of the A303 from the tunnel mouth to the property boundary does have adverse impacts on three important barrow cemeteries (Normanton Down, Winterbourne Stoke and the Diamond). On the basis of the Highways England design as proposed, the adverse impacts on Normanton Down will be mitigated by 200m of additional cover west of the western tunnel portal. The adverse impacts on the link between the Winterbourne Stoke and Diamond groups will without mitigation be rated as major adverse changes of very large significance. Impacts on more distant attributes which are affected are minor and probably acceptable.

Contents

Executive Summary	i
Chapters	
1 Introduction	1
2 Visual impacts of the Preferred Route as at 4th December 2017 from the western tunnel portal to the western boundary of the World Heritage property	8
3 Direct physical impacts of new road construction on archaeological features of Outstanding Universal Value affected by the Preferred Route as at 4th December 2017 from the western tunnel portal to the western boundary of the World Heritage property	15
4 Impacts of proposed changes to the Byways Open to All Traffic (BOAT) in the World Heritage property	20
5 Discussion	22
6 Conclusion	26
Annexes	
1 Visual relationships of Preferred Route as at 4th December with key groups of monuments that convey attributes of Outstanding Universal Value in the Stonehenge World Heritage property	28
Tables	
1 Visual relationships of the Preferred Route as at 4 th December, 2017, with the key monument groups of Normanton Down, Winterbourne Stoke and the Diamond Barrow Groups	11
2 Physical Impacts of Preferred Route as at 4th December 2017 Options 1 -7 on archaeological sites and monuments that are attributes of OUV	17
3 Overall assessment of the impacts of the current A303, the 2014 2.9kms online option, and the Preferred Route as at 4th December 2017 Options 1 – 7	23
Figures	
1 Significance of impacts on World Heritage properties and their attributes (ICOMOS 2011, 9)	5
2 Key groups of monuments that convey attributes of Outstanding Universal Value in the Stonehenge World Heritage property	7
3 Preferred Route as of 4th December 2017 between the western boundary of the World Heritage property and the western tunnel portal	10
4 Preferred Route as of 4th December 2017 showing the location of potential new route to link Byways 11 and 12	19
Bibliography	32

1 Introduction

This report examines two specific proposed changes to the scheme for the improvement of the A303 Stonehenge, Amesbury to Berwick Down. These are:

- 1 Revised proposals for the route from the western tunnel portal (itself in a new location) to the western boundary of the World Heritage property;
- 2 Proposals to link Byways 11 and 12 by a new byway, also open to all traffic, either along the route of the existing A303, or along a new line taking advantage of lower ground immediately north of the Normanton Down Barrow Group.

This is the latest of four reports on the potential impacts of the proposed improvements to the A303 through the Stonehenge component of the Stonehenge, Avebury, and Associated Sites World Heritage property. As with its predecessors, this report focuses on the impact of the proposed scheme on the Outstanding Universal Value of the World Heritage property.

World Heritage status is the most significant international heritage designation and World Heritage properties are recognised in English planning guidance as being designations of the highest significance. By ratifying the 1972 Convention Concerning the Protection of the World Cultural and Natural Heritage (the World Heritage Convention), and by nominating properties to the World Heritage List, the UK government has accepted the terms of the World Heritage Convention. According to Article 4 of the 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 and, where appropriate, with any international assistance and co-operation, in particular, financial, artistic, scientific and technical, which it may be able to obtain. (UNESCO 1972, Article 4)

1 Revised proposals for the route from the western tunnel portal (itself in a new location) to the western boundary of the World Heritage property (see Fig. 3)

The previous reports (Snashall, Young 2014, 2017a, 2017b) have assessed successive iterations of the proposed route A303 and should be referred to for discussion of aspects of the proposals outside the scope of this report. In particular, this report should be read in conjunction with Snashall and Young 2017b which assessed an earlier variant of this particular route. It also re-assessed the 2.9kms hypothetical route assessed in Snashall and Young 2014, the western portal of which was located in almost the same position as is now proposed.

Historic England and the National Trust have asked us to assess seven options for this route. The visual impacts of the route are assessed in Chapter 2 of this report, and the potential for direct physical impacts on archaeological features is covered in Chapter 3. The impacts of light pollution and noise are also discussed briefly in Chapter 2, but the necessary data for evaluation was not available to us.

These seven options are:

- Option 1 Sloped sides + bored tunnel;
- Option 2 Sloped sides + bored tunnel + 200m canopy;

- Option 3 Sloped sides + bored tunnel + 200m cut & cover extension;
- Option 4 Abutment (vertical sides to cutting with top 2.5 m sloped) + bored tunnel;
- Option 5 Abutment + bored tunnel + 200m canopy;
- Option 6 Abutment + bored tunnel + 200m cut & cover extension;
- Option 7 Abutment + bored tunnel + 200m cut & cover extension + landbridge between Winterbourne Stoke and Diamond Barrow Groups;

Additionally in our tables we have included for reference purposes the assessment of the impact of the present A303 and of the hypothetical 2.9kms tunnel from our 2014 report (the latter adjusted to take account of the changes in our understanding of the archaeology of this part of the World Heritage property since 2014) . The removal of embankments of the present A303 may also have potential impacts on the visibility or otherwise of the road in cutting west of the western tunnel portal. We have dealt with these possibilities in our narrative.

2 Proposals to link Byways 11 and 12 by a new byway, open to all traffic, either along the route of the existing A303, or along a new line taking advantage of lower ground immediately north of the Normanton Down Barrow Group. (see Fig. 4)

This is a new proposal, the impact of which we have not previously evaluated. It is proposed that both Byways 11 and 12 should remain open to all traffic as is currently the case. Byway 11 runs south from the A303 opposite Stonehenge itself to join a public highway in Lake village in the south-east corner of the World Heritage property. Byway 12 runs from Larkhill, passes by Stonehenge to the west, crosses the A303 and exits the World Heritage property at its south-west corner to join the A360 opposite Druid's Lodge.

Two possible routes for linking the Byways have been proposed. The first would be a new route leaving Byway 12 at the low point just north of the National Trust land boundary running along the Normanton Down Group. It would then run roughly north-east through the dry valley to join Byway 11 midway between the present A303 and the National Trust southern boundary, gaining the maximum cover possible from this depression. The second route would link the two Byways along the present line of the A303.

Changes in the context of our assessments

During our work on the impact of proposed changes to the A303 on the Outstanding Universal Value of the World Heritage property, the context in which we are working has changed in several respects. Considerable work has been carried out to improve understanding of the archaeology of the World Heritage property in order to inform the design process for the road scheme (see Snashall, Young 2017a, 3-4, and b, 2-3). The key finding is that of a previously undefined barrow group (now known as the Diamond Group) north of The Diamond wood and south of the Winterbourne Stoke barrow group. This is clearly a key group of monuments that conveys attributes of Outstanding Universal Value of the World Heritage property and was added to the key groups which had to be assessed (see Fig.1). We also recognised that the Normanton Down Barrow Group had been drawn too tightly and included barrows to the north of the A303 as well as more barrows to the south of the main group. (see pp 6-7 below for further discussion of attributes of Outstanding Universal Value).

The effect of this work has been to increase our understanding of the sensitivity of the area through which the new A303 will pass after it leaves the western tunnel portal. This was recognised in our assessments in Snashall and Young (2017a, 2017b). While our methodology selected key monument

groups conveying attributes of Outstanding Universal Value as proxies for assessing the overall impact on the Outstanding Universal Value of the World Heritage property, it is also necessary to take a broader view of the overall impact. This we have attempted to do in previous reports by assessing the impact of the proposals on each of the seven overall attributes of Outstanding Universal Value identified since 2009 in the successive Management Plans for the World Heritage property (Simmonds, Thomas, 2015, 32). It should also be noted that three of the key monument groups affected by these latest proposals for the western part of the World Heritage property are very large so that views from/ to them will vary greatly as the viewer moves through the landscape.

Within the wider planning context it has been recognised that all attributes of the Outstanding Universal Value of a World Heritage property must be regarded as equally significant when carrying out an impact assessment. This point was stressed by the Planning Inspector for the inquiry into development proposals at Chacewater in the Cornwall and West Devon Mining Industry World Heritage property (Planning Inspectorate 2016, para 18). It is not acceptable, therefore, for spatial planning purposes in England, to say that some attributes of Outstanding Universal Value are less important than others.

This ties in with international guidance on the protection of Outstanding Universal Value since the attributes are derived from the Statement of Outstanding Universal Value for each property, which is agreed by the UNESCO World Heritage Committee and which is the basis for the future protection and management of the property:

49. *Outstanding Universal Value means 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. The Committee defines the criteria for the inscription of properties on the World Heritage List.*
96. *Protection and management of World Heritage properties should ensure that their Outstanding Universal Value, including the conditions of integrity and/or authenticity at the time of inscription, are sustained or enhanced over time.*
154. *When deciding to inscribe a property on the World Heritage List, the Committee, guided by the Advisory Bodies, adopts a Statement of Outstanding Universal Value for the property.*
155. *The Statement of Outstanding Universal Value should include a summary of the Committee's determination that the property has Outstanding Universal Value, identifying the criteria under which the property was inscribed, including the assessments of the conditions of integrity, and, for cultural and mixed properties, authenticity It should also include a statement on the protection and management in force and the requirements for protection and management for the future. The Statement of Outstanding Universal Value shall be the basis for the future protection and management of the property. (Operational Guidelines for the Implementation of the World Heritage Convention, UNESCO 2017)*

However, within a large World Heritage property, the ICOMOS guidance on Heritage Impact Assessment makes clear that assessment of a development proposal affecting many attributes has to come to an overall evaluation of the impact on the Outstanding Universal Value of the World Heritage property as a whole:

7 Assessment and evaluation of overall impact of the proposed changes

This part should set out an assessment of specific changes and impacts on the attributes of OUV and other heritage assets. It should include a description and assessment of the direct or indirect impacts, including physical impacts, visual, or noise, on individual heritage attributes, assets or elements and associations, and on the whole. Impact on OUV should be evaluated through assessment of impact on the attributes which convey the OUV of the site. It should consider all impacts on all attributes; professional judgement is required in presenting the information in an appropriate form to assist decision-making.

It should also include an evaluation of the overall significance of effect – overall impact -of the proposals for development or change on individual attributes and the whole WH property. This may also need to include an assessment of how the changes may impact on the perception of the site locally, nationally and internationally. (ICOMOS 2011, Appendix 4, para 7).

The process of reaching an evaluation of the overall impact on the whole World Heritage property may lead to some balancing out of negative and positive impacts across the whole property to reach an overall judgement, unless the impact on any negatively affected attribute is so great as to render a proposed development totally unacceptable.

Methodology

The methodology used is that recommended by ICOMOS (ICOMOS 2011) used in our previous reports (Snashall and Young 2014, 2017a and b). Visual impacts of the new proposed route from the western tunnel portal to the western boundary of the World Heritage property are assessed in Chapter 2 and direct impacts on archaeological features in Chapter 3. Assessment of the impact of the proposals for Byways 11 and 12 is set out in Chapter 4. Our overall assessment is set out in Chapter 5. As previously, it is important to note that this is not a full Heritage Impact Assessment of the proposed works. It is a preliminary outline assessment based on available information and carried out within the very tight time limits set for us. A full Heritage Impact Assessment will still need to be carried out by Highways England.

This methodology was developed by ICOMOS (ICOMOS 2011). The scale of impact of proposed changes has been ranked as:

- No change
- Negligible change
- Minor change
- Moderate change
- Major change

Change can be adverse or beneficial. This gives a nine-point scale with 'neutral' as its central point. The significance of the impact of the change is scored as a function of the importance of the attribute and the scale of change. For any feature of international significance (i.e. World Heritage properties and their attributes of Outstanding Universal Value) the result of this scoring is as follows:

VALUE OF HERITAGE ASSET	SCALE & SEVERITY OF CHANGE/IMPACT				
	No change	Negligible change	Minor change	Moderate change	Major change
For WH properties Very High	SIGNIFICANCE OF EFFECT OR OVERALL IMPACT (EITHER ADVERSE OR BENEFICIAL)				
– attributes which convey OUV	Neutral	Slight	Moderate/ Large	Large/very Large	Very Large

Fig 1: significance of impacts on World Heritage properties and their attributes (ICOMOS 2011, 9)

According to the ICOMOS HIA Guidance, therefore, any moderate or major impact on an attribute of OUV is of large/ very large significance.

The scale of assessment used for visual impacts in the 2014 assessment (Snashall and Young 2014, 39) has been used for this report also to ensure as far as possible consistency of approach:

- Impact has been assessed as major of very large significance when the A303 severs a visual connection or is very prominent in a view of one (e.g. the view from Stonehenge to Old and New King Barrows).
- Impact has been assessed as moderate of large/ very large significance where the A303 is visible but does not sever the viewline and is not central in the view.
- Impact is assessed as minor of moderate/ large significance when the A303 is barely visible or a distant backdrop in a view (e.g. the view from Durrington Walls to Woodhenge).
- Where there is no impact, the value has been given as none.

This ICOMOS methodology is robust and now widely recognised. However, we have identified some systemic issues in using it. It is difficult to use it to recognise that an impact can have both negative and positive effects. The scoring system assesses the significance of impacts according to the importance of the asset affected. Since all the attributes of Outstanding Universal Value affected by the proposals are of the highest significance by definition, the significance of any impacts of moderate or major change is therefore rated as large/ very large (ICOMOS 2011, para 5.8). This tends to bunch together a range of differing impacts under that one score. This can make it difficult to differentiate the varying impacts using just the scoring system. We have attempted to deal with this within the narrative in subsequent chapters.

The methodology has been applied primarily to the relationships between selected key monument groups. Attributes of Outstanding Universal Value are an increasingly important aspect of World Heritage management. Attributes are the features or relationships which express the Outstanding Universal Value of a particular property. Attributes are derived from the Statement of Outstanding Universal Value agreed by the World Heritage Committee. For Stonehenge and Avebury, seven overall attributes have been set out in the 2009 and 2015 World Heritage property management plans (Young, Chadburn, Bedu, 2009; Simmonds, Thompson 2015). These 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.

The overall impact of the proposed road line on these seven attributes is evaluated in Chapter 5 of this report.

However, a number of these attributes are represented in the property by a large number of different archaeological features and the relationships between them and the landscape. There are many hundreds of known archaeological sites and find-spots within the Stonehenge component of the World Heritage property. The 180 Scheduled Ancient Monuments within this part of the property in 2009 included 415 individual archaeological items or features (Young, Chadburn, Bedu 2009, 22), most of which are the physical remains of the Neolithic and Bronze Age funerary monuments included within Attribute 2 above. All of these express the Outstanding Universal Value of the property.

Chapter 3, examining the potential physical impact of the proposed road on archaeological features, considers all known sites which might be affected. The same level of evaluation has not been possible in these reports for the visual impacts of the route in what is intended only as an initial outline assessment to inform the National Trust and Historic England response to the Highways England proposals. As noted above, it is for Highways England, as the proponent of the road scheme, to commission a full Heritage Impact Assessment. For our reports, 18 key monument groups conveying attributes of Outstanding Universal Value were selected for assessment in 2014 and slightly modified in 2017 (see Fig 2). Each of these groups is either a major extant archaeological site (eg Stonehenge itself, Durrington Walls, Woodhenge, the Cursus) or a large barrow cemetery. The impact of proposed road schemes on these monument groups has been used as a measure for assessing the overall impact of the proposals. This approach appears to have been generally acceptable to the ICOMOS/ UNESCO reactive monitoring missions to the property.

Chapter 2 assesses the visual impact of the proposed **Preferred Route of 4th December 2017**. No details are yet available on the aural impacts of the route or of potential light pollution from it.

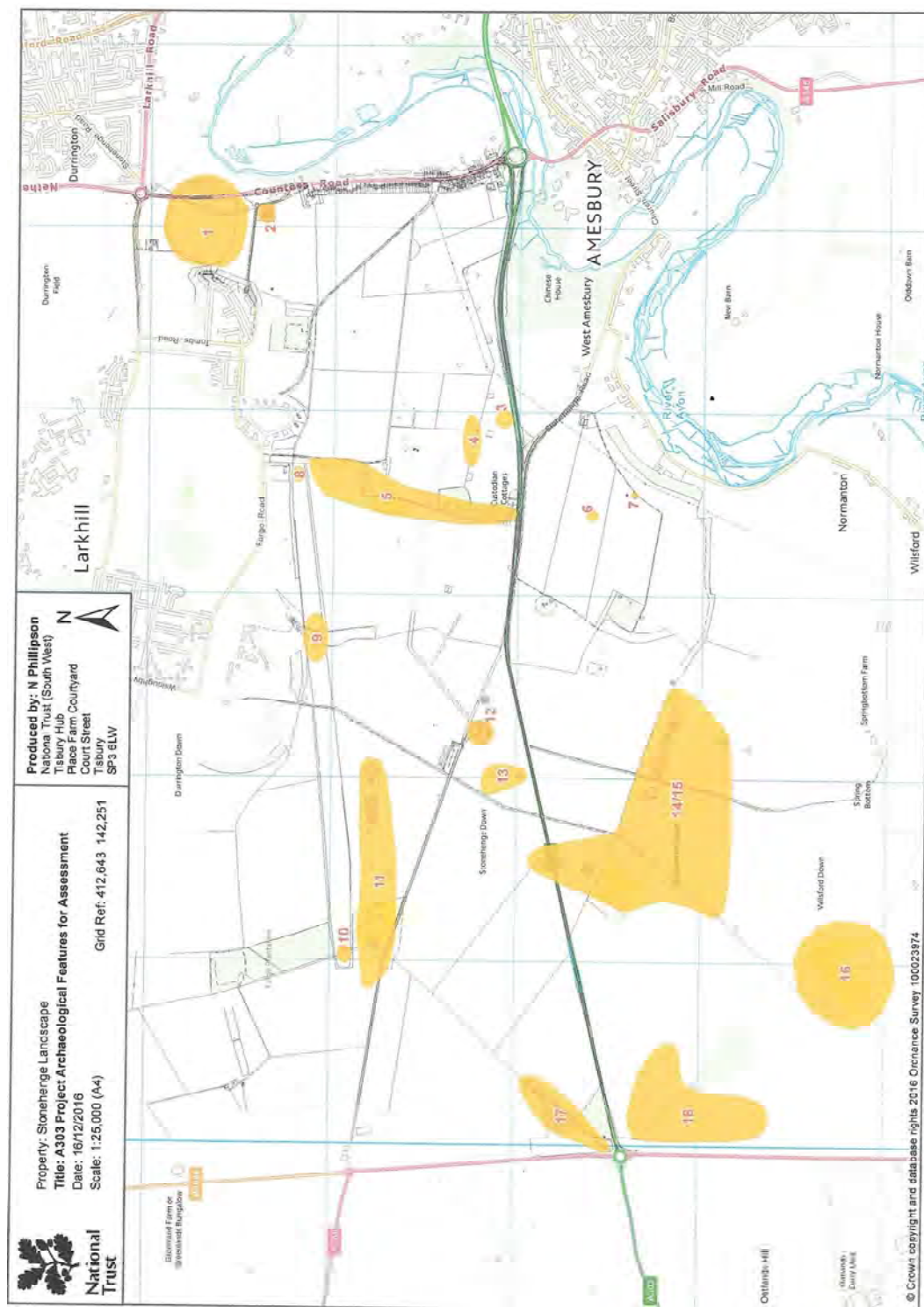


Fig. 2 Key groups of monuments that convey attributes of Outstanding Universal Value in the Stonehenge Word Heritage property

2 Visual impacts of the Preferred Route as at 4th December 2017 from the western tunnel portal to the western boundary of the World Heritage property

Highways England has proposed a new route from the western portal of the bored tunnel to the western boundary of the World Heritage property. This is a development of route option D081C, which was assessed in our previous report (2017b). One significant change is that the portal has been moved c.300m further west so that it is further from the Normanton Down Group. The route then follows much the same line just to the south of the present A303, passes under the existing A360 c.100m south of the present Longbarrow junction to a new junction with the realigned A360 c.400m west of the boundary of the World Heritage property (Fig.3).

The second significant change is that the new road now runs entirely in cutting in the western part of the World Heritage property, with a minimum depth of 7.3m. Given that double-decker buses do not normally exceed 4.5m in height and that advice is that the maximum height of Heavy Goods Vehicles should be 4.95m (House of Commons 2009), it is very unlikely that high vehicles will be visible above the cutting sides in most views, though there would obviously be some light pollution at night from vehicle lights.

Without any mitigation, the length of cutting between the western tunnel portal and the western boundary of the World Heritage property would be 1,150m. Highways England are considering two different approaches to the cutting (open and abutment) that would contain the new road. The cutting would be at its widest at the tunnel portal because of the need to separate the two bores of the tunnel.

An open cutting is one with naturally sloping sides. The maximum width at the top of the cut would be 131m. The minimum width for the open cut would be around 65m. The alternative is an abutment. With this version, the top 2.5m of the cutting would be a grassed slope to minimise the impact of a hard edge in the landscape, and beneath that depth the cutting would have vertical retaining walls. The minimum width, for about 800m of the cutting, would be 41m. For the last 350m, leading to the tunnel portal, the cutting would gradually taper out to a maximum width of 63m at the tunnel mouth. The land-take for the abutment version is therefore considerably less than for the open cutting. The vertical sides are likely also to make traffic and the road itself less visible at least from views from the sides of the highway, particularly at a little distance. In views along the highway, for example from the south-west end of the Winterbourne Stoke or the northern end of Normanton Down barrow groups, the road will be highly obtrusive.

Highways England have considered mitigating these impacts by providing either a 200m canopy or a 200m length of cut and cover tunnel at the tunnel portal to extend its visual effect. A small landbridge, c.45m wide, has been proposed for the former line of the A360 on the western boundary of the World Heritage property. Highways England also proposes to retain the existing embankment of the A303 in the dry valley in front of the tunnel entrance.

Annex 1 shows the results of an assessment of its visual impact on all the key monument groups (see Fig 2) using the same criteria for assessing impact as were used for other route options in 2014 and 2017. In addition to the seven options set out by this current proposal, the table also shows the impacts of the present A303 and the assessment made of the 2.9kms online routes in 2014. The 2014 assessments of the impact of the A303 and of the 2.9kms online route have been adjusted to take account of the changes, outlined above, in our understanding of the archaeology of this part of the World Heritage property [Snashall and Young, 2014, 2017a and b]).

The Annex includes only those key monument groups affected by this western part of the proposed route. In addition to the Winterbourne Stoke, Normanton, and Diamond groups, to which the new line is very close, and the Lake group (some 1.3km distant), this section of road is likely to be visible from a small number of comparatively distant attributes (the east end of the Cursus, the King Barrows, Coneybury Henge and Coneybury Barrow) along the north-south ridge which divides the eastern part of the World Heritage property from the rest. These are over 2km from the new road, which is screened from Stonehenge and other attributes close to it by intervening high ground.

The relationships most affected are those between the Winterbourne Stoke, Normanton Down and Diamond barrow groups and these are shown separately also on Table 1. It has become clear over the last three years that it is difficult to establish a route from the western tunnel portal to the western boundary of the World Heritage property which has minimal adverse impact on its Outstanding Universal Value. The existence of the four barrow groups of Winterbourne Stoke, the Diamond, Normanton Down and Lake make it very difficult to design a satisfactory route in conservation terms. Our last report (Snashall, Young, 2017b) recommended some ways in which the previous proposal (Route D081C) could be improved through mitigation measures. We suggested that lengthening the tunnel and lowering the road out of the tunnel might mitigate some of the adverse impacts.

Some of the changes made by Highways England since our last impact assessment have reduced the adverse impact of the proposed route considerably. The western portal of the tunnel has been moved a further 300m to the west. This has moved it further from the Normanton Down barrow group. It also emerges at a lower elevation above sea level which has made it possible for Highways England to place the road in a deep cutting while it is in the World Heritage property. The effects of this are positive in that the road will be less visible from a distance, particularly from views to north or south of the A303.

This is more the case for a vertical abutment than for an open cut with sloping sides. The latter will be more visible and it will be more possible to see traffic from within the World Heritage property. It will also take around half as much land again as the abutment solution, so has a much bigger physical impact on the World Heritage property with the possibility of impacting on unknown archaeology. We recommend therefore that the vertical abutments with sloping tops should be the preferred option. The advantage of the sloping tops in our view is that the cuttings will have a less hard edge in the landscape.

It appears that the impact of the **Preferred Route of 4th December 2017** on distant monument groups, including Lake, will be minor, and certainly will be positive in contrast to the current situation. Probably, now, the adverse impact on Lake barrow group will only be minor of moderate/large significance, since the road will be sunk entirely in cutting in the views between Lake and the barrow groups of Normanton Down, the Diamond and Winterbourne Stoke. Sinking the road will also greatly improve the experience of those walking or otherwise moving around the World Heritage property, since traffic will largely be invisible from much of the property.

There are however remaining serious issues over the relationships between the three barrow groups in close proximity to this part of the road route, as set out in Table 1. The Winterbourne Stoke and Diamond groups are close together and will be very visibly divided by the road. According to the information provided by Highways England, the top of the cut and of the vertical abutment will be visible from the south-west end of the Winterbourne Stoke group (from the viewpoint chosen at the southern tip of the Long Barrow) and must have a severe adverse impact on the ability to appreciate the linkage between the two barrow groups. Our assessment is that it could be more visible than this.

Stonehenge A303 improvement: assessment of aspects of Preferred Route as at 4th December 2017

Table 1: Visual relationships of the Preferred Route as at 4th December, 2017, with the key monument groups of Normanton Down, Winterbourne Stoke and the Diamond Barrow Groups

This table measures the scale of the visual impact of the present A303 and of the 2014 2.9kms on-line bored tunnel, and of the Preferred Route as of 4th December 2017, and of selected options for mitigation.
 The significance of these impacts is a function of their scale and of the importance of the asset affected. As attributes of Outstanding Universal Value, all the features and relationships here are of very high importance. This means that a current impact or future change of minor scale shown below is of moderate/ large significance, a moderate one is of large/ very large significance, and a major impact is of very large significance.

View from	To	Current A303	2014 2.9kms online tunnel	Option 1 Preferred route, open cut, bored tunnel	Option 2 As Option 1 + 200m canopy	Option 3 As Option 1 + 200m cut-and-cover extension	Option 4 Preferred route, abutment, bored tunnel	Option 5 As Option 4, + 200m canopy	Option 6 As Option 4, + 200m cut-and-cover extension	Option 7 As Option 6 + land bridge of appropriate length western end
Normanton Down Barrows										
1. Normanton Down Barrows	Winterbourne Stoke Barrows	Major adverse	Moderate adverse	Moderate adverse	Moderate adverse	Moderate adverse	Moderate adverse	Minor adverse	Minor adverse	Minor adverse
2. Normanton Down Barrows	The Diamond	Major adverse	Moderate adverse	Moderate adverse	Moderate adverse	Moderate adverse	Moderate adverse	Minor adverse	Minor adverse	Minor adverse
Winterbourne Stoke Barrows										
35. Winterbourne Stoke Barrows	Normanton Down Barrows	Major adverse	Major adverse	Major adverse	Major adverse	Major adverse	Moderate adverse	Moderate adverse	Minor adverse	Minor adverse
37. Winterbourne Stoke Barrows	The Diamond	Major adverse	Major adverse	Major adverse	Major adverse	Major adverse	Major adverse	Major adverse	Major adverse	Minor adverse
The Diamond Group										
42. The Diamond Group	Normanton Down Barrows	Major adverse	Major adverse	Major adverse	Major adverse	Major adverse	Major adverse	Major adverse	Minor adverse	Minor adverse
44. The Diamond Group	Winterbourne Stoke Barrows	Major adverse	Major adverse	Major adverse	Major adverse	Major adverse	Major adverse	Major adverse	Major adverse	Minor adverse

Similarly, near the Sun Barrow in the northern part of the Normanton Down group, the viewer will be looking straight down the line of the new road towards the Diamond and Winterbourne Stoke groups with a consequent severe adverse impact. Even the visualisation, taken from the north of the present A303 at the northern limit of the Normanton Barrows group and therefore not in the most sensitive point, which is immediately south of the A303, shows that the cutting will be visible from that part of Normanton Down. From immediately east of the portal, the impact will be much more severe.

We consider therefore that further mitigation is essential to reduce the level of adverse impact and to produce a result that might be acceptable in terms of impact on Outstanding Universal Value. Highways England has proposed installing a further 200m of cover beyond the western tunnel portal. This could be either a 200m canopy or a 200m cut-and-cover tunnel extension or a combination of the two. A 200m extension has the potential to mitigate the impact of the road on the views between the Winterbourne Stoke, Diamond and Normanton Down barrow groups to a minor adverse impact by removing the road from the immediate foreground of the views from Normanton Down.

The canopy proposal would require ventilation openings which Highways England have suggested can be camouflaged to some extent. It would be better if these openings were not located immediately west of the northern end of the Normanton Down group behind the tunnel portal, as they will be very visible from there. In contrast the cut-and-cover extension does not require such ventilation but may require tunnel service buildings to be located outside the tunnel mouth and partially in the open. With a canopy solution, the buildings could be under the canopy.

The hybrid option would be part cut-and-cover tunnel and part canopy (to the west). This would remove ventilation slots from the immediate vicinity of Normanton Down, but would still enable the tunnel service buildings to be under cover. Highways England have suggested that the canopy can also be accommodated to surrounding landforms while the cut and cover option could not. If this is the case it would appear that the hybrid option would most effectively mitigate the adverse impact of the road on the relationship between the three barrow groups¹. It is understood that Highways England are still considering these options.

There remains the impact of the road on the linkage between the south-western end of the Winterbourne Stoke barrow group and the Diamond group. The close proximity of the road line with the two barrow groups which it separates is now unique within this road scheme. Without mitigation, this will be a major adverse impact of very large significance because the A303 severs a visual and physical connection in close proximity to the two barrow groups. This impact exists primarily at the south-western end of the Winterbourne Stoke Group since the linear alignment of the group is to the north-east along the ridge and rapidly diverges from the Diamond group and the line of the A303.

A 45m wide landbridge on the line of the former A360 is included in the scheme physically linking the northern and southern parts of the World Heritage property at its western end. It does nothing to alleviate the impact of the road on the linkage between the two barrow groups since it is outside the main line of view between them. This adverse impact could only be mitigated to some extent by a landbridge of appropriate length between Winterbourne Stoke and the Diamond. In our previous

¹ This proposal was made after the main body of the assessment was completed and has not been included in Table 1

report, we suggested that such a cover might need to be as long as 400m, but this would need to be modelled as part of the design process and could perhaps be less.

Highways England has produced a map showing a possible design of a 150m landbridge between the Winterbourne Stoke Longbarrow and the visible long barrow in the Diamond group. These are two of the original burial mounds around which the rest of these groups developed over the next two millennia. Such a landbridge, modelled in line with existing contours might give an effective continuous landscape between the south-west end of the Winterbourne Stoke barrow group and part of the Diamond group and might be an acceptable mitigation, if sensitively designed and sited. However, it is likely that 150m would be the absolute minimum acceptable. Further modelling of possible designs will be needed before this could be resolved.

Highways England has also said that a landbridge with the same eastern boundary but extending to the western boundary of the World Heritage property would be technically feasible. This would give a continuous link between the south-west end of the Winterborne Stoke group and the whole of the Diamond Group. This would clearly be a more effective mitigation than the shorter 150m landbridge. Visually it would be a minor (or perhaps even a negligible) adverse impact on the visual relationship between the two groups.

However, creation of landbridges has technical consequences which need to be taken into consideration. There might need to be lighting under the landbridge, even for one of 150m length. There would also be a need to change the vertical alignment of the road to provide necessary clearance either side of the landbridge, and possible impact on the new Longbarrow interchange alignment though these probably would not affect the impacts of the scheme on the Outstanding Universal Value of the World Heritage property. The necessary construction works would require a landtake some 30-40m wider than planned for the abutment cutting over a length of some 200m for the 150m landbridge and proportionately greater for any longer alternative. While there is no known archaeology relating to the Outstanding Universal Value of the World Heritage property within this additional area, this runs counter to the intention to minimise the landtake within the World Heritage property as much as possible.

Anything longer than 150m would be reclassified as a road tunnel with a consequent need for the provision of ventilation, lighting and emergency facilities, with the specific requirements being dependent upon the length. The impact of this infrastructure would need to be assessed and any negative effect weighed against the positive benefits of a longer landbridge. Nonetheless, it is clear that some form of an appropriately positioned landbridge of at least 150m could mitigate the adverse impact on the relationship between the Winterbourne Stoke and Diamond groups, subject to the necessary assessment of the impact of any additional infrastructure.

With the inclusion of a correctly positioned landbridge of at least 150m as a component of the mitigation in the Highways England scheme, there would still inevitably be some, minor, adverse impact on the link between the Normanton Down group and the Diamond and Winterbourne Stoke groups. Without mitigation, there would be a major adverse impact on the visual linkages between the two latter groups.

Any adverse impact on the Outstanding Universal Value of any World Heritage property is regrettable. However, within a large World Heritage property, assessment of a development

proposal which affects many of its attributes has to come to an overall evaluation of the impact on the Outstanding Universal Value of the World Heritage property as a whole (ICOMOS 2011, Appendix 4, para 7). Provided that the impact on individual attributes is not severe, it is possible that overall beneficial impact could outweigh minor adverse impacts. If the impact on an individual attribute of Outstanding Universal Value is major or moderate adverse, then the scheme as a whole has to be judged to be unacceptable.

Because of the proximity of the new road to the Winterbourne Stoke and Diamond groups and because it cuts a key visual link between them, the impact of the scheme on these two attributes of Outstanding Universal Value, as currently proposed and without mitigation, is unacceptable. The adverse impact could of course be further mitigated by covering more of the length of the route that is in cutting in the vicinity of the Winterbourne Stoke and Diamond groups.

Because the necessary information is not yet to hand it is not possible to assess the impacts of noise and light pollution of the new route. Highways England has undertaken that there will be no road lighting within the World Heritage property outside the road tunnel. *Prima facie* it is likely that the impact of the proposed **Preferred Route of 4th December 2017** in both respects will be less severe than the present situation but this needs to be properly assessed once the necessary data is available.

Finally, we have been asked to assess the impact of removing the existing embankment of the A303 in the dry valley next to the tunnel portal. It has been suggested that the existing embankments of the A303 should be removed in order to reduce the adverse impacts of the infrastructure associated with the current A303 within the World Heritage property. A field visit, and also the graphics (from the viewpoint at the northern end of the main portion of the Winterbourne Stoke barrow group) produced for this latest preferred route, suggest that the embankment will to some extent shield the view of the tunnel portal from the north-eastern part of the Winterbourne Stoke barrows. However this would not be required if, as recommended above for other reasons, the impact of the bored tunnel exit is mitigated by use of a 200m cut and cover and /or canopy extension (Options 5, 6 and 7), as the removal of the intrusive embankment upon which the current road is constructed would not result in any negative visual impacts with this additional extension in place at the western portal.

3 Direct physical impacts of new road construction on archaeological features of Outstanding Universal Value affected by the Preferred Route as at 4th December 2017 from the western tunnel portal to the western boundary of the World Heritage property

The assessment of the impact of physical damage to archaeological sites caused by new construction work was carried out according to the methodology set out in our earlier reports (Snashall and Young 2014, 2017a, 2017b). As this assessment considers only those direct physical impacts related to the elements of the present proposals forming part of the **Preferred Route as at 4th December 2017** at the western end of the World Heritage property it should be read in conjunction with both the methodology and the assessment set out in our January 2017 and March 2017 reports.

The results of the current assessment are set out on an option by option basis in Table 2. All of the impacts assessed are adverse as destruction of physical remains of the Neolithic and Bronze Age funerary and ceremonial monuments and associated sites that are themselves an attribute of Outstanding Universal Value can only be a negative impact. The assessment of whether the impact is negligible, minor, moderate or major is necessarily a matter of subjective professional judgement. Factors taken into consideration when making that assessment included:

- The proportion of the site or monument affected
- The degree to which the part of the site or monument would be affected; this could range between minor surface disturbance and wholesale destruction.
- The state of survival of the site or monument at present

In accordance with the ICOMOS Guidance on Heritage Impact Assessments for Cultural World Heritage Properties (2011), as all of the archaeological features identified as subject to physical impacts are attributes of Outstanding Universal Value, and therefore of high importance, negligible impacts will be of slight significance; impacts of minor scale will be of moderate / large significance; impacts of moderate scale will be of large / very large significance and major impacts will be of very large significance.

In summary the number of archaeological attributes of Outstanding Universal Value that are impacted by Options 1-7 of the proposals at the western end is low for all options, with only two monuments that are attributes of OUV (both relating to an extremely rare Beaker cemetery) in such close proximity to them that it is considered that direct physical impacts from construction would be possible. One of these is known to have been wholly excavated, while archival evidence for fieldwork on the second strongly suggests that it has been wholly excavated.

In relation to the round barrow (and its associated Beaker cemetery) **SU14SW839** (Scheduled Monument HA list no. 1010832) all options would result in a negligible impact of slight significance.

It should be noted that for all options the bored tunnel face and/or the proposed canopy / cut and cover structure and associated cutting / infrastructure would be in close proximity to the component parts of the Normanton Down Barrow Group. Given the archaeological sensitivity of this area any proposed construction work would have to have special measures put in place to avoid any damage to any of the sites and monuments. Likewise any future requirements to access this area for

maintenance needs (for instance to any canopy or cut and cover or the infrastructure beneath it) would have to be assessed and the impacts fully understood and mitigated.

As set out above with any of these options there is some risk of direct physical impacts from construction. On advice received from Highways England and their consultants the assumption made in this assessment is that all construction work will take place from within the footprint of the cut of the new road. This approach if combined with rigorous and proactive monitoring during construction could mitigate and effectively negate this risk.

In addition it should be noted that although evaluation has been undertaken across some areas covered by these current proposals during a previous iteration of the road proposals (Leivers, Moore 2008) evaluation and assessment techniques have advanced considerably in the intervening period. And new and thorough evaluation, assessment and archaeological excavation - appropriate to an archaeological World Heritage property - will be required prior to any construction work.

Table 2 Physical Impacts of Preferred Route as at 4th December 2017 Options 1 -7 on archaeological sites and monuments that are attributes of OUV

Wilts. HER Pref. Ref. Heritage Asset No.	Site name / description	Summary Comments	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6	Option 7
SU14SW184	Two excavated Bronze Age burials	No longer extant, fully excavated but forms part of a wider, nationally rare, Beaker cemetery which also includes SU14SW839 below (Leivers & Moore 2008)	No change	No change	No change	No change	No change	No change	No change
SU14SW839 1010832	Round barrow	No surface expression of this monument survives. Gradiometer survey undertaken as part of this scheme shows that the two concentric ring-ditches	Negligible Asset is within 25 metres of the bored tunnel exit. Some direct physical impact to any surviving elements of the	Negligible Asset is within 25 metres of the bored tunnel exit. Some direct physical impact to any surviving elements of the	Negligible Asset is within 25 metres of the bored tunnel exit. Some direct physical impact to any surviving elements of the	Negligible Asset is within 25 metres of the bored tunnel exit. Some direct physical impact to any surviving elements of the	Negligible Asset is within 25 metres of the bored tunnel exit. Some direct physical impact to any surviving elements of the	Negligible Asset is within 25 metres of the bored tunnel exit. Some direct physical impact to any surviving elements of the	Negligible Asset is within 25 metres of the bored tunnel exit. Some direct physical impact to any surviving elements of the

Stonehenge A303 improvement: assessment of aspects of **Preferred Route as at 4th December 2017**

		<p>surrounding a central pit are still extant below ground. But archival evidence suggests this monument has been fully excavated.</p> <p>Forms part of a wider, nationally rare, Beaker cemetery which also includes SU14SW184 above (Leivers & Moore 2008)</p>	<p>archaeological asset during construction is therefore assessed as possible unless appropriate mitigation is put in place.</p>	<p>archaeological asset during construction is therefore assessed as possible unless appropriate mitigation is put in place.</p>	<p>archaeological asset during construction is therefore assessed as possible unless appropriate mitigation is put in place.</p>	<p>archaeological asset during construction is therefore assessed as possible unless appropriate mitigation is put in place.</p>	<p>archaeological asset during construction is therefore assessed as possible unless appropriate mitigation is put in place.</p>	<p>archaeological asset during construction is therefore assessed as possible unless appropriate mitigation is put in place.</p>	<p>archaeological asset during construction is therefore assessed as possible unless appropriate mitigation is put in place.</p>
--	--	---	--	--	--	--	--	--	--

Stonehenge A303 improvement: assessment of aspects of Preferred Route as at 4th December 2017

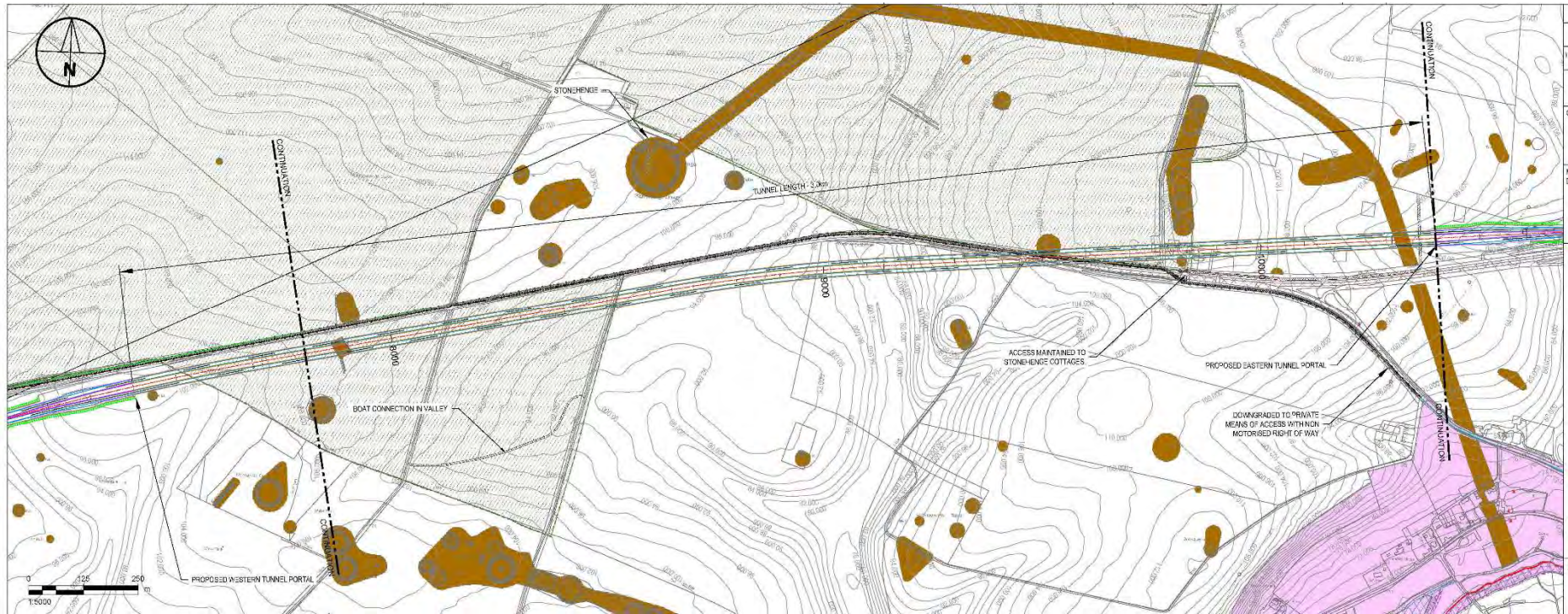


Figure 4: Preferred Route as of 4th December 2017 showing the location of potential new route to link Byways 11 and 12.

(from Highways England Drawing No. HE551506-AMW-HGN-SW_ML_M00_Z-SK-CH-5004-P05 with permission; brown areas are scheduled ancient monuments)

4 Impacts of proposed changes to the Byways Open to All Traffic (BOAT) in the World Heritage property

There is a large number of public rights of way in the Stonehenge component of the World Heritage property. Two of these, Byways 11 and 12, are Byways Open to All Traffic (BOAT). As noted above (p.2), Byway 11 runs south from the A303 opposite Stonehenge itself to join a public highway in Lake village in the south-east corner of the World Heritage property. Byway 12 runs from Larkhill, passes by Stonehenge to the west, crosses the A303 and exits the World Heritage property at its south-west corner to join the A360 opposite Druid's Lodge. Byway 12 in particular is used by a fair number of vehicles, some of which park on it for considerable lengths of time. Byway 11 though less well-used, probably because it is not actually a through-way across the World Heritage property and does not pass Stonehenge itself, does still see significant use at its northern end.

Use of the Byways by vehicles has led to damage to archaeological sites which abut them and can disturb the atmosphere and calm of parts of the World Heritage property. The presence of vehicles here also adversely impacts on visual relationships between monument groups, in particular between Stonehenge and the Normanton Down Barrow group. Since the publication of the first Stonehenge World Heritage Management Plan in 2000 (English Heritage 2000, para 3.3.34, para 4.6.4), it has been a policy to reduce or remove vehicular access from the two Byways apart from necessary access, for example for agricultural purposes. Implementation of this has been seen as needing to be part of a wider re-assessment of rights of way in the area. This policy has been repeated in the two subsequent World Heritage Management Plans (Young, Chadburn, Bedu 2009, 84, 111-2; Simmonds, Thomas 2015, 172-3).

As part of the A303 scheme, consideration is being given to creating a vehicular link between the two byways. As noted above, two possible routes are being considered. The first would leave Byway 12 at the low point just north of the National Trust land boundary running along the Normanton Down Group. It would then run roughly north-east through the dry valley to join Byway 11 midway between the present A303 and the National Trust southern boundary, gaining the maximum cover possible from this depression. This would be a totally new route through National Trust land. The second route would link the two Byways along the present line of the A303.

In terms of direct physical impact, it is unlikely that construction of a new byway open to all traffic along the line of the A303 would impact on known archaeology which is probably all well buried beneath make-up layers of the road. There are no known archaeological sites of Neolithic or Bronze Age date along the proposed new route but any area within the World Heritage property has the potential for new discoveries. Any works on either route would need to be preceded by appropriate archaeological survey and investigation.

A rapid assessment has shown that both routes would be visible from Stonehenge and from Normanton Down and also from along King Barrow Ridge, and possibly from elsewhere in that part of the World Heritage property. Traffic passing along the new route would impact on views between Stonehenge and Normanton Down barrow group and also between Normanton Down and King Barrow ridge (and possibly other attributes of Outstanding Universal Value. Since this would sever various visual connections between attributes of Outstanding Universal Value, this would constitute at least a moderate adverse impact of large significance. Use of the former A303 would also be a moderate adverse impact of large significance since all traffic would have been removed from it, only to be replaced by moving and parked vehicles in key view lines within the central part of the World Heritage property landscape.

A further risk of linking the two Byways open to all traffic is the promotion of a general increase of motorised traffic using the existing Byways, particularly Byway 11. This is less well-used at present because it is not a through route across the World Heritage property. Connecting it to Byway 12 which does cross the World Heritage property could encourage greater use of Byway 11 by motorised vehicles. Generally, the two byways will be the only means of public vehicular access into this area of the World Heritage property, which may also

lead to increased use. This would lead to a greater risk of damage to archaeological sites adjacent to (and in some instances located on) the byways throughout the World Heritage property and to adverse visual impacts on a considerable number of attributes of Outstanding Universal Value. Such a general increase would be exacerbated by linking the two Byways together.

Overall, therefore, our assessment is that linking the two BOATs would have direct and indirect moderate adverse impacts of large significance. We recommend that this work should not be carried out.

5 Discussion

This chapter sums up the impact of this particular option on the attributes of Outstanding Universal Value of the Stonehenge, Avebury and Associated Sites World Heritage property. It deals only with the impact of the **Preferred Route as at 4th December**, as described above.

The World Heritage property has seven identified general attributes, in addition to archaeological features. It is also necessary to consider any potential impacts on integrity and authenticity. The attributes 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.

This assessment focuses primarily on the three key monument groups of the Normanton Down, Diamond and Winterbourne Stoke barrow groups, and the contribution they make to the Outstanding Universal Value of the property as a whole. We have also taken into account the impacts on the barrow groups themselves. These impacts are considered below in relation to the seven attributes identified in the World Heritage Site Management Plan (Simmonds, Thomas 2015, 32). Impacts have been summarised in Table 3. In the discussion of the impacts below, we have also commented as appropriate on the proposal to create a new Byway Open to All Traffic between Byways 11 and 12, summarised in the last column of Table 3.

The assessment is focused on the impact of the western end of the **Preferred Route as at 4th December** on the Outstanding Universal Value of the World Heritage properties and not on other heritage values, be they cultural or natural, or on general landscape value. The parameters of the evaluation are set by the Statement of Outstanding Universal Value and by the attributes of Outstanding Universal Value derived from that statement. While these do include references to landscape values, these are very specific. Further information on this can be found in the 2015 Management Plan (Simmonds, Thomas 2015).

Attribute 3 refers to the siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape. This references the extent to which these structures were sited in relation to the landscape in order to be more, or less, visible from particular directions or viewpoints. It is important that those relationships should be maintained as far as possible.

Similarly, Attribute 5 refers to the relationship of these sites and monuments to each other. This refers primarily to visual linkages and site lines between them. It is important that these links should be maintained as far as possible and, if possible, restored where they no longer exist.

Stonehenge A303 improvement: assessment of aspects of Preferred Route as at 4th December 2017

Table 3: Overall assessment of the impacts of the current A303, the 2014 2.9kms online option, and the Preferred Route as at 4th December Options 1 - 7

The significance of these impacts is a function of their scale and of the importance of the asset affected. As attributes of Outstanding Universal Value, all the features and relationships here are of very high importance. This means that a current impact or future change of negligible scale is of slight significance, a minor one is of moderate/ large significance, a moderate one is of large/ very large significance, and a major impact is of very large significance.										
Attributes of Outstanding Universal Value	A303 now	2014 2.9km on line	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6	Option 7	BOAT extension
1 Stonehenge itself as a globally famous and iconic monument	Major adverse	None	None	None	None	None	None	None	None	Moderate adverse
2 The physical remains of Neolithic and Bronze Age funerary and ceremonial monuments and associated sites	Major adverse	None	None	None	None	None	None	None	None	None
4 The design of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the skies and astronomy	Major adverse	Minor beneficial	Minor beneficial	Moderate beneficial	Moderate beneficial	Minor beneficial	Moderate beneficial	Moderate beneficial	Moderate beneficial	None
3 The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape 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 sites of the period, forming a landscape without parallel	Major adverse	Moderate adverse	Moderate adverse	Moderate adverse	Moderate adverse	Moderate adverse	Minor adverse	Minor adverse	Minor adverse	Moderate adverse
7 The influence of the remains of Neolithic and Bronze Age funerary and ceremonial monuments and their landscape settings on architects,.... and others	Major adverse	Minor beneficial	Minor beneficial	Minor beneficial	Minor beneficial	Minor beneficial	Minor beneficial	Minor beneficial	Minor beneficial	None
Integrity	Major adverse	Moderate adverse	Moderate adverse	Moderate adverse	Moderate adverse	Moderate adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse
Authenticity	Major adverse	Moderate adverse	Moderate adverse	Moderate adverse	Moderate adverse	Moderate adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse
Overall assessment of the impact on the OUV of Stonehenge component of the WHS	Major adverse	Moderate adverse	Moderate adverse	Moderate adverse	Moderate adverse	Moderate adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse
Overall assessment of the significance of the impact on the OUV of the Stonehenge component of the WHS	Very large negative	Large negative	Large negative	Large negative	Large negative	Large negative	Moderate negative	Moderate negative	Moderate negative	Moderate negative

Attribute 6 deals with 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. This has to do with the identification of the linkages, visual and otherwise, between particular sites and monuments and the need to maintain such linkages and the overall disposition of the sites and monuments with each other and with significant landscape features.

1 Stonehenge itself as a globally famous and iconic monument.

This part of the road scheme is, on its own, unlikely to have any direct impact on the international renown of Stonehenge. The road scheme as a whole, if it removes the A303 as a visible feature from most of the World Heritage property without damage to its Outstanding Universal Value, will enhance this attribute. This could be adversely affected by the creation of a new byway open to all traffic linking Byways 11 and 12, with the potential for consequent adverse visual impacts at Stonehenge itself.

2 The physical remains of the Neolithic and Bronze Age funerary and ceremonial monuments and associated sites.

On the basis of research to the present date, the proposed **Preferred Route as at 4th December** should have no or limited impact on the physical remains of Neolithic and Bronze Age funerary and ceremonial and associated sites. As far as we can tell, the footprint of the road as currently proposed by Highways England avoids known archaeology. There is also no known potential direct impact from the proposals for the Byways on the physical remains of Neolithic and Bronze Age funerary and ceremonial monuments and associated sites.

Given the high sensitivity of the area as a whole it is essential that any proposed construction work is rigorously managed to minimise the risk of damage to archaeological assets, and that full archaeological evaluation and excavation is carried out before construction begins. This is especially true close to the Normanton Downs barrows close to the present A303.

3 The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape.

This attribute is discussed below with attributes 5 and 6.

4. The design of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the skies and astronomy.

Stonehenge is one of the best known prehistoric sites with astronomical associations. It is now generally recognised that it was aligned on the midwinter sunset – midsummer sunrise solstitial axis. This axis crosses the A303 just to the east of its junction with Byway 12 and then passes through the Sun Barrow, north of Normanton Gorse and part of the Normanton Down Barrow group. Unlike the previously proposed offline options for the western end of the A303 scheme (D061 and D062), the open part of the **Preferred Route as at 4th December 2017** lies to the north of the axis and should not interfere with it. At its closest point, the open road would be c.400m north of the axis and thereafter diverging from it. Placing the road in a deep cutting as is now proposed should minimise any light from vehicles. Extending cover over the cutting for 200m westwards from the tunnel portal as is now proposed, would further reduce any potential light pollution. Highways England has undertaken that the open parts of the road within the World Heritage property will not be lit. However, as noted above, no information is yet available on noise levels or on light pollution.

Overall the impact is beneficial because of the removal of light pollution, subject to the necessary evaluation once the necessary data is to hand. The greatest benefit will result from the maximum placing of the road underground.

3 The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape.

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.**

The **Preferred Route as at 4th December 2017** will have less impact on these attributes than was the case for route D081C from which it has been developed. With a portal further to the west and the 'surface' section being wholly placed within a deep cutting, its adverse impact is considerably less. There are seven different options to be considered and these have different levels of impact. All seven options generally have a minor/ moderate beneficial impact, or only a minor adverse impact on the relationships of the three barrow groups (Winterbourne Stoke, Normanton Down, and the Diamond) with other key monument groups further away. In all cases there are substantial improvements over the present position. It will be easier to appreciate their siting in relation to the landscape and to each other, and the overall disposition of the key Neolithic and Bronze Age funerary, ceremonial and other monuments which together form a landscape without parallel.

Issues remain over the relationship of the three barrow groups closest to this new route. Without further mitigation, the road will obtrude into the key views along its length between Normanton Down and the Diamond and Winterbourne Stoke groups. It will also disrupt the relationship between the Diamond and Winterbourne Stoke groups. Options 1 and 4, and also Options 2 and 3, because of the width of the open cutting, would severely disrupt the ability to appreciate the relationship of the three barrow groups with the landscape (Attribute 3) and with each other (Attributes 4 and 5). The cumulative impact would be so severe as to cause a moderate adverse impact of large/ very large significance to these three monument groups despite positive benefits to the World Heritage property as a whole from the overall road scheme. This is not withstanding the undoubted positive benefits to the Winterbourne Stoke cemetery of moving the line of the A303 away from it, and to the same group and to the Diamond group of moving the A360 up to 400m away.

Provided that the road is built with vertical side walls to the cutting (the abutment options) to minimise landtake and visibility, the adverse impact on the relationship between the Normanton Down group and the Winterbourne Stoke and Diamond groups could be mitigated by adding 200m of additional cover, preferably a combination of cut-and-cover tunnel and canopy, if Highways England's assumptions about landforms are correct, west of the new portal location. Highways England have shown that the adverse impact on the relationship between the Diamond and Winterbourne Stoke could be mitigated by an appropriately located landbridge of sufficient width across the A303 to allow uninterrupted views between the most severely impacted parts of the two groups, but at present have indicated that it is unlikely to be included in their schemes.

Undertaking both sets of mitigation measures would mean that the overall impact on the siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape, siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other, and their disposition, physical remains and settings, which together form a landscape without parallel would be a minor adverse impact of moderate significance. If the landbridge is not provided between the Winterbourne Stoke and Diamond groups, the scheme has a major adverse impact of very large significance on these two monument groups of Outstanding Universal Value because of the proximity of the new road to the Winterbourne Stoke and Diamond groups and because it cuts a key visual and physical link between them.

For the reasons described in Chapter 4, the BOAT proposals could have a moderate adverse impact on these overall attributes.

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.**

The proposed works in this part of the World Heritage property are unlikely to have much impact on 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. Such impact as there may be will be a minor beneficial change.

Integrity

The character of the integrity of the World Heritage property is discussed in our main report (Snashall, Young 2017a, 56-7). That discussion notes that new surface roads in the World Heritage property can have an adverse impact, although for the property as a whole the overall impact on integrity was evaluated as moderate to major beneficial change of large or very large significance. However, the impact on the specific monument groups mainly affected by the **Preferred Route as at 4th December 2017** could be a moderate adverse change of large/ very large significance if the basic proposal to extend the bored tunnel and to place the whole road in deep cutting is not mitigated. This could be mitigated by measures discussed above to put more of the road out of sight. This would mitigate not just visual impacts, but also adverse aural impacts and any remaining light pollution. It would also increase potential for improving access within the World Heritage property across the line of the A303.

The impact of the BOAT proposals could be minor adverse on the overall integrity of the World Heritage property.

Authenticity

Authenticity is about the truthfulness of the evidence for Outstanding Universal Value, and the ability to appreciate that evidence. The UNESCO Operational Guidelines (UNESCO 2015) list a series of tests for authenticity including form and design, materials and substance, location and setting and spirit of place (see UNESCO 2015 para 82 and also Young, Chadburn and Bedu 2009, 32-33). As for the A303 as a whole as it affects the World Heritage property, the impact of the **Preferred Route as at 4th December 2017** is greatest on the location and setting, and the spirit and feeling of the three main monument groups affected by the proposal. As proposed, the overall impact on authenticity would be negative. The mitigation strategies outlined above would minimise the negative impact.

6 Conclusion

The **Preferred Route as at 4th December, 2017**, is an improvement on the previous proposals. Highways England have done a great deal to mitigate the adverse impact of the previous D081 by lengthening the tunnel, and by adjusting the alignment of the road further north and placing the road in deep cutting through the west end of the World Heritage property. Moving the junction of the A303 with the A360 up to 400m west of the World Heritage property is also a significant improvement.

Issues do remain over the impact of the scheme as now proposed on the three key monument groups – the Normanton Down, Winterbourne Stoke and Diamond barrow cemeteries. The proposed route is close to all three of them and mitigation will be necessary to reduce adverse impacts to an acceptable level in the context of the overall scheme. Extending cover over the cutting a further 200m west of the western tunnel portal should effectively mitigate impacts on the Normanton Down Barrow Group. However the major adverse impacts on the Winterbourne Stoke and Diamond groups remain unless Highways England mitigate this aspect of the scheme by providing an appropriately located landbridge to protect the visual and physical link between the two groups. Without this mitigation this scheme would have an unacceptable impact on the OUV of the World Heritage property.

Stonehenge A303 improvement: assessment of aspects of **Preferred Route as at 4th December 2017**

Proposals to create a new Byway Open to All Traffic (BOAT) linking Byway 12 to Byway 11, whether along the line of the existing A303, or in lower ground further south, would have a moderate adverse impact of large/ very large significance on the World Heritage property. Views between key monument groups such as Stonehenge and the Normanton Down barrow group would be adversely affected and the presence of traffic in the centre of the World Heritage property would also have an unacceptable adverse impact on the Outstanding Universal Value of the World Heritage property.

Overall, the impact of the proposed scheme for improvement of the A303 through Stonehenge is broadly positive. However, this particular option for the western surface stretch of the A303 from the tunnel mouth to the property boundary does have adverse impacts on three important barrow cemeteries (Normanton Down, Winterbourne Stoke and the Diamond). On the basis of the Highways England design as proposed, the adverse impacts on Normanton Down will be mitigated by 200m of additional cover west of the western tunnel portal. The adverse impacts on the link between the Winterbourne Stoke and Diamond groups will without mitigation be rated as major adverse changes of very large significance. Impacts on more distant attributes which are affected are minor and probably acceptable.

All impacts on attributes of Outstanding Universal Value need to be treated seriously. This is the view taken by the UK planning inspector in the Chacewater enquiry in the Cornwall and West Devon Mining Industry World Heritage property (Planning Inspectorate 2016, para 18). It is not acceptable to say that some attributes of Outstanding Universal Value are less important than others. However, within a large World Heritage property, assessment of a development proposal which affects many of its attributes has to come to an overall evaluation of the impact on the Outstanding Universal Value of the World Heritage property as a whole (ICOMOS 2011, Appendix 4, para 7). This in practice will lead to some balancing out of negative and positive impacts across the whole property to reach an overall judgement, unless the impact on negatively affected attributes is so great as to render a proposed development totally unacceptable.

The degree of change caused by the basic (Option 1) **Preferred Route as at 4th December 2017** without the proposed mitigation of potential impacts on the Normanton Down Group (Options 5 and 6), would be damaging to three key groups of attributes of Outstanding Universal Value. Despite the benefits to the World Heritage property as a whole, the harm caused to these three groups would be unacceptable. Options 5 and 6, or a hybrid version of them, would effectively mitigate the adverse impacts on the Normanton Down Group, but the adverse impact on the Winterbourne Stoke and Diamond Groups would still be unacceptable without further mitigation measures such as a landbridge of appropriate length, design and location.

Annex 1 Visual relationships of Preferred Route as at 4th December with key groups of monuments that convey attributes of the Outstanding Universal Value of the Stonehenge World Heritage property

This table measures the scale of the visual impact of the present A303 and of the 2014 2.9kms on-line bored tunnel, and of the Preferred Route as of 4th December 2017, and of selected options for mitigation.

The significance of these impacts is a function of their scale and of the importance of the asset affected. As attributes of Outstanding Universal Value, all the features and relationships here are of very high importance. This means that a current impact or future change of minor scale shown below is of moderate/ large significance, a moderate one is of large/ very large significance, and a major impact is of very large significance.

View from	To	Current A303	2014 2.9kms on-line tunnel	Option 1 Preferred route, open cut,	Option 2 As Option 1 + 200m canopy	Option 3 As Option 1 + 200m cut-and-	Option 4 Preferred route, abutment,	Option 5 As Option 4, + 200m canopy	Option 6 As Option 4, + 200m cut-and-	Option 7 As Option 6 + land bridge
King Barrows (Old and New)										
3. King Barrows (Old and New)	Normanton Down Barrows	Major adverse	Moderate beneficial	Moderate beneficial	Moderate beneficial	Moderate beneficial	Moderate beneficial	Moderate beneficial	Moderate beneficial	Major beneficial
4. King Barrows (Old and New)	Lake Barrows	Major adverse	Major beneficial	Major beneficial	Major beneficial	Major beneficial	Major beneficial	Major beneficial	Major beneficial	Major beneficial
5. King Barrows (Old and New)	Winterbourne Stoke Barrows	Major adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse
6. King Barrows (Old and New)	The Diamond	Major adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse
Coneybury Henge										
7. Coneybury Henge	Normanton Down Barrows	Moderate adverse	Minor beneficial	Minor beneficial	Minor beneficial	Minor beneficial	Minor beneficial	Minor beneficial	Minor beneficial	Minor beneficial
8. Coneybury Henge	Lake Barrows	Minor adverse	Minor beneficial	Minor beneficial	Minor beneficial	Minor beneficial	Minor beneficial	Minor beneficial	Minor beneficial	Minor beneficial
9. Coneybury Henge	Winterbourne Stoke Barrows	Major adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse
10. Coneybury Henge	The Diamond	Major adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse
Coneybury Barrow										
11. Coneybury Barrow	Normanton Down Barrows	Moderate adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse
12. Coneybury	Lake Barrows	Minor	Minor	Minor	Minor	Minor	Minor	Minor	Minor	Minor

Stonehenge A303 improvement: assessment of aspects of Preferred Route as at 4th December 2017

This table measures the scale of the visual impact of the present A303 and of the 2014 2.9kms on-line bored tunnel, and of the Preferred Route as of 4th December 2017, and of selected options for mitigation.

The significance of these impacts is a function of their scale and of the importance of the asset affected. As attributes of Outstanding Universal Value, all the features and relationships here are of very high importance. This means that a current impact or future change of minor scale shown below is of moderate/ large significance, a moderate one is of large/ very large significance, and a major impact is of very large significance.

View from	To	Current A303	2014 2.9kms on-line tunnel	Option 1 Preferred route, open cut,	Option 2 As Option 1 + 200m canopy	Option 3 As Option 1 + 200m cut-and-	Option 4 Preferred route, abutment,	Option 5 As Option 4, + 200m canopy	Option 6 As Option 4, + 200m cut-and-	Option 7 As Option 6 + land bridge
Barrow		adverse	beneficial	beneficial	beneficial	beneficial	beneficial	beneficial	beneficial	beneficial
13. Coneybury Barrow	Winterbourne Stoke Barrows	Major adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse
14. Coneybury Barrow	The Diamond	Major adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse
Cursus East End										
15. Cursus E end	Normanton Down Barrows	Major adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse
16. Cursus E end	Lake Barrows	Major adverse	None	None	None	None	None	None	None	None
17. Cursus E end	Winterbourne Stoke Barrows	Major adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse
18. Cursus E end	The Diamond	Major adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse
Normanton Down Barrows										
19. Normanton Down Barrows	King Barrows (Old & New)	Major adverse	Major beneficial	Major beneficial	Major beneficial	Major beneficial	Major beneficial	Major beneficial	Major beneficial	Major beneficial
20. Normanton Down Barrows	Coneybury Henge	Moderate adverse	Moderate beneficial	Moderate beneficial	Moderate beneficial	Moderate beneficial	Moderate beneficial	Moderate beneficial	Moderate beneficial	Moderate beneficial
21. Normanton Down Barrows	Coneybury Barrow	Minor adverse	Minor beneficial	Minor beneficial	Minor beneficial	Minor beneficial	Minor beneficial	Minor beneficial	Minor beneficial	Minor beneficial
22. Normanton Down Barrows	Cursus E end	Major adverse	Major beneficial	Major beneficial	Major beneficial	Major beneficial	Major beneficial	Major beneficial	Major beneficial	Major beneficial
23. Normanton Down Barrows	Lake Barrows	Major adverse	Major beneficial	Major beneficial	Major beneficial	Major beneficial	Major beneficial	Major beneficial	Major beneficial	Major beneficial
24. Normanton Down	Winterbourne	Major	Moderate	Moderate	Moderate	Moderate	Moderate	Minor	Minor	Minor

Stonehenge A303 improvement: assessment of aspects of Preferred Route as at 4th December 2017

This table measures the scale of the visual impact of the present A303 and of the 2014 2.9kms on-line bored tunnel, and of the Preferred Route as of 4th December 2017, and of selected options for mitigation.

The significance of these impacts is a function of their scale and of the importance of the asset affected. As attributes of Outstanding Universal Value, all the features and relationships here are of very high importance. This means that a current impact or future change of minor scale shown below is of moderate/ large significance, a moderate one is of large/ very large significance, and a major impact is of very large significance.

View from	To	Current A303	2014 2.9kms online tunnel	Option 1 Preferred route, open cut,	Option 2 As Option 1 + 200m canopy	Option 3 As Option 1 + 200m cut-and-	Option 4 Preferred route, abutment,	Option 5 As Option 4, + 200m canopy	Option 6 As Option 4, + 200m cut-and-	Option 7 As Option 6 + land bridge
Barrows	Stoke Barrows	adverse	adverse	adverse	adverse	adverse	adverse	adverse	adverse	adverse
25. Normanton Down Barrows	The Diamond	Major adverse	Moderate adverse	Moderate adverse	Moderate adverse	Moderate adverse	Moderate adverse	Minor adverse	Minor adverse	Minor adverse
Lake Barrows										
26. Lake Barrows	King Barrows (Old & New)	Major adverse	Major beneficial	Major beneficial	Major beneficial	Major beneficial	Major beneficial	Major beneficial	Major beneficial	Major beneficial
27. Lake Barrows	Coneybury Henge	Moderate adverse	Moderate beneficial	Moderate beneficial	Moderate beneficial	Moderate beneficial	Moderate beneficial	Moderate beneficial	Moderate beneficial	Moderate beneficial
28. Lake Barrows	Coneybury Barrow	Moderate adverse	Moderate beneficial	Moderate beneficial	Moderate beneficial	Moderate beneficial	Moderate beneficial	Moderate beneficial	Moderate beneficial	Moderate beneficial
29. Lake Barrows	Cursus E end	Major adverse	Major beneficial	Major beneficial	Major beneficial	Major beneficial	Major beneficial	Major beneficial	Major beneficial	Major beneficial
30. Lake Barrows	Normanton Down Barrows	Moderate adverse	Moderate beneficial	Moderate beneficial	Moderate beneficial	Moderate beneficial	Moderate beneficial	Moderate beneficial	Moderate beneficial	Moderate beneficial
31. Lake Barrows	Winterbourne Stoke Barrows	Major adverse	Moderate adverse	Moderate adverse	Moderate adverse	Moderate adverse	Moderate adverse	Minor adverse	Minor adverse	Minor adverse
32. Lake Barrows	The Diamond	Major adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse
Winterbourne Stoke Barrows										
33. Winterbourne Stoke Barrows	King Barrows (Old & New)	Major adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse
34. Winterbourne Stoke Barrows	Coneybury Henge	Major adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse
35. Winterbourne Stoke Barrows	Coneybury Barrow	Major adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse	Minor adverse
36. Winterbourne	Cursus E end	Moderate	Minor	Minor	Minor	Minor	Minor	Minor	Minor	Minor

Stonehenge A303 improvement: assessment of aspects of Preferred Route as at 4th December 2017

This table measures the scale of the visual impact of the present A303 and of the 2014 2.9kms on-line bored tunnel, and of the Preferred Route as of 4th December 2017, and of selected options for mitigation.

The significance of these impacts is a function of their scale and of the importance of the asset affected. As attributes of Outstanding Universal Value, all the features and relationships here are of very high importance. This means that a current impact or future change of minor scale shown below is of moderate/ large significance, a moderate one is of large/ very large significance, and a major impact is of very large significance.

View from	To	Current A303	2014 2.9kms on-line tunnel	Option 1 Preferred route, open cut,	Option 2 As Option 1 + 200m canopy	Option 3 As Option 1 + 200m cut-and-	Option 4 Preferred route, abutment,	Option 5 As Option 4, + 200m canopy	Option 6 As Option 4, + 200m cut-and-	Option 7 As Option 6 + land bridge
Stoke Barrows		adverse	adverse	adverse	adverse	adverse	adverse	adverse	adverse	adverse
37. Winterbourne Stoke Barrows	Normanton Down Barrows	Major adverse	Major adverse	Major adverse	Major adverse	Major adverse	Moderate adverse	Moderate adverse	Minor adverse	Minor adverse
38. Winterbourne Stoke Barrows	Lake Barrows	Major adverse	Major adverse	Major adverse	Major adverse	Major adverse	Moderate adverse	Moderate adverse	Minor adverse	Minor adverse
39. Winterbourne Stoke Barrows	The Diamond	Major adverse	Major adverse	Major adverse	Major adverse	Major adverse	Major adverse	Major adverse	Major adverse	Minor adverse
The Diamond Group										
40. The Diamond Group	King Barrows (Old and New)	Major adverse	Major adverse	Major adverse	Moderate adverse	Moderate adverse	Moderate adverse	Moderate adverse	Minor adverse	Minor adverse
41. The Diamond Group	Coneybury Henge	Moderate adverse	Moderate adverse	Moderate adverse	Moderate adverse	Moderate adverse	Moderate adverse	Moderate adverse	Minor adverse	Minor adverse
42. The Diamond Group	Coneybury Barrow	Moderate adverse	Moderate adverse	Moderate adverse	Moderate adverse	Moderate adverse	Moderate adverse	Moderate adverse	Minor adverse	Minor adverse
43. The Diamond Group	Cursus E end	Major adverse	Major adverse	Major adverse	Major adverse	Major adverse	Moderate adverse	Moderate adverse	Minor adverse	Minor adverse
44. The Diamond Group	Normanton Down Barrows	Major adverse	Major adverse	Major adverse	Major adverse	Major adverse	Major adverse	Major adverse	Minor adverse	Minor adverse
45. The Diamond Group	Lake Barrows	None	None	None	None	None	None	None	None	None
46. The Diamond Group	Winterbourne Stoke Barrows	Major adverse	Major adverse	Major adverse	Major adverse	Major adverse	Major adverse	Major adverse	Major adverse	Minor adverse

BIBLIOGRAPHY

- English Heritage 2000 *Stonehenge World Heritage Site Management Plan* English Heritage
- House of Commons 2009 *Lorry Sizes and Weights* file:///C:/Users/young_000/Downloads/SN00654.pdf
(accessed 11/12/17)
- ICOMOS 2011 *Guidance on Heritage Impact Assessments for Cultural World Heritage Properties* Paris
- Leivers, M, Moore, C 2008 *Archaeology on the A303 Stonehenge Improvement* Wessex Archaeology
Salisbury
- Planning Inspectorate 2016. Appeal Decision Ref APP/ D0840/ W/16/ 3153632 Land South of Chacewater Hill, Chacewater, Cornwall TR4 8JT
<http://docs.planning.cornwall.gov.uk/rpp/index.asp?caseref=PA15/10215>
- Simmonds, S. Thomas, B. 2015. *Stonehenge, Avebury and Associated Sites World Heritage Site Management Plan 2015* (ed. Nichols, E. and Tyson, R.). Published on behalf of the Stonehenge and Avebury WHS Steering Committees.
www.stonehengeandaveburywhs.org/management-of-whs/stonehenge-andavebury-whs-management-plan-2015
- Snashall N, Young C 2014 *Preliminary Outline Assessment of the impact of the A303 improvements on the Outstanding Universal Value of the Stonehenge Avebury and Associated Sites World Heritage property* report prepared for English Heritage and the National Trust
- Snashall, N, Young, C. 2017a *Stonehenge A303 Improvements: Outline assessment of the impacts on the Outstanding Universal Value of the World Heritage property of a bored tunnel of at least 2.9kms length* report prepared for Historic England and the National Trust
- Snashall, N, Young, C. 2017b *Stonehenge A303 Improvements: Addendum to outline assessments of the impacts on the Outstanding Universal Value of the World Heritage property of potential route options presented by Highways England for January 2017 Assessment of route option D081C*
- UNESCO 1972 *Convention concerning the Protection of the World Cultural and Natural Heritage*
<http://whc.unesco.org/archive/convention-en.pdf>
- UNESCO 2017 *Operational Guidelines for the Implementation of the World Heritage Convention*
<http://whc.unesco.org/en/guidelines/>
- Young, C., Chadburn, A., Bedu, I. 2009. *Stonehenge WHS Management Plan 2009*. English Heritage, on behalf of the Stonehenge WHS Committee. www.stonehengeandaveburywhs.org/assets/Full-MP-2009-low-res-pdf.pdf

APPENDIX 11 UNESCO World Heritage Centre/ICOMOS Advisory Missions, State of Conservation Reports and UNESCO World Heritage Committee Decisions

Introduction

APP 11.1 This appendix to our written representations focuses on the communication between HBMCE, DCMS, the UNESCO World Heritage Centre, ICOMOS (Paris) and the UNESCO World Heritage Committee. The context for this communication is also set out. This section does not provide a full account of the various reports and decisions cited below and aims to provide a summary to assist the Examining Authority's understanding of the work undertaken at the international level in respect of World Heritage Sites. The full reports are all publicly available.

APP 11.2 When new constructions are proposed which may affect the OUV of a world heritage property, paragraph 172 of the Operational Guidelines invites States Parties to the Convention to inform the World Heritage Committee "so that the Committee may assist in seeking appropriate solutions to ensure that the Outstanding Universal Value of the property is fully preserved." "Notice should be given as soon as possible (for instance, before drafting basic documents for specific projects) and before making any decisions that would be difficult to reverse." It is also open to States Parties to request an advisory mission from the UNESCO World Heritage Centre and/or advisory bodies to help inform options for new development and the planning and design process.

APP 11.3 In December 2014 the Government announced that it would invest in a bored tunnel of at least 2.9km to solve the longstanding traffic problems within the Stonehenge component of the Stonehenge, Avebury and Associated Sites WHS, as part of a series of schemes to improve one of the principal arterial routes to the South West of England.

APP 11.4 In its capacity as statutory cultural heritage adviser to DCMS on the World Heritage Convention, HBMCE recommended that the UK State Party should invite a mission to advise on the emerging road proposals at a sufficiently early stage to be influential in the development of the scheme. A joint World Heritage Centre/ICOMOS mission took place from 27-30 October 2015. HBMCE, as the advisor to DCMS, assisted in the planning of this and subsequent missions and participated in the missions themselves. The report on the mission was published in May 2016¹. HBMCE provided advice to DCMS, Highways England and other key stakeholders on the response to the mission report. The subsequent World Heritage Centre/ICOMOS advisory missions took place from 31 January – 3 February 2017 (report published in June 2017²) and from 5-7 March 2018 (report published in June 2018³).

APP 11.5 Following the second advisory mission, the World Heritage Centre asked the UK State Party to provide a State of Conservation Report (SOCR), which was submitted in March 2017⁴. SOCRs for Stonehenge are owned by DCMS and primarily drafted by HBMCE and the WHS Coordination Unit at Wiltshire Council. At the request of the World Heritage Committee further SOCRs were submitted by the UK State Party in January 2018⁵ and January 2019.⁶

APP 11.6 The standard procedure in response to a State Party SOCR is for the UNESCO World Heritage Centre and the relevant advisory body, in this case ICOMOS, to review the report and produce its own assessment of the state of conservation of the property for consideration by the World Heritage Committee. The World Heritage Centre, taking into account the views of the relevant advisory body or bodies then provides a draft decision for the World Heritage Committee to consider, based on the SOCRs and advisory mission reports. The Committee took decisions relevant to the

¹ See Appendix 12 hereto.

² See Appendix 13 hereto.

³ See Appendix 14 hereto.

⁴ See Appendix 15 hereto.

⁵ See Appendix 16 hereto.

⁶ See Appendix 17 hereto.

DCO application in 2017 and 2018 and will again consider its response to the current scheme in early July 2019. DCMS has registered its interest in the DCO examination primarily to ensure that all the relevant documentation produced by UNESCO and ICOMOS, including that which will be published in May – July this year, can be made available to the Examining Authority and taken into account as appropriate in its recommendation to the Secretary of State.

APP 11.7 DCMS invited the World Heritage Centre to register its interest in the DCO examination, but the Centre declined to do so on the basis that UNESCO does not have any planning powers in any State Party to the Convention and that it is for State Parties to meet their commitments to the World Heritage Convention, taking account of the decisions made by the Committee.

Advisory Mission One (27-30 October 2015)

APP 11.8 The report on the 2016 Advisory Mission made a series of priority, critical and important recommendations (7 priority recommendations, 8 critical ones and 5 important). The State Party, as advised by HBMCE together with other key stakeholders, responded positively to the majority of these recommendations (for example the establishment of an independent Scientific Committee). Therefore only those cases where there was not a positive response are considered here. Of the 20 recommendations made by the first advisory mission all but the four referred to below were adopted and the rationale for where the recommendations were not followed has been set out as summarised below. The mission and its report proved to be very useful to HBMCE in formulating its advice to Highways England in the development of the scheme that is now the subject of the DCO.

APP 11.9 Section 4.3 Important Recommendations, recommendation 2

Archaeological oversight of the development of the scheme has been undertaken by the key heritage partners, but without financial support from Highways England. This has not affected the ability of the heritage partners to assess critically the Heritage Impact Assessments undertaken by AECOM

on behalf of Highways England nor the Detailed Archaeological Mitigation Strategy.

APP 11.10 Section 4.3 Important Recommendations, recommendation 3

The choice and briefing of archaeological operators has not been under the proactive control of the “archaeological partnership” (i.e. HMAG), but has benefitted from the very active engagement and influence of the key partners individually and as represented on HMAG. HBMCE is firmly of the view that this has achieved the level of independent scrutiny of the archaeological work sought by the mission.

APP 11.11 Section 4.3 Important Recommendations, recommendation 4

HBMCE believes that this recommendation concerning the sustainability and resources of HBMCE and the English Heritage Trust goes beyond the remit of the advisory mission and it has not been acted upon. HBMCE has continued to invest resources commensurate with the significance of the A303 proposals and will continue to do so.

APP 11.12 Section 4.3 Important recommendations, recommendation 5

HBMCE believes that it is a matter for Highways England to provide the evidence for the breakdown of the scheme costs between heritage protection and construction and to determine how it disseminates this information more widely.

APP 11.13 The Mission concluded that *“the project for the relocation of the existing road underground into a “tunnel of at least 2.9k” could readily adopt appropriate well-established construction methods and spatial planning approaches. Hence, with good design and construction controls, and respecting essential archaeological and heritage management measures, the tunnelled length of the road would be expected to have a beneficial impact on the attributes of Outstanding Universal Value (OUV)”*.

APP 11.14 In the evidence given elsewhere in these representations we set out how we believe that the sensitivities pointed out by the mission

concerning *the siting and design of the tunnel portals, approach cuttings/embankments, entry/exit ramps, mitigation measures and the temporary construction works to adversely impact OUV* might potentially be satisfactorily addressed through *rigorous investigation, evaluation, iterative design and assessment* to ensure the protection of *the attributes of OUV within the World Heritage site and the surrounding Archaeological Priority Area (APA)*. However we believe further detailed design information is required in order to convert this potential into reality.

APP 11.15 Also in the evidence elsewhere in these representations we set out how the potential identified in the mission conclusions might be successfully delivered by the current proposals for the A303 scheme and secured by the DCO in the context of submission of sufficient additional detailed information for this examination to provide assurance. The mission concluded that the A303 road improvement project had “potential to become *a best practice case regarding the governance of the project, the design, implementation and management of heavy infrastructure within a World Heritage property* “but that it would be “*necessary to build in heritage requirements within all aspects of the TOR [Terms of Reference] and project design, and to ‘think upstream’ in terms of spatial planning, in order to build in heritage requirements at every point within a larger-scale landscape strategy.*”

APP 11.16 It is of note that this mission regarded the principle of constructing a tunnel of at least 2.9km within the WHS as compatible with world heritage status and that management of heavy infrastructure within a world heritage site could be achieved through effective planning.

UK State Party State of Conservation Report, March 2017

APP 11.17 The March 2017 UK State Party SOCR⁷ was prepared before the report on the second advisory mission was published and was not therefore able to take account of it. The SOCR refers to the major adverse

⁷ See Appendix 15 hereto.

impact of the current A303 on the OUV of the World Heritage property, the Department for Transport feasibility study for the A303/A358/A30 Route Corridor to south west England and the early engagement of HBMCE, the English Heritage Trust, the National Trust and Wiltshire Council in advising on heritage matters.

APP 11.18 Routes to the north and south of the WHS and a 2.1km tunnel were all considered to have unacceptable heritage impacts, and a Preliminary Outline Heritage Impact Assessment (HIA) commissioned by HBMCE and the National Trust was undertaken in line with the ICOMOS 2011 Guidance on HIA, which concluded that the best performing option in relation to the OUV of the WHS would be a tunnel of at least 2.9km to the south of the existing A303.

APP 11.19 The SOCR describes the development of routes D061 and D062 (tunnel based schemes to the south of the existing A303) that were put forward for public consultation in January – February 2017 and referred to HBMCE's advice that route D061 would have a significant adverse impact on OUV and that D062 must be revised to avoid harm to OUV. The SOCR confirms that the recommendations of the first advisory mission were taken into consideration in the development of the options for public consultation.

Advisory Mission Two (31 January – 3 February 2016)

APP 11.20 In line with the recommendations of the first advisory mission and the willingness of the State Party, Department for Transport and Highways England to seek further advice from the World Heritage Centre and ICOMOS in the development of the A303 proposals, HBMCE, in its capacity as adviser to DCMS, supported and took part in the advisory mission which took place from January 31 – February 3 2017. The mission took place at the same time as the public consultation on routes D061 and D062 were taking place and the mission was therefore able to take a view on these options in its report published in June 2017.

APP 11.21 The mission report expressed serious concern about consultation proposals and advised that the eastern portal should be relocated closer to Countess Roundabout and that the western portal locations “*would be highly likely to bring adverse impacts to a range of archaeological monuments on its course, and to the wider landscape inter-visibility relations of the WH property elements and thus to impact adversely and unacceptably on its OUV.*”

APP 11.22 The mission report made a number of recommendations and in this section reference is only made to those which we believe have a significant bearing on the Examination of the DCO.

APP 11.23 In section 9.3.2 the mission recommended that comprehensive visitor studies should be undertaken by the principal heritage agencies with a view to effective site management after the construction of the upgraded A303.

APP 11.24 At 9.4.2 the report recommended that further consideration should be given to route F010 to the south of the WHS. Section 9.4.2 of the report also makes clear that if a longer tunnel were to be considered its western portal should be located outside the WHS. It indicated that this should apply to both D061 and D062 and careful consideration, including Heritage Impact Assessment and landscape studies, should be given to the areas outside the WHS boundary, and to the need for and potential impact of ventilation requirements of a longer tunnel. Section 9.5 recommends continuing consultation and discussion with the World Heritage Centre and ICOMOS, new consultative procedures with stakeholders, local communities, residents and civil society, and adjustments to the project timetable to align with the World Heritage Committee timeframe and processes.

2017 State of Conservation Assessment by the World Heritage Centre and ICOMOS⁸

APP 11.25 In May 2017 the World Heritage Centre and ICOMOS published its analysis of the two mission reports and the State Party's SOCR and the conclusions it drew from this evidence. In their view "*while a range of issues and factors must be balanced, the appropriate approach is to avoid adverse impacts on the OUV of the property. It is not considered satisfactory to suggest that the benefits from a 2.9km tunnel to the centre of the property can offset significant damage from lengths of four lane approach roads in cuttings elsewhere in the property.*"

APP 11.26 The analysis also concluded " that an alternative bypass route (the F10) would have no impact on OUV and could bring significant benefits to the property and the wider Stonehenge landscape, and therefore warrants further consideration, even though it was ruled out prior to the public consultation in early 2017."

APP 11.27 Concern was expressed about the impact of 2.2km of approach roads and portals within the WHS (an inaccurate figure) and that this could "*fundamentally compromise the OUV of the property.*" It was noted that by moving the western portal beyond the WHS boundary the approach roads and their impacts would be in locations where dual carriageway was already planned. The eastern portal positioning was regarded as less challenging, but with the potential for further refinement.

APP 11.28 The conclusions also endorsed the approach of seeking to align the planning process within England with the World Heritage Committee cycle.

The 2017 World Heritage Committee decision

APP 11.29 Decision 41.COM 7B.56⁹ was drafted for the World Heritage Committee to consider based on this analysis and conclusions. The Decision

⁸ <https://whc.unesco.org/en/soc/3652>

was adopted unaltered by the Committee in July 2017¹⁰. The key points of the decision reflect the advisory mission report recommendations and include:

- concern that the *2.9km Stonehenge tunnel options and their associated 2.2km of dual carriageway and approach roads within the property...would impact adversely the OUV of the property*;
- urging the State Party to explore to explore further options for avoiding impacts on the OUV of the property including the F10 route, longer tunnel options, and detailed investigations into tunnel alignment and portal locations;
- advising the State Party to address advisory mission recommendations towards an optimal solution avoiding harm to OUV, and to invite further advisory missions;
- matching the planning timetable in England with the World Heritage Committee cycle to enable the Committee to contribute to the evaluation and decision making process.

The State Party Response to Decision 41.COM 7B.56, the two mission reports and UNESCO/ICOMOS State of Conservation reports, and the UK State Party April 2018 State of Conservation Report

APP 11.30 HBMCE provided advice to DCMS, the Department for Transport and Highways England on appropriate responses to the Committee decision. The responses are summarised in the January 2018 State Party SOCR, the key points of which included:

- the invitation of a third advisory mission;
- the realignment of the proposed road and tunnel to a new route close to the southern side of the existing A303, significantly reducing the adverse impacts on the world heritage property;
- an increase in the length of the bored tunnel to 3.1km with a western extension of a further 0.2km provided by a canopy over the cutting

⁹ See Appendix 18 hereto.

¹⁰ <https://whc.unesco.org/en/soc/3652>

- the placing of the dual carriageway in an 8m deep vertically sided cutting in the western part of the WHS;
- the removal of the intrusive Longbarrow roundabout forming the A303/A360 junction and the construction of a new junction 600m to the west of the WHS boundary. The removal of the current alignment of the A360 to the north and south of Longbarrow roundabout considerably reduces its impact on adjacent barrow groups;
- locating the eastern portal of the tunnel 100m further to the east to fit better within the landscape and avoid any negative impacts on the attributes that convey the OUV of the property;
- a detailed consideration of route F10 explaining why it is not a deliverable option (adverse environmental impacts and ineffective in resolving traffic problems);
- confirmation that the DCO process could align effectively with the World Heritage Committee cycle.

APP 11.31 Other responses included the establishment of the Scientific Committee under the Chairmanship of Professor Sir Barry Cunliffe; the initiation of studies into visitor behaviours and the management, interpretation and presentation of the WHS following the removal of the A303 from most of the WHS to allow for a lasting legacy; and the establishment of a Local Community Forum to engage more fully with local stakeholders and civil society.

Advisory Mission Three

APP 11.32 The most recent advisory mission took place from 5-7 March 2018 and its report was published in May 2018¹¹. Amongst its principal findings were:

- *“the tunnel 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*

¹¹ See Appendix 14 hereto.

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”.

- *“a surface route, which re-routes the A303 completely around the Stonehenge component of the WHS, and enables the closure of the existing section of the A303 within the WHS, would provide the best option in relation to impact on the OUV of the WHS. The visual and physical impact on the landscape to the south of the property, a Special Area for Conservation (SAC) and a Site of Special Scientific Importance (SSSI), of the F10 scheme option proposed would have been high. However, other surface routes may still be feasible, depending on the relative weighting accorded to matters that inform the decision”.*
- *“the ‘rigorous investigation, evaluation, iterative design and assessment’ process has revealed that, if the tunnel solution is pursued, the proposed length of 3.0km would not be adequate to protect the integrity and conserve the OUV of the WHS”.*
- *“although the location of the western portal represents an improvement on previous options, it nevertheless involves an intrusive section of cut dual carriageway within the WHS. Therefore, if a tunnel solution is pursued, the western portal should be re-located outside the western boundary of the WHS to avoid dual carriageways within this part of the WHS”.*
- *“the eastern portal has been positioned in the least impactful location available close to the WHS boundary, given the constraints imposed by the attributes of the WHS, other significant sites in the vicinity, and local topographic and environmental conditions. The location of the eastern portal to the east of The Avenue and its siting within a micro valley is an improvement on previous options. However, a tunnel portal much further to the east, completely outside the WHS, would protect the OUV of the property from the impact of associated dual carriageways”*

- *“additional weight should be afforded to avoiding impact on WHS, 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”.*
- *“The methodology outlined in Heritage Impact Assessment Scoping Report (AECOM, Mace, February 2018) is appropriate. The Heritage Impact Assessment should have particular regard to the report “Stonehenge A303 improvements: outline assessment of the impacts on the Outstanding Universal Value of the World Heritage property of potential route options presented by Highways England for January 2017” carried out by N. Snashall & C. Young (Snashall & Young 2017), as well as their earlier 2014 report”.*
- *“The archaeological investigations undertaken to date have accorded with the recommendations of previous missions, although analysis and reporting are yet to be completed. The Archaeological Evaluation Strategy (AECOM, Mace, WSP January 2018) and the Overarching Written Scheme of Investigation for Archaeological Evaluation (AECOM, Mace, WSP January 2018) provide a framework for question-driven archaeological evaluation, in the event that a tunnel option is pursued”.*

APP 11.33 The recommendations made in the report follow the findings, including those key ones quoted above.

2018 State of Conservation Assessment by the World Heritage Centre and ICOMOS

APP 11.34 The analysis of the State Party SOCR and the report of the third advisory mission led the World Heritage Centre and ICOMOS to draw a number of conclusions, including:

- Recognition that the proposed scheme shows improvement by comparison with previous plans, particularly in the centre of the world heritage property;
- Recognition that further investigation of route F10 had indicated that it is not viable;
- The proposed length of tunnel is not adequate to protect the authenticity, integrity and OUV of the WHS;
- A surface route avoiding the WHS enabling the removal of the existing A303 would be the best option in terms of OUV;
- If a surface route avoiding the WHS is not possible the tunnel should be longer to reduce the lengths of dual carriageway within the property and its impact on authenticity, integrity and OUV;
- The western portal should be outside the western boundary of the WHS. The eastern portal is located in the least impactful position within the property but a tunnel portal much further to the east could better protect the OUV of the property;
- If the tunnel option proceeds substantial design refinement is needed and respect for OUV should be prioritised over project timetables;
- Insufficient priority had been given to date to the protection of OUV relative to economic and environmental considerations.

World Heritage Committee Decision

APP 11.35 The World Heritage Committee considered draft decision 42.COM 7B.32¹² in July 2018. The draft decision was amended by the Committee prior to its adoption¹³. The amendments to the draft decision are relevant to the current examination of the DCO application.

APP 11.36 The wording of paragraph 6 of the draft decision was: the World Heritage Committee....6. Urges the State Party to continue to explore further options and design refinement, with a view to avoiding impact on the OUV of the property, including:

¹² See Appendix 19 hereto.¹³ See Appendix 23 hereto.
¹³ See Appendix 23 hereto.

- *alternative surface by-pass options,*
- *longer tunnel options that allow for the re-location of the western portal outside the property and which do not require dual carriageway cuttings within the property.*

APP 11.37 In the adopted decision draft paragraph 6 was deleted and replaced by two new paragraphs 6 and 7 which say: the World Heritage Committee...6. Notes with concern the impacts of the current design of the dual carriageway on the property, especially at the western end; 7. Urges 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 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.

APP 11.38 The differences between the draft decision and the adopted decision are significant in that the Committee is no longer asking for alternative surface routes by-passing the Stonehenge component of the WHS to be explored. In addition the need to consider design refinement as a whole, rather than limiting changes to the scheme to longer tunnel options, allows a wider range of options for avoiding impact on OUV to be explored.

The UK State Party Response to Decision 42.COM 7B.32, the 2018 mission report, UNESCO/ICOMOS 2018 State of Conservation report, and the UK State Party January 2019 State of Conservation Report

APP 11.39 Following the World Heritage Committee decision HBMCE urged Highways England to respond positively to the request to explore design refinements including longer tunnel options.

APP 11.40 At the time of the Committee decision Highways England was undertaking public consultation on design refinements to the scheme, including the 200m canopy covered extension to the tunnel beyond the

western portal and the increasing of the length of green land bridge number 4 within the western boundary of the WHS from 50m to 150m. The design of the Scheme that is now the subject of the DCO application reflects the issues raised in the Committee's decision. In our Written Representations elsewhere we have indicated that the increase in the length of the land bridge, provided the detailed design is well executed, has potential to reduce the impact on the OUV of the property in this section by increasing the connectivity between the Winterbourne Stoke and Diamond barrow groups, while the canopy extension to the tunnel lessens the adverse impact on the setting of the Normanton Down group.

APP 11.41 The 2019 State Party SOCR¹⁴ summarises the further work undertaken by Highways England in exploring the potential for a longer tunnel with a portal beyond the western boundary of the WHS and also the potential for covering the 850m of open vertical sided cutting between the end of the canopy and green land bridge number 4. Details can be found in Annex B of the SOCR. Highway England's analysis of the potential for a longer tunnel with a portal to the west of the WHS boundary sets out technical reasons why this would be very difficult to achieve, while the covering of the cutting would leave the Longbarrow roundabout junction in the same position and miss the opportunity to remove the harmful impact that this has on the OUV of the property. Highways England has responded to the Committee's request to "*explore further design refinement*" and found that it is difficult to do more than extend the green land bridge length and extend the tunnel beyond the western portal with the 200m canopy. The noise, lighting and visibility issues are all issues where we are asking Highways England to provide additional information to provide assurance that the Committee's concerns and those of HBMCE in this respect can be satisfactorily addressed.

APP 11.42 Annex A to the 2019 State Party SOCR provides a detailed response to the Committee recommendations which is not repeated here. In

¹⁴ See Appendix 15 hereto.

the two paragraphs below we have however drawn out what we believe is one of the crucial issues for consideration by the Examining Authority.

APP 11.43 The objective of the World Heritage Committee is to avoid any harm at all to the OUV of the world heritage property. This is also HBMCE's desired outcome. HBMCE does not however believe that it is possible to do this for the reasons set out in Annex B of the 2019 State Party SOCR. In these circumstances we believe it is appropriate to follow the 2011 ICOMOS Heritage Impact Assessment Guidance¹⁵ (something which is encouraged by both the World Heritage Committee and the National Planning Practice Guidance for England).

APP 11.44 Section 2-1-5 of the ICOMOS Guidance says that "*every reasonable effort should be made to eliminate or minimise adverse impacts on significant places.*" HBMCE's Written Representations set out the additional information we consider is required to confirm that this is being done in the development of the current proposals for the A303, with further design details needed to provide assurance on effective mitigation. The ICOMOS Guidance goes on to say in the same paragraph that "*ultimately however it may be necessary to balance the public benefit of the proposed change against the harm to the place.*" The Heritage Impact Assessments undertaken, the methodology of which has been accepted as appropriate by the World Heritage Centre and ICOMOS, assess the level of adverse impact on OUV to be minor adverse in the westernmost part of the WHS.

¹⁵ See Appendix 20 hereto.

**APPENDIX 12 Report on the joint World Heritage Centre/ICOMOS
Advisory mission to Stonehenge, Avebury and
associated sites, 27-30 October 2015**

**REPORT ON THE JOINT WORLD HERITAGE CENTRE / ICOMOS
ADVISORY MISSION TO
STONEHENGE, AVEBURY AND ASSOCIATED SITES**



Stonehenge October 2015 copyright UNESCO

27-30 OCTOBER 2015

Chris Barker, Civil Engineer, ICOMOS
Nathan Schlanger, Archaeologist, ICOMOS
Marie-Noël Tournoux, Project Officer Europe and North America Unit, World Heritage Centre



ICOMOS
international council on monuments and sites



Stonehenge October 2015 copyright UNESCO

TABLE OF CONTENTS

ACKNOWLEDGMENTS	4
1 INTRODUCTION	5
2 MISSION REPORT	7
3 MISSION CONCLUSIONS	24
4 MISSION RECOMMENDATIONS	24
5 REFERENCES.....	28
6 ANNEXES.....	29

ACKNOWLEDGMENTS

The joint World Heritage Centre and ICOMOS mission thanks the State Party for the arrangements for the Advisory Mission and the preparation of all the necessary relevant materials, together with the good will in its advancement. Particular thanks are due to DCMS and Historic England and more specifically to Keith Nichol and Hannah Jones from DCMS and Henry Owen-John and Phil McMahon from Historic England, our main focal points.

The mission would like to acknowledge and to commend the investment and professionalism of our hosts in addition to logistics and hospitality. The assistance gladly provided by Historic England, English Heritage Trust, the National Trust, and their representatives, be it at organizational level or on the ground, including notably Chris Smith, Historic England, and Heather Sebire, Properties Curator West English Heritage Trust, Kate Davies, Stonehenge General Manager, English Heritage Trust, Beth Thomas & Sarah Simmonds, World Heritage site Coordinator, Nicola Snashall, National Trust WHS archaeologist for Stonehenge & Avebury, Cassandra Genn, Senior project and Stakeholder Manager, Ian Wilson, Assistant Director of Operations, Ingrid Samuel, Historic Environment Director, Janet Tomlin, National Trust, as well as the Wiltshire Council.

Our special thanks go to Sarah North, the National Trust project support for the warm welcome and hospitality.

We would also like to convey our thanks to Highways England, Andrew Page-Dove and Brian Gash, for their fruitful cooperation and to the Consultant Engineer of Mott MacDonald.

1 INTRODUCTION

1.1 Purpose and objectives of the mission

The Advisory Mission concerning the proposed dualling and tunnelling of the A303 Amesbury to Berwick Down in the perimeter of the Stonehenge World Heritage site was undertaken at the request of the Government of the United Kingdom (UK), the State Party. The overall goal of the project is to secure a solution that is beneficial to the World Heritage property Stonehenge, Avebury and Associated Sites in the light of economic considerations and to set up an appropriate consultation process from the outset of the project. This is to ensure that a tunnel scheme under the Stonehenge landscape would enhance the World Heritage site and not impact adversely on its Outstanding Universal Value (OUV) and carrying attributes, and significantly improve the A303 traffic on one of the main routes from London and the southwest of England, thus benefitting the region. It is noteworthy that since the 1990s more than 50 proposals have been considered for improving the A303 in the area and removing it from the Stonehenge landscape, however the majority of these schemes would not have succeeded in the latter.

Following the December 2014 announcement by the UK Government that it would invest in a bored tunnel at least 2.9 km long to solve the long-running traffic problems along the A303 trunk road within the WH property, Highways England has commenced structuring their internal teams ahead of the extensive programme of assessment and consultation work necessary to successfully deliver a scheme through the statutory process that will both resolve the traffic issues and protect and conserve the Outstanding Universal Value. The removal of the damaging surface A303 from the World Heritage site has been a long-running ambition of the UK Government, due to the serious harm the current road is causing to OUV, not only through the noise, pollution and distraction of heavy traffic, but also due to the effective severance of the bulk of the WH property to the south of the current A303 from the northern part of the property containing Stonehenge and the other major ceremonial sites & monuments.

Historic England and the National Trust continue to work closely with Highways England in consultation with heritage stakeholders and with expert bodies such as the World Heritage Centre and ICOMOS-UK. As a result of engagement with these organisations, Historic England and the National Trust were advised that an Advisory Mission would be a constructive way for UNESCO and its advisory bodies to engage with the potential road scheme at an early stage. For this reason Historic England, the National Trust, and the Department for Culture, Media & Sport (DCMS, the State Party) decided to engage in an early consultation process and upstream dialogue, in the belief that an initial Advisory Mission of this kind was an essential first step in a process of on-going engagement, including one or more further Advisory Missions as proposals evolve.

For the UK, the objective of the Advisory Mission was to seek technical assistance and the beginning of an on-going and pro-active relationship with ICOMOS-International and the UNESCO World Heritage Centre to allow an open exchange of information and advice as Highways England's proposal emerges over the next few years. The objective was to establish at an early stage, before commencement of any design or option identification stage, a continuing channel of communications among the main stakeholders and expert bodies such as the World Heritage Centre and ICOMOS, to engage with the emerging proposal at key stages in its evolution, before a formal application for a Development Consent Order¹ is submitted.

¹ A Development Consent Order or DCO is the application process by which Nationally Significant Infrastructure Projects (NSIPs) gain consent. Unlike other English planning proposals NSIP applications are considered by the central Planning Inspectorate rather than the local planning authority.

This Advisory Mission was planned as an early stage visit to familiarize the international advisors with the World Heritage property and the scope of potential road improvements. The October 2015 Mission took place before Highways England commenced the option identification stage for the project. The Mission had to operate on the understanding that no design proposal existed to be evaluated, but that this was an opportunity to gain an understanding of the landscape within which a road improvement might take place, and to consider the broad issues, constraints and opportunities that this may give rise to. It is anticipated that more additional Advisory Missions may be invited over the coming years to provide further advice as relevant information becomes available on the preferred length and route for the road improvement and the significance of heritage assets which may be affected within this part of the World Heritage property.

The Advisory Mission took place from 27 to 30 October 2015 and consisted in presentation meetings with the relevant authorities, detailed field visits and a stakeholder session. The mission did not visit the Avebury component of the World Heritage site, as the objective was really to focus on the A303 tunnel project, even though the discussions during the mission were related to the entire World Heritage site, in terms of conservation, management and impact. See Annex I-III for the Terms of Reference of the mission, the Programme and full list of participants.

1.2 Background of the mission

The A303 is one of the main routes from London to the southwest of England. Sections have been upgraded to dual carriageway status, though one third of the road remains single carriageway. On the A303 between Amesbury and Winterbourne Stoke (the section including Stonehenge) traffic flows are above the capacity of the road and the Highways Agency (as it was then called) expressed concern about safety on both this road and the A344. The two roads pass through the Stonehenge property and land owned by the National Trust, with the A303 passing directly south and the A344 directly to the north of the main henge monument. As part of the development of the proposals, over 50 routes were considered by the Highways Agency. See Annex VIII for background information on the road improvement projects for Stonehenge and check https://en.wikipedia.org/wiki/Stonehenge_road_tunnel for more information.

At the time of the inscription of the property in 1986, the World Heritage Committee 'noted with satisfaction the assurances provided by the authorities that the closure of the road which crosses the avenue at Stonehenge (A344 road) was receiving serious consideration as part of the overall plans for the future management of the property'. Reclaiming the land used by the road, providing the site with enough breathing space, has always been the major challenge of the past decades.

Closure of the A344 finally occurred in 2013. This took place together with the relocation of new and much improved visitor centre on the A344, about 1.5 km west of the Stonehenge monument. The stretch of road between the visitor centre and the monument is used only for visitor transport, and in the immediate proximity of the monument the land has been reclaimed and grassed over. This development has clearly brought much benefit to the World Heritage site in terms of visitor experience, recovery and enhancement of OUV. The A344 case illustrates well the benefit that the removal (tunnel) of the A303 could bring to the World Heritage site as a whole.

The current efforts of the UK government, its strategic decision to address the long running traffic problem and develop a project which would sustain the Outstanding Universal Value of the property should be highly commended. The planning of this Advisory Mission to identify a sound process which should enable the Stonehenge tunnel project to become a success in terms of impact assessment and in terms of project design, phasing, quality control and implementation, should be highlighted.

2 MISSION REPORT

Given the preliminary nature of the report and its advisory aims, the archaeological aspects mainly concern organisational issues in a broad sense, including procedures, interactions and coherence between various actors involved, and so forth. Some of the comments/recommendations proposed are of a fairly specific nature, while others are more prospective, serving as reminders or alerts to potential difficulties.

2.1 Context

Stonehenge, Avebury and Associated Sites

The World Heritage property Stonehenge, Avebury and Associated Sites was inscribed on the World Heritage List in 1986. It is amongst the earliest properties inscribed on the List and the site reflects the changing history of conservation and interpretation approaches as well as World Heritage criteria and procedures. The site spreads out on a very large area, mainly agricultural land, a vast hilly landscape punctuated with a few settlements, and a series of main roads, secondary roads and earth roads.

Stonehenge, Avebury and Associated Sites² is internationally important for its complexes of outstanding prehistoric monuments. Stonehenge is the most architecturally sophisticated prehistoric stone circle in the world, while Avebury is the largest. Together with inter-related monuments and their associated landscapes, they demonstrate Neolithic and Bronze Age ceremonial and mortuary practices resulting from around 2000 years of continuous use and monument building between circa 3700 and 1600 BC. As such they represent a unique embodiment of our collective heritage.

The World Heritage property comprises two areas of Chalkland in southern Britain within which complexes of Neolithic and Bronze Age ceremonial and funerary monuments and associated sites were built. Each area contains a focal stone circle and henge and many other major monuments. At Stonehenge these include the Avenue, the Cursuses, Durrington Walls, Woodhenge, and the densest concentration of burial mounds in Britain. At Avebury they include Windmill Hill, the West Kennet Long Barrow, the Sanctuary, Silbury Hill, the West Kennet and Beckhampton Avenues, the West Kennet Palisaded Enclosures, and important barrows.

Stonehenge is one of the most impressive prehistoric megalithic monuments in the world on account of the sheer size of its megaliths, the sophistication of its concentric plan and architectural design, the shaping of the stones - uniquely using both Wiltshire Sarsen sandstone and Pembroke Bluestone - and the precision with which it was built.

At Avebury, the massive Henge, containing the largest prehistoric stone circle in the world, and Silbury Hill, the largest prehistoric mound in Europe, demonstrate the outstanding engineering skills which were used to create masterpieces of earthen and megalithic architecture.

There is an exceptional survival of prehistoric monuments and sites within the World Heritage property including settlements, burial grounds, and large constructions of earth and stone. Today, together with their settings, they form landscapes without parallel. These complexes would have been of major significance to those who created them, as is apparent by the huge investment of time and effort they represent. They provide an insight into the mortuary and ceremonial practices of the period, and are evidence of prehistoric technology,

² Source, World Heritage Centre <http://whc.unesco.org/en/list/373/>

architecture and astronomy. The careful siting of monuments in relation to the landscape helps us to further understand the Neolithic and Bronze Age.

Criterion

The monuments of Stonehenge, Avebury and Associated Sites were inscribed on the World Heritage List as cultural heritage under the following criterion (i) (ii) (iii).

Criterion (i): The monuments of the Stonehenge, Avebury and Associated Sites demonstrate outstanding creative and technological achievements in prehistoric times.

Stonehenge is the most architecturally sophisticated prehistoric stone circle in the world. It is unrivalled in its design and unique engineering, featuring huge horizontal stone lintels capping the outer circle and the trilithons, locked together by carefully shaped joints. It is distinguished by the unique use of two different kinds of stones (Bluestones and Sarsens), their size (the largest weighing over 40 t) and the distance they were transported (up to 240 km). The sheer scale of some of the surrounding monuments is also remarkable: the Stonehenge Cursus and the Avenue are both about 3 km long, while Durrington Walls is the largest known henge in Britain, around 500 m in diameter, demonstrating the ability of prehistoric peoples to conceive, design and construct features of great size and complexity.

Avebury prehistoric stone circle is the largest in the world. The encircling henge consists of a huge bank and ditch 1.3 km in circumference, within which 180 local, unshaped standing stones formed the large outer and two smaller inner circles. Leading from two of its four entrances, the West Kennet and Beckhampton Avenues of parallel standing stones still connect it with other monuments in the landscape. Another outstanding monument, Silbury Hill, is the largest prehistoric mound in Europe. Built around 2400 BC, it stands 39.5 m high and comprises half a million tonnes of chalk. The purpose of this imposing, skilfully engineered monument remains obscure.

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.

The megalithic and earthen monuments of the World Heritage property demonstrate the shaping of the landscape through monument building for around 2000 years from circa 3700 BC, reflecting the importance and wide influence of both areas.

Since the 12th century when Stonehenge was considered one of the wonders of the world by the chroniclers Henry de Huntington and Geoffrey de Monmouth, the Stonehenge and Avebury Sites have excited curiosity and been the subject of study and speculation. Since early investigations by John Aubrey (1626-1697), Inigo Jones (1573-1652), and William Stukeley (1687-1765), they have had an unwavering influence on architects, archaeologists, artists and historians. The two parts of the World Heritage property provide an excellent opportunity for further research.

Today, the property has spiritual associations for some.

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.

The design, position and interrelationship of the monuments and sites are evidence of a wealthy and highly organised prehistoric society able to impose its concepts on the environment. An outstanding example is the alignment of the Stonehenge Avenue (probably a processional route) and Stonehenge stone circle on the axis of the midsummer sunrise and

midwinter sunset, indicating their ceremonial and astronomical character. At Avebury the length and size of some of the features such as the West Kennet Avenue, which connects the Henge to the Sanctuary over 2 km away, are further evidence of this.

A profound insight into the changing mortuary culture of the periods is provided by the use of Stonehenge as a cremation cemetery, by the West Kennet Long Barrow, the largest known Neolithic stone-chambered collective tomb in southern England, and by the hundreds of other burial sites illustrating evolving funerary rites.

Synthesis of main issues

The mission visit to the Stonehenge landscape encountered undulating chalk topography with eroded valleys generally draining towards the River Avon. The land surface comprised grassland and farmland used for cultivation and grazing with local areas of woodlands crossed by a congested A303 with slow moving traffic. The landscape is evidently rich in historic monuments with the main Stonehenge henge monument being of obvious interest to motorists as the traffic momentarily slows while adjacent.

The upgrade of the A303 Amesbury to Berwick Down through the Stonehenge World Heritage property by relocating the existing road underground into a “tunnel of at least 2.9km” could readily adopt appropriate, well-established construction methods. Hence, with good design and construction controls, the tunnelled length of road would be expected to have a beneficial impact on the attributes of Outstanding Universal Value (OUV). However, the siting and design of the tunnel portals, approach cuttings/embankments, entry/exit ramps and the temporary construction works have the potential to impact adversely impact on OUV. These latter aspects of the scheme, in particular, will require rigorous investigation, evaluation, iterative design and assessment to see whether and how it might be possible to protect the attributes of OUV within the World Heritage site and protect the surrounding Archaeological Priority Area (APA).

What is at stake?

What is at stake here is not a technical issue in terms of either engineering or archaeology. Technically speaking the situation is fairly standard. The challenge is the process, the setting up of governance, monitoring systems and operational mechanisms, which will allow for high quality results and international standards to ensure an outcome that respects OUV.

This means heritage quality control must be built into the process and built into a visa process or steering mechanism of some sort so that heritage quality control is present at every stage. Heritage expertise must not be reduced to a subcontracted heritage expert. What is needed is a monitoring process to evaluate in quasi real time the impact of the project on the OUV of the World Heritage site. The scoping, decision making and phasing of the project design must be tailor-made to fit the highly sensitive nature of the site. The aim must be to conserve OUV and improve the setting of the World Heritage site and the quality of life of all users of the road system, be they local users, national users or international users.

The main challenge will be the project design, and setting up a management process for a project in a very sensitive area. There is a need to build the necessary flexibility required to modify the project accordingly in case of chance findings into the project process and implementation processes. There is also a need to design a tailor-made system for its implementation, allowing for quasi-micro intervention to be built into the general implementation. In terms of design strategy, low key, unobtrusive design should be favoured so as to retaining a sense of place with exposed new engineering infrastructure. A major issue for commuters and especially for local inhabitants and people familiar with the site is the disassociation of people on the road from the landscape and monument; this should be

fully taken into account and addressed in the project design and communication and interpretation tools.

An important asset in the future planning of the tunnel (and in the briefing of the mission) has been the substantial report, "Preliminary Outline Assessment of the impact of A303 improvements on the Outstanding Universal Value of the Stonehenge Avebury and Associated Sites World Heritage property", produced by Nicola Snashall BA MA PhD MIfA, National Trust, and Christopher Young BA MA DPhil FSA, Christopher Young Heritage Consultancy (henceforth Snashall & Young 2014). Snashall is currently the National Trust archaeologist at Stonehenge, and Young was formerly a senior archaeologist at English Heritage. This Snashall & Young report constitutes a substantial proactive engagement by archaeological heritage professionals with the planned tunnel project as reinitiated by Highways England in 2014. Rather than waiting for tunnel and road plans to be drawn, submitted and then assessed on archaeological heritage grounds, a careful attempt has been made to draw out the benefits and disadvantages of a range of possible options on various attributes of OUV in relation to differing placement and length. It is in this well documented and illustrated report (maps) that the important notion of a tunnel "at least 2.9km long" appears, corresponding to one of the options considered by the report's authors.



Fig. 1 Map of Stonehenge and associated monuments, nomination area, 1985 scale 1: 25000.

Source WHC. <http://whc.unesco.org/fr/list/373/>

This map shows some of the main features of the site indicated in red, such as the Cursus, Stonehenge, the Avenue, Vespasian's Camp and Durrington Walls as well as long and round barrows.



Fig. 2 Location map of the 4 different A303 tunnel options from the Snasha/1 & Young report, fig. 3, e, 28.



Fig. 3 shows a map of the 1.9 km option from the Snasha/1 & Young report, fig. 7, p. 34 "A.303 2.9 km bored tunnel (Tcta 2014, Appendix D, 20r'. Highlighted in blue by the authors are the two portals A1 and E. If the Eastern portal (currently proposed point 'E') was further to the east of the King's farrow ridges (point 'F') it would not cut through the Avenue and this would significantly reduce the adverse impacts on the Avenue which is a major feature of the World Heritage site.

2.2 Choosing the location of the tunnel portals

It has been clearly stated by the State-Party, and it is understood by all relevant bodies, stakeholders etc., that there are as yet no specific tunnelling plans or plans for the length of tunnel, and that the project is in its early stages. At the same time, as previously indicated, tentative and preliminary scenarios have been commissioned and made in the Snashall & Young report, alongside some projective maps (as reproduced in figure 2 and 3 here, respectively fig. 3, p. 28 and fig. 7, p. 34 in the Snashall & Young report). These scenarios served as a basis for discussion during the on-site mission, and consequently they are also taken into account and addressed in this report – on the understanding that these are but preliminary ideas, which may be quite distant from those finally chosen in the course of the process.

The western portal

One of the proposed locations of the western portal (A1 on figure 2, 3) was presented to the mission in detail during the on-site visits, and seems to present a number of advantages. This A1 location seems to be in a visually non-intrusive position in the landscape and avoids known archaeological features. The path of the A303 westwards will furthermore release the Winterbourne Stoke barrow group and render it accessible for visitors and research. This is highly beneficial for parts of the site and some of its attributes of OUV provided that the same standards and heritage procedures apply to the west of the A360. Indeed, the Stonehenge tunnel project should also consider the redesign and development of areas outside of the World Heritage site such as the Countess Roundabout and linking the smaller towns and villages.

However, the 1 km long approach road and the cuttings/embankments and entry/exit ramps to the west of the portal within the property have the potential to adversely impact on some attributes of OUV in terms of integrity of the overall Stonehenge cultural landscape and the visual links between monuments. This will need to be considered as proposals and HIAs are developed for option selection (as set out below). These latter aspects of the scheme, in particular, will require rigorous investigation, evaluation, iterative design and assessment if they are to protect the attributes of OUV within the World Heritage site and the surrounding Archaeological Priority Area (APA).

The eastern portal and The Avenue

The tentative proposals made by Snashall & Young 2014 conjecture an eastern tunnel portal location – Point E on figure 1, 2. The main drawback of this potential portal location, as partly discussed, is that it maintains the current state of affairs in which the A303 to its east cuts through the prehistoric "Avenue" – a major archaeological feature of the Stonehenge landscape, and clearly part of the World Heritage site's OUV.

Several quotes from Snashall & Young 2014 confirm this:

P. 29 (regarding a 4.5 Km)

The eastern entrance to the tunnel would have started 600m east of the start of the 2.1km Published Scheme. This would have been to the east of the point at which the line of the Avenue crosses the present road, within the stretch, which is currently in a cutting.

P. 36

The Avenue east of King Barrow Ridge has been severed by the A303. It is probable that nothing survives beneath the footprint of the existing A303 but removal of the road would allow the line of the Avenue to be better appreciated.

P.37

The Avenue east of King Barrow Ridge would be positively affected only by the 4.5 km tunnel, included only for illustrative purposes. The remaining options, apart probably from the Published Scheme, would all place this part of the A303 in a cutting approaching the eastern tunnel portals and would remove any evidence which might remain on the road line plus any evidence, for example of the ditches, which survives on either side, in land to be taken into

the road cutting. This must be considered as a minor adverse impact on the Avenue given the degree of damage that has already occurred in this location. The significance of this impact on the Avenue as an attribute of Outstanding Universal Value would be moderate/large, according to the ICOMOS HIA methodology. Given the importance of the Avenue within the World Heritage property, this might count as a minor adverse impact on the World Heritage property as a whole.

P. 40

The four shorter tunnel options would not significantly reduce the adverse impacts on the Avenue east of King Barrow Ridge.

It is not clear why the option of placing the eastern portal (currently at proposed point 'E') further to the east of the King Barrow ridges (point 'F') has so far not been considered (or is not being considered, except in the case of 4.5 km tunnel). Is it because of the costs incurred by lengthening the tunnel by approximately 250 metres? Because placing the tunnel entrance there will mean decommissioning a stretch of the A303 that is already dual carriageway? Or is it, beyond economic or logistical considerations, because some known heritage features (which ones?) might be situated on some other planned eastern portal and could be impacted, or cannot be mitigated?

Likewise, arguments have been advanced as to why the 'recovery' of the Avenue at the 'junction' with the A303 may not be a priority given its condition: the adjacent land has been extensively cultivated and has suffered ploughing damages, development works have taken place, the landscape is poorly legible, and generally the Avenue survives only as a buried archaeological feature (see Snashall & Young 204 and also "Guidance notes" quoted here (National Trust-Historic England)).

For the new tunnel options, an eastern portal location was chosen which would provide benefit to the monuments on and around King Barrow Ridge, when compared to the eastern portal site for the 2.1km Published Scheme from 2004, which was close to the ridge itself. The chosen portal site is 200m further east on the present road alignment and would lead to tranquillity benefits for OUV in the King Barrow Ridge area. The new portal site would not, however, reconnect the Stonehenge Avenue, which was severed by the cutting of the 1960s Amesbury Bypass. In this part of the WHS intensive arable cultivation and episodes of development have degraded the legibility of the landscape. Ploughing has damaged or destroyed earthwork monuments. Here the Avenue survives only as buried archaeological remains; it is not possible for a visitor to the site to trace its course east of King Barrow Ridge. South of the current A303 the Avenue has been severed again by episodes of development and parts of the monument are built on.

Depending on how tunnel proposals develop in relation to HIAs and options selection, this position may need to be rethought and reconsidered, with further deliberation given not only to the current state of visibility of the Avenue at this point, but also to the wider emphasis on the Stonehenge "cultural landscape" (see below), the proposed links between the Durrington Walls settlement and Stonehenge monument via the Avon river and the Avenue, and more generally the apparent benefits to OUV, including the integrity of the World Heritage site as a whole, by placing the tunnel portal further east. Also, taking a long-term view, the current proposed placement of the tunnel portal (at point E) which allows the A303 to bisect the Avenue will be – unlike the current state of affairs with a single carriageway – effectively irreversible, insofar as it will hardly be possible to dig a new tunnel further east to link up with the existing (i.e. planned) one and 'bypass' the tunnel portal. In terms of heritage considerations, it may well prove in the coming decades or beyond that the integrity of the Avenue is of primordial importance both in scientific terms, with new research methodologies (detection, mapping), and in heritage terms.

For all these reasons, it is strongly recommended that new detailed evaluation studies be undertaken to better grasp and carefully consider the issues surrounding the placement and design of the eastern portal of the tunnel scheme as proposed in Snashall & Young.

State of the art archaeological knowledge

The mission wishes to underline the very high quality of research produced around Stonehenge over the past years, including such projects as the "Stonehenge Hidden Landscape", "Riverside project", SEIP, etc. These have led to a substantial increase in our understanding of the monuments and the landscape, also resulting in significant publications for both professional readership and public outreach. It appears evidently in the interests of all parties and stakeholders concerned to continue with these high standards. Specifically in terms of the A303 tunnelling and dualling, every effort must be made to ensure that preliminary studies, data collecting, evaluation, excavations and post-excavation work are all planned and undertaken in an integrated manner, reaching beyond the areas specifically impacted by the tunnel.

The inspector for ancient monuments of Historic England and the Archaeologist of the National Trust (the Historic England/National Trust partnership, currently Phil McMahon and Nicola Snashall) are the main interlocutors on archaeological and heritage management issues in the area, alongside the archaeologists of the Local Planning Authority, Wiltshire County Council. They are therefore well placed to take decisions regarding the archaeological operator(s) who will be called to intervene in the evaluation and excavation process, and it is crucial that they have a decisive (not only consultative) voice on all scientific and heritage related decisions.

Common methodologies and standards for archaeological operations

It is recommended that the Historic England/National Trust partnership, as it develops, exercises its legal, scientific and patrimonial commitments in the most vigorous way possible. This includes, among others, questions of protocol for intervention and choice of operator(s).

Protocol

Collaborations between agencies is recognised by all as an essential step for ensuring optimal conditions for archaeological research and heritage management ahead of the planned tunnel scheme. A detailed, comprehensive and flexibly applied protocol should be developed (even if building on precedents in the area or elsewhere).

This protocol should be developed in close coordination with the university and academic **research projects** recently at work in the Stonehenge area, and following existing practices of data collection and identification. This is important in order to a) ensure the smooth insertion of new data and information gathered within existing methodological and interpretative frameworks, while b) enabling a plurality of exploitation and interpretation of the data that is gathered and made available, including the use of new methodologies, and the development of innovative interpretative approaches.

This protocol should be developed in close coordination with **Wiltshire county archaeology** (WCA). As the Local Planning Authority responsible for the local Historic environment record (HER), Wiltshire archaeology must be implicated upstream to ensure that data generated before, during and after any archaeological interventions (paper records, electronic, GIS, etc., material remains, samples, etc.) is duly integrated, curated and made accessible. As required, expertise should be made available, from Historic England, from ADS York or other bodies. These standards should apply to all work undertaken within the World Heritage site, and also outside of it, notably in the planned dual-carriage way to the west of the A360.

Moreover, in order to ensure this proactive recording and curation, and in order to see it applied to the 'Stonehenge cultural landscape' as a whole (see below), adequate **funding** should be made available from the developer - Highways England - to the local authority responsible for HER, for the curation and conservation of finds, and for public outreach actions (see below for remainder of obligations).

Choice of operator(s)

The document entitled "Proposed A303 improvement within the Stonehenge World Heritage Site. Briefing on current position – October 2015" (Phil McMahon Historic England SW, 12 October 2015) states that:

"HE/NT expect to continue to work very closely with Highways England to engage constructively on the scheme to ensure the protection and enhancement of the World Heritage Site, including – in due course – being involved in the appointment of the lead heritage consultants on the project." (McMahon 2015 p. 4).

The mission considers that the phrasing of this sentence is somewhat weak, with mere 'expectations' to be involved in such a crucial heritage related decision as the choice of the operator(s) or unit(s). Notwithstanding the prevailing practices in developer-funded archaeology in England, the wholehearted and decisive involvement of HE/National Trust in these matters should be a *sine qua non* condition, including the ability to formulate requirements, veto proposals, orient others etc., in order to ensure that the heritage and archaeology dimensions of the project are clearly and consistently identified and managed for the benefit of the OUV of the World Heritage site in particular, and of heritage and archaeology in general, and not solely in view of the interests of the developer, funder or operator of the construction project. It is highly recommended to avoid a situation where heritage decisions are taken (or appear to be taken) with commercial or operational considerations foremost in mind.

The same comments apply in the framework of the welcome archaeological survey programme to the south of the A303 designed to identify previously unknown archaeological sites "to provide early intelligence to Highways England and encourage them to site the portals sensitively". This formulation is too weak and does not appear to fully reflect the responsibilities and scope for action of the State Party's heritage protection and management bodies. The decision of where to site the portals must be a collaborative one, rather than being the sole responsibility of Highways England. The length of the tunnel and the siting of the portals are the two key issues of this project.

Impact

Medium and longer term prospects regarding English Heritage (English Heritage Trust and Historic England)

The mission considers that the following administrative and organisational background information is relevant to the future prospects of the Stonehenge cultural landscape. English Heritage is the working name of the Historic Buildings and Monument commission for England, created by the National Heritage Act 1983. As of April 1, 2015, English Heritage has been split into two distinct entities, entitled respectively 'English Heritage Trust' (EHT) and 'Historic England' (HE). The ensuing organisational and financial issues remain of course the entire prerogative and responsibility of the State Party, but they also deserve some comments in view of their possible bearing on the World Heritage site and the planned tunnel scheme.

English Heritage Trust (EHT) is now the body that manages some 400 historic properties that are part of the national collection and that are open to the public. EHT has been awarded an £80M grant over an 8 year period by the government, on the premise that by 2021 it will be financially independent through visitors revenues, merchandising income etc. Under these conditions, it can be expected that Stonehenge and the Stonehenge visitor centre, managed by EHT, will come against considerable pressures to be as economically performing as possible (revenues and expenditures), not only for its own sake, but for the sake of English Heritage Trust and its many other, less visited "properties". Such pressure may result in lowering expenditure, such as specialized or expert personnel, maintenance, standards of archaeological curation, etc., and also in increasing revenues: by channelling in more visitors

for shorter times, by increasing fees, and by slashing free or reduced cost access (this notably applies to neighbouring communities - likely to increase with Military families' influx - to 'druids' during solstice and equinox days, and also educational groups, schools or universities). At the same time, there is a possibility that the local Wiltshire authorities may also seek to obtain some material benefits from the property, and that some arrangements will have to be reached on this with English Heritage Trust.

While this is a more general point that may impact on English Heritage properties over the coming decade, it is recommended to already enshrine now certain principles of access and public service in the Stonehenge management plan³ or documents by English Heritage Trust. In addition, it is recommended to explore what implications there might be to a possible insolvency of English Heritage Trust by 2021 – whether bailout mechanisms might exist, or whether properties might have to be rented out or even sold to other bodies, such as local authorities, and indeed whether such a fate might possibly apply to Stonehenge itself.

Historic England, the other branch emanating from the split of English Heritage in April 2015, is the statutory public body that champions and protects England's historic environment. In principle, Historic England is funded by a grant in aid from the DCMS: recently, this budget has been reduced by 10% for the coming 4 years, while Historic England has been encouraged to increase its resilience and sustainability by developing a paid-for, revenue-generating 'Enhanced advisory service' added on to the statutory advice it provides. Stonehenge, as a World Heritage site and a scheduled monument, is part of the heritage assets under the direct oversight of Historic England.

With respect to these changes, it can be noted that the professional (archaeological) stakeholders who met during the mission professed some uncertainty as to the possible effects and implications of this restructuring into English Heritage Trust and Historic England. The professional community seems to be in a guarded 'wait and see' mode, both because of past experiences and trends towards a downgrading of financial and decision-making capacities in heritage management, and because the idea that 'nobody really knows' seems to prevail, and that decisions taken at high level are not fully thought-through or considered in terms of guidance and long-term responsibility.

It is worth recalling here that, in addition to **funding** the overall engineering and construction works of the tunnel and the A303 dualling, the developer (Highways England) will also have to fund – following the polluter/payer principle enshrined in UK archaeology since the 1990 reform – all the evaluation, excavation, and post-excavation phases in relation to the entire road and tunnel project. These elements include more precisely:

a) The environmental impact assessments, including Heritage Impact Assessments, (desktop and fieldwork), the on-site evaluations of all impacts on the heritage of the areas concerned – both inside the World Heritage site perimeter, and outside of it, in the link up to the existing A303 westward.

b) The excavation and post excavation work, including studies, analysis, publications, public outreach actions etc., as well as the fate of the archaeological finds, their adequate storage, the amplification of museum capacities in the region, including the Salisbury museum and the Devizes museum, the enhancement of HER at the county level, and so forth.

Hence the mission recommends that particular attention be paid to fully identifying needs for assessing direct and indirect costs and ensuring adequate funding in relation to the overall tunnel project and the activities or specific needs it will entail so that the State Party – DCMS,

³ Stonehenge and Avebury WHS Management Plan http://www.stonehengeandaveburywhs.org/assets/2015-MANAGEMENT-PLAN_LOW-RES.pdf

Historic England, English Heritage Trust and also National Trust, as an independent charity and major landowner in the WHS – can manage and adequately fund its World Heritage site.

Moreover, vigilance could also be exercised by the State Party to ensure that adequate management mechanisms are set up to address divergences or lack of common purpose between the State Party national bodies and local authorities with planning-process control, or indeed the diminishing possibilities (in terms of professional capacities, funding or legislation, such as NPPF) of the central government and its agencies (Historic England) to formulate and enforce statutory measures of heritage protection. This is notable in the light of the devolution of responsibilities in the central government and the corresponding roles taken on by local authorities and councils as part of the 2011 Localism Act, and has been highlighted by recent events regarding the Liverpool waterfront and the Edinburgh historic centre (both WH properties).

The State Party should take note that 2016 is the 30th anniversary of the inscription of Stonehenge as a World Heritage property. This is a significant opportunity not only for celebration but also for the State Party to demonstrate its obligations and commitment to the World Heritage Convention.

2.3 The Stonehenge Landscape

"Cultural landscape" and boundary issues

Stonehenge, Avebury and Associated Sites has a very strong landscape value. There is no doubt that a 'Landscape' approach figures high in the research and management of the World Heritage site, as detailed notably in the 2015 Management Plan, and also in the thinking surrounding the projected tunnel scheme. Stonehenge, Avebury and Associated Sites is not, however, inscribed as a "Cultural Landscape."⁴ At the time of inscription in 1986, the category did not exist. Stonehenge does not need to be labelled a 'Cultural Landscape' for its archaeological landscape to thrive and be recognized and enhanced. Many major World Heritage archaeological sites have landscape values, without being recognized as Cultural Landscapes. The extent to which this state of affairs affects issues of OUV, including integrity and authenticity, needs to be clarified. Two areas that seem to be important here are the boundaries and archaeological impact assessment.

a) Regarding **boundaries**, it is clearly recognised that the World Heritage site boundaries as initially drawn are arbitrary, and do not encompass all of what researchers may wish to consider, at the present state of knowledge, as "the Stonehenge landscape". The 2015 Management Plan addresses this point in several sections (e.g. 7.53-4, p. 97, and also p. 26 ff.) in the context of a possible "boundary review", recalling the aim that "World Heritage site Boundary should capture all significant archaeological features and landscapes related to Stonehenge and its environs". At the same time, it is specified that, "significant changes affecting the definition of the OUV of the site would at present require a full re-nomination. The Government has specifically excluded a re-nomination of the site for the foreseeable future."

It is noteworthy that also the **Wiltshire core strategy**, devised by Wiltshire council, goes in this sense:

The setting of the World Heritage Site beyond its designated boundary also requires protection as inappropriate development here can have an adverse impact on the site

4 In 1992 the World Heritage Convention became the first international legal instrument to recognize and protect cultural landscapes. The World Heritage Committee at its 16th session adopted guidelines concerning their inclusion in the World Heritage List. They are defined in Annex III of the *Operational Guidelines*.

and its attributes of OUV. The setting is the surrounding in which the World Heritage Site is experienced. It includes a range of elements such as views and historical, landscape and cultural relationships. The setting of the World Heritage Site is not precisely defined and will vary depending on the nature and visibility of the proposal. A future setting study will provide further information and a preferred methodology for the assessment of proposed development for its potential impact on the WHS and its attributes of OUV. Light pollution and skyglow which could adversely affect the site must be adequately addressed through the careful management of development" (6.147)

b) Regarding **archaeological impact assessment**, the recent academic work done within the World Heritage site ("Stonehenge hidden Landscape", "Riverside project", SEIP etc.) has amply demonstrated the scientific and patrimonial coherence of such a 'landscape' perspective. This perspective applies also outside the World Heritage site boundary as it currently stands. Even if the reasoned choice is made not to extend the World Heritage site, it seems essential that relevant archaeological occurrences outside the WH property which relate to attributes within the boundary and which, depending on the length and siting of the proposed tunnel, might be impacted by the planned tunnel and road dualling scheme, whether currently listed (protected) or not, benefit in terms of research, legal protection and funding, from their inclusion within this broadly defined "Stonehenge landscape", with reference for example to articles 137 and 139 of the NPPF.

It would also be important to ensure that an agreement to a landscape approach is not only 'functional', but also sufficiently legally grounded, notably with regards to the National Planning Policy Framework (NPPF). If the World Heritage site is to be considered as a landscape, consideration should be given to managing it through a landscape approach, not necessarily that of the painter, or the artist's view, but of the geographer's view point. This would mean a territorial planning approach to integrate the site, its values, and its archaeological attributes within a greater territory in order to consider how the WH property can be connected to its setting, notably to the towns and villages which are not within the boundary of the WH property but are related to the site in terms of functional interaction.

What is highlighted here is the urgent need to consider the management of the landscape of the World Heritage site as part of its wider surroundings, rather than focusing on a redefinition of the World Heritage site as a full-fledged cultural landscape. There is no need to launch into cultural landscape re-nomination, but there is definitely a need to think in terms of landscape management and territorial planning. It is urgent to assess cultural values, landscape values and viewpoints within a greater scale well beyond the current boundaries of the WH property and its buffer zone. It is crucial to encompass wider archaeological links in the landscape and to define archaeological and landscape sensitive zones.

Territorial planning and spatial planning

This territorial and spatial planning approach would de facto involve linking cultural values to socio-economic and environmental values. It would imply a change of gear and an upgrade to a larger scale. The road project could be used not only to enhance the World Heritage site but also to extend work on management to a greater area outside the boundaries of the World Heritage site. Improvement of local traffic and incentives for local development could provide benefits to local communities but most of all it would be consistent with the overall policy of enhancing the landscape value of the World Heritage site and connecting it to its wider setting to allow different types of visitor practice.

This line of thinking implies developing traffic network studies at local and regional scales, developing a general traffic network analysis, engaging elements from paths and trails to trunk road networks. This should be connected to the socioeconomic studies of the demographics of the nearby towns and villages and also be related to World Heritage site visitor routes and access. In the medium term, this could lead to opening the Stonehenge

archaeological landscape and connecting it to the local villages and thus reviewing the current one entry, one car park approach. A larger scale approach does not imply that the current managers of the site must give right of path and access to all, but could allow further reflection with all stakeholders on modified visitor needs, requirements and trends. Flowing, improved traffic may perhaps allow for more visitors to come to the site according to different patterns of time available to enjoy the site. More options to deal with visitors would allow ways to better balance local visits and international tourism.

This approach could help to further define the vision for the Stonehenge area for the coming ten years and allow adequate socioeconomic studies to be undertaken to better understand what might be the “Stonehenge landscape” of the future. This implies studying the possible growth pattern of the local towns and villages, population growth, and business growth patterns in order to foresee needs in terms of traffic and future development to ensure that the road project, including the possible location of the tunnel, relates to the need to possibly rethink and redesign the roundabouts and access routes, major road transit network and local road traffic network, which must also be enhanced to ensure that the A303 is not an impediment to local traffic and that roads can connect to local villages and small businesses. This would be putting heritage to work for local development.

Such a wider approach should be an opportunity to redevelop the traffic network at a county level.

It implies multi-stakeholder engagement and perhaps the setting up of a specific coordinating cell (legal framework to be further defined) to ensure proper coordination. The stake here is the need to not only inform local communities but also involve them in developing a shared vision, based on the enhancement of an exceptional archaeological site, linking to the upgrading of infrastructure for both national and local benefits.

Tourism strategy

In line with landscape scale management of the World Heritage site and its wider setting, a large-scale tourism strategy could allow the development of new possibilities for all types of visitors, through developing routes and entry points to the greater landscape area, and mitigating restricted visits with entry fee and visitor centre access, thus linking the World Heritage site to the greater landscape and territory.

Comparisons with other large-scale World Heritage sites in Western Europe would certainly be fruitful (Pont du Gard, Roman Aqueduct, World Heritage Site (France)⁵, or networks such as the French Grands Sites de France⁶ or the Man and Biosphere programme of the World Network of Biosphere Reserves⁷).

Process

Highways England presented to the mission the five stage options and development phase process map for development consent order (DCO) schemes (See Anne X). The mission was advised that the DCO process has been introduced by the UK State Party in 2008 to streamline the decision-making process for Nationally Significant Infrastructure Projects (NSIP), such as the A303 Amesbury to Berwick Down dualling through the Stonehenge World Heritage Site. This process map details the sequence and interrelationship of activities to be undertaken for:

- Pre-application (option identification, option selection, design (with consultation));

⁵ <http://whc.unesco.org/en/list/344/> and <http://www.pontdugard.fr>

⁶ <http://www.grandsitedefrance.com/en.html>

⁷ <http://www.unesco.org/new/en/natural-sciences/environment/ecological-sciences/man-and-biosphere-programme/>

- Statutory application acceptance, examination and recommendation by the Planning Inspectorate;
- Secretary of State decision; and
- Construction preparation up to Notice to Proceed.

The timeline for application submission to the Planning Inspectorate is up to 3 years and 8 months and up to Notice to Proceed a total of 5 years and 5 months.

The mission was informed that the DCO process removes the previous need to obtain several separate consents, including planning permission, and is designed to be a much quicker process than applying for these separately. As a consequence, schemes are required to be fully scoped and refined before application submission to the Planning Inspectorate and there is very little scope for change after the application submission.

The mission noted that the process map was generic and not specific to a Nationally Significant Infrastructure Project within a World Heritage Site and the surrounding Archaeological Priority Area (APA). The mission strongly recommends that the process map be amended to show the significant heritage activities to be undertaken including the Heritage Impact Assessment (HIA) for assessing impacts of proposed changes to OUV, in accordance with the ICOMOS *Guidance on Heritage Impact Assessments for Cultural World Heritage Properties* (2011) before any decisions are taken or applications made. The mission was disappointed that an organogram of the key project parties was not available and stresses to the State Party the criticality of heritage being influential and effective from the outset.

The mission noted the recognition by Highways England, Historic England and the National Trust that the DCO process will require collaborative involvement with heritage stakeholders and that communication will be critical to successfully demonstrate the protection of attributes of OUV. The mission welcomed an invitation to subsequently visit the completed A3 Hindhead Tunnel project in England on the 19th November 2015. The open dialogue of these stakeholders seeking to learn relevant lessons from that project was encouraging. We recommend collaborative working, involving continuous engagement (meetings, workshops, reviews) from the outset by all parties rather than end of stage assessments.

2.4 Management and institutional cooperation and framework

The mission highlighted that a significant challenge for the State Party is to have ‘heritage professionals’ and ‘road engineers’ effectively communicating proactively rather than reactively within the timescales of the DCO process. To iteratively develop a fully scoped and refined scheme that protected the attributes of OUV and the surrounding Archaeological Priority Area (APA), the mission advises that this iterative process between engineering design and impact assessment of attributes of OUV can be assisted by recent advances in technology as discussed below.

The DCO process is controlled by Stage Gate Assessment Reviews (SGAR) at the end of each stage. This governance could also readily incorporate heritage assessments. The ICOMOS *Guidance on Heritage Impact Assessments for Cultural World Heritage Properties* (2011) recommends a Scoping Report (sets out the scope of work necessary for a HIA) to be agreed with all relevant parties. This report produced at the commencement of the DCO process could also be used to establish project mechanisms, which allow heritage values to be built into the project design process. It is recommended that the following HIA be aligned with the DCO process being produced during option identification so as to appropriately influence the option identification stage. The HIA should then be developed for option selection so as to influence refinement of the selected option and subsequent design.

For this project, it is recommended that Highways England also directly retain a suitable fulltime heritage professional (archaeologist) to advise it, ensure obligations are fulfilled and facilitate effective collaboration of all parties.

The mission wishes to underline the importance of Heritage Impact Assessments, as it is an important issue, and as Heritage Impact Assessments mechanisms or processes can serve, more broadly, to set up sound governance and define a shared vision for the larger Stonehenge surroundings. The issue is a monitoring and project design mechanism, which allows building heritage values into the project design and thus developing a full DCO process suite that is tailor-made for the project. This in itself should probably form part of a next advisory phase if the State Party wishes to invite a further UNESCO WHC/ ICOMOS advisory mission.

This should also lead to further reflection on defining how the main stakeholders work together, under which framework. Is there need to define specific memorandums of understanding or to develop a specific management body?

In a future stage, those authorities in charge of WH management should consider conducting a detailed assessment of all the weak points within the current DCO process and consequently define the checks and balances mechanisms necessary to ensure quality control at all stages of the process.

Digital 3D virtual visualisations are now an established tool portraying landscapes, including the Stonehenge landscape, to assist in the research, communication and preservation of cultural heritage. This technology is also being used in infrastructure projects to assist in design, consultation and whole life asset management and is known as Building Information Modelling (BIM). While such visualisations are often produced to communicate content at a particular point in time e.g. end of construction, the mission urges the State Party to use such innovative technology from the outset, from the iterative option identification and selection process. This can provide a more robust consideration of 'what if' scenarios and assessment of impact on OUV, feeding back into the design process to achieve maximum protection and enhancement of the attributes of OUV. This technology can also then be used for construction control and validation.

The development of virtual reality design with immersive technology in engineering is able to transform the design process. Visualisations can combine construction sequencing, day/night road operation with aural and luminance attributes. The mission strongly recommends that the State Party consider the current best practice with this technology available to the industry for the protection and enhancement of OUV at the Stonehenge World Heritage site. As representing best practice, visualisations should conform to the objectives of the draft London Charter for the Computer-Based Visualisation of Cultural Heritage. The charter was published by King's College in 2009, establishing internationally-recognised principles for the use of computer-based visualisation by researchers, educators and cultural heritage organisations.

There are an increasing number of infrastructure projects utilizing digital technology for iterative design and consultation. A few are highlighted below:

- The A556 Knutsford to Bowdon Improvement was a Highways England early BIM Adopter Project in 2014 ([A556 hyperlink](#)).
- For the High Speed 2 rail project in the UK, landscape, construction and operational impact maps (noise contours and zones of visibility) were produced in 2014 to make understanding easier and improve decision making on visual and aural impacts ([HS2 maps hyperlink](#)).
- High Speed 2 and Heathrow Airport have also used sound simulations during the consultation stage ([HS2 Sound demonstrations hyperlink](#)) and ([HS2 sound simulations hyperlink](#)) to demonstrate impact of major projects and also impact of mitigation measures.

- Sound simulations have also been used in consultation for a proposed wind farm in Tasmania ([King Island Windfarm hyperlink](#)).
- High Speed 2 has also used visualisations to show particular construction sequencing ([HS2 construction sequence hyperlink](#)).

Highways England advised the mission of the importance of infrastructure as a 'whole life asset' from feasibility to planning / design, construction, operation / maintenance / improvement, and disposal / change in use. The mission stressed the importance of the State Party's commitment to the 'protection and transmission to future generations' of OUV at Stonehenge and that this timescale requires longer-term thinking than typical infrastructure design with a World Heritage site. The whole asset life design of the scheme within the World Heritage site should not be limited by 25 year traffic predictions but incorporate 'asset resilience' and 'future proofing' that do not negatively impact OUV into the design to avoid future potential development / improvements that would negatively impact OUV and the surrounding Archaeological Priority Area (APA).

The mission recommends that the State Party undertakes studies addressing potential changes in visitor numbers and behaviour that may occur by the opening up of the landscape with a tunnel scheme and ensures appropriate asset resilience to mitigate negative impacts on OUV and in the surrounding Archaeological Priority Area (APA).

The mission urges the State Party to adopt international best practice in landscape architecture to design mitigation measures as may be required for visual, noise and luminance factors, appropriate to the protection and enhancement of the attributes of OUV. A landscape architect should be an active and influential member of the design team, having significant beneficial influence on the appearance of tunnel portal and approaches, route selection, signage and mitigation measures

The mission urges the State Party to challenge the default adoption of Highways England design codes, specifications, norms and usual practice and to seek departures where such requirements have a negative impact on OUV. The mission recommends that the State Party reviews international best practice of highway and tunnel design (e.g. signage, gantries, lighting, fire, safety and mitigation measures, etc.) where appropriate to achieve protection and enhancement of OUV. The State Party should also take account of International Charters related to heritage best practices.

The mission stresses the importance of developing a temporary construction works scheme (e.g. construction facilities, traffic diversions, plant, storage, spoil removal, parking, access roads, fencing, drainage, etc.) in parallel and compatible with the permanent design and procurement so that impact on OUV is assessed for the whole life of the asset. Also, the temporary construction sites within the World Heritage site and its surrounding buffer zone shall be minimised for essential activities only. It is recommended that the State Party seeks out and implements efficiencies in logistics and construction processes to minimise negative impacts on OUV within the World Heritage site.

The mission also stresses the importance of managing, identifying and mitigating construction impacts (dust, ground movements, pollution, accidental damage, hydrogeological changes, monitoring) in parallel and compatible with the permanent design and procurement so that impact on OUV is assessed for the whole life of the asset.

Security and safety dimensions

Another aspect that needs to be specifically included in long-term planning is that of security and safety. This applies at two levels:

- 1) Issues of solstice and equinox dates, with related 'pilgrimages', crowd control, waste, trampling, vandalism etc., over large areas of the World Heritage site;
- 2) Challenges in relation to terrorist threats, and direct negative impact both on persons gathering in open or accessible public spaces, and on tangible heritage.

On both counts, it is recommended that the potential benefits or drawbacks of the planned tunnel scheme also be evaluated in the light of these security and safety issues, so that potential measures taken on security matters (surveillance, access, routes control etc.) can be assessed upstream with regards to their potential incidence on archaeology, OUV and heritage management.

International monitoring

In view of the above challenges, it is strongly recommended that the State Party formally establishes a technical assistance mechanism, calling upon and inviting international expertise which could be provided by UNESCO WHC/ ICOMOS. Technical assistance provided via advisory missions, funded by the State Party throughout all phases of the project and interacting with key parties could provide DCMS and the project with expert international advice to report on compliance with obligations under the UNESCO World Heritage Convention on quality control, and provide guidance and international perspective, which includes the following:

Strategic planning strategy

Developing a vision for a larger landscape site. A tunnel for whom? Impact at the local and national level. For what? Connecting local traffic to national traffic. Building in local development.

Governance

Setting up an adapted monitoring process, including different stakeholders. Defining sound decision making processes; definition of terms of references.

Archaeological quality control

- 1) The finalisation of the intervention protocols;
- 2) The choice of operator(s) for the evaluation processes;
- 3) The decisions regarding those archaeological entities to be 'preserved by record' – that is, excavated so as to free the grounds and enable construction work to go ahead;
- 4) The choice of the operator(s) for undertaking this excavation work, and
- 5) The validation of the final excavation reports;
- 6) The agenda for in situ preservation.

Engineering

International technical engineering advice on key aspects such as alignment, tunnel portals, cuttings, groundwater, temporary works, mitigation measures and design resilience. This advice would be heritage-based to minimise negative impacts of the road improvement and to protect and enhance OUV.

The purpose or function of such technical assistance is both: 1) internally, to offer its external informed advice on various aspects of the process, and also 2) externally, to demonstrate to a range of stakeholders and interested parties that due care is being taken in national and local development matters, strategic planning, and all archaeological matters, and that heritage values and the flexibility needed for the heritage assessment are built into the project process, so that operational or financial decisions are based on heritage requirements.

3 MISSION CONCLUSIONS

The Advisory Mission concerning the proposed dualling and tunnelling of the A303 from Amesbury to Berwick Down across the centre of the Stonehenge Avebury and Associated Sites World Heritage site was undertaken at the request of the Government of the United Kingdom (the State Party). The overall goal of the road project is to secure a solution that is beneficial to the World Heritage property, in the light of economic considerations, and to set up an appropriate consultation process from the outset of the project.

Although no precise plans have been made available at this early stage of the project, preliminary suggestions of a tunnel “at least 2.9 km long” have been made in a commissioned report by Snashall & Young 2014.

The mission considers that the project for the relocation of the existing road underground into a “tunnel of at least 2.9k” could readily adopt appropriate well-established construction methods and spatial planning approaches. Hence, with good design and construction controls, and respecting essential archaeological and heritage management measures, the tunnelled length of the road would be expected to have a beneficial impact on the attributes of Outstanding Universal Value (OUV). However, the siting and design of the tunnel portals, approach cuttings/embankments, entry/exit ramps, mitigation measures and the temporary construction works have the potential to adversely impact OUV. These latter aspects of the scheme, in particular, will require rigorous investigation, evaluation, iterative design and assessment if they are to protect the attributes of OUV within the World Heritage site and the surrounding Archaeological Priority Area (APA).

The A303 road improvement project has the potential to become a best practice case regarding the governance of the project, the design, implementation and management of heavy infrastructure within a World Heritage property. However, it will be necessary to build in heritage requirements within all aspects of the TOR and project design, and to “think upstream” in terms of spatial planning, in order to build in heritage requirements at every point within a larger-scale landscape strategy. Such a strategy could use the World Heritage site as a booster and entry point for promoting local development.

4 MISSION RECOMMENDATIONS

The mission is hereby proposing a range of recommendations. These recommendations pertain to several levels, and also at a range of time scales: some can have short term implementation (e.g. establishing an expert role for future missions) while others have relevance on the longer term (e.g. ensuring institutional stability).

In addition, of course, the recommendations proposed here do not bear on any specific dualling or tunnelling plans, which do not exist as yet. It is self-evident that more specific recommendations will have to be made by future missions, as the project advances and plans become more precise.

4.1 Priority Recommendations

The mission considers the following recommendations as priorities for State Party implementation at the outset of the Development Consent Order (DCO) process:

1. Establish a heritage-centred steering mechanism to ensure proper quality control at all stages of decision making, project design and implementation. This should include a

scientific committee, a board of experts for monitoring and quality control at each phase to be defined. Set up a multidisciplinary team to work on a first DCO process including a monitoring and quality control process. Establish relevant sets of partnerships and MOUs between key institutions. Ensure a commitment to necessary human and financial resources.

2. Consider funding and calling upon the guidance of expert advisory joint UNESCO WHC and ICOMOS International technical mission(s) and giving them a role within the upstream process as referred to in the Terms of Reference of the Mission. These missions should be involved throughout all phases of the project and interact with key parties. They should provide guidance and international best practice and perspectives and quality control to DCMS and the project managers, including on compliance with obligations under the UNESCO World Heritage Convention.
3. Amend the generic DCO process map to show the significant heritage activities to be undertaken, including Heritage Impact Assessments (HIAs) for assessing impacts on OUV from proposed changes, in accordance with the ICOMOS Guidance on Heritage Impact Assessments (2011).
4. Produce an organogram of the key project parties and individuals involved in the project for effective communication to ensure the criticality of heritage being influential and effective from the outset.
5. Produce a Scoping Report following the ICOMOS Guidance on Heritage Impact Assessments (2011) that sets out the scope of work necessary for a HIA to be agreed upon with all relevant parties. This report produced at the commencement of the DCO process would also establish project mechanisms which would allow heritage and OUV to be built into the project design process.
6. Establish and incorporate into the project process from the outset current best practice in innovative technology available to the industry in Building Information Modelling (BIM), digital 3D virtual visualisations and virtual reality design with immersive technology in order to inform the iterative option identification and selection process. This would provide a more robust consideration of 'what if' scenarios and assessment of impact on OUV feeding back into the design process to achieve maximum protection and enhancement of the attributes of OUV.
7. Ensure the design is procured with the involvement of a landscape architect to adopt international best practice in landscape architecture to design mitigation measures as may be required for visual, noise and luminance factors appropriate to the protection and enhancement of the attributes of OUV. The landscape architect should be an active and influential member of the design team, having significant beneficial influence on the appearance of tunnel portal and approaches, route selection, signage and mitigation measures.

4.2 Critical recommendations

The mission considers the following recommendations as critical for State Party implementation during the DCO process;

1. Align the HIAs with the DCO process being produced during option identification so as to appropriately influence the option identification stage. The HIAs should then be developed for option selection so as to influence refinement of the selected option and subsequent design.

2. Implement the State Party's commitment to the 'protection and transmission to future generations' of OUV at Stonehenge and acknowledge that to do this requires longer term thinking than typical infrastructure design in non-World Heritage Sites. The whole asset life design of the scheme within the World Heritage Site should not be limited by 25 year traffic predictions but incorporate 'asset resilience' and 'future proofing' in design that do not negatively impact OUV to avoid future potential development / improvements that would negatively impact OUV and the surrounding Archaeological Priority Area (APA).
3. Undertake studies addressing potential changes in visitor numbers and behaviour that may occur by opening up the landscape with a tunnel scheme and ensure asset resilience appropriate to mitigate negative impacts on OUV and in the surrounding Archaeological Priority Area (APA).
4. Challenge the default adoption of Highways England design codes, specifications, norms and usual practice and seek departures where such requirements have a negative impact on OUV.
5. Review and implement international best practice for highway and tunnel design (e.g. signage, gantries, lighting, fire, safety and mitigation measures, etc.) where appropriate to achieve protection and enhancement of OUV.
6. Take account of International Charters related to heritage best practices and spatial planning (e.g. Historic urban landscape approach, Washington Charter, La Valette principals).
7. Develop temporary construction works scheme (e.g. construction facilities, traffic diversions, plant, storage, spoil removal, parking, access roads, fencing, drainage, etc.) in parallel and compatible with the permanent design and procurement so that impact on OUV is assessed for the whole life of the project.
8. Seek out and implement efficiencies in logistics and construction processes to minimise negative impacts on OUV within the World Heritage Site.

4.3 Important recommendations

The mission considers the following recommendations, in the area of archaeological heritage management, are important for the State Party to take on board and implement, in view of the wider-ranging and longer term issues raised by the project.

1. Ensure that relations between the responsible archaeological heritage management agencies and relevant actors are clarified and, as appropriate, formalised (periodic meetings, strategic planning, pooling of resources etc.) These include firstly the relations between Historic England (HE) and the National Trust (NT) (and their respective archaeological officers), and secondly interactions between these and the English Heritage Trust (EHT) and Wiltshire Council Archaeology (WCA) – each with their own remits and interests in the World Heritage site and the dualling/tunnelling project.
2. As part of this clarified collaboration between agencies and actors, ensure that interactions with the developer and funder of the project – Highways England – are carried out in a univocal and coordinated manner by the archaeological heritage parties, and conversely that funding or archaeological oversight and operations reaches all the actors concerned, including Wiltshire Council Archaeology.

3. Ensure particularly that the Historic England/National Trust (English Heritage Trust + Wiltshire Council Archaeology) archaeological heritage partnership, as it develops, exercises its legal, scientific and patrimonial commitments in the most vigorous and proactive ways possible. The wholehearted and decisive involvement of the archaeological partnership in these matters should be a sine qua non condition, including the ability to formulate requirements, veto proposals, orient others etc., in order to ensure that the heritage and archaeology dimensions of the project are clearly and consistently managed for the benefit of the OUV of the World Heritage site in particular, and of heritage and archaeology in general. This includes, among other things, questions of protocol of intervention (research design, sampling and excavations methodologies, recording, databases, archiving, etc.) and the choice of operator(s) to undertake these evaluations and excavations. This last point is crucial – it is strongly recommended that the choice, briefing and control of archaeological operators (i.e. contractors paid for by the developer) remains under the proactive control and close supervision of the archaeological partnership Historic England/National Trust (English Heritage Trust + Wiltshire Council Archaeology).
4. In view of the ongoing uncertainties surrounding the operations of both Historic England (HE) and English Heritage Trust (EHT) – both newly created in April 2015, with reduced budgets and strong pressures for self-sustainability – and in view of prevailing political and economic conditions, confirm the commitment of the State Party (the UK government, DCMS) to the protection and enhancement of archaeological heritage at the Stonehenge World Heritage site for the coming decades. More specifically, the State Party should formulate medium and long-term scenarios in case of further reductions in the funding and capacities of Historic England, and in its ability to exercise its statutory missions as an expert body. Likewise, it should enshrine certain principles of access and public service in the Stonehenge management plan, in the eventuality of an insolvency or restructuration of the English Heritage Trust (EHT) after 2021.
5. Review some elements of its communication strategy, and specifically handle with care and sensitivity any claims regarding the "£1.2 billion investment in heritage" that is represented by the Stonehenge part of the A303 expansion. This is not only objectively questionable since the investment is in the dualling/tunnelling infrastructure, but also likely to be misunderstood and raise (among stakeholders, professionals and the general public) questions as to "why is so much money being spent on heritage?" or on the contrary "why do no other sites or monuments benefit as well from this windfall?"

5 REFERENCES

Nicola Snashall, Christopher Young, (2014) *Preliminary Outline Assessment of the impact of A303 improvements on the Outstanding Universal Value of the Stonehenge Avebury and Associated Sites World Heritage property*, National Trust, and Christopher Young, Christopher Young Heritage Consultancy

National Planning Policy Framework: <https://www.gov.uk/government/publications/national-planning-policy-framework--2>

A556: <https://www.youtube.com/watch?v=1aKxsQZyJKk>

HS2 maps: <http://hs2maps.com/>

HS2 sound simulations: <https://hs2ltd.wordpress.com/> and http://www.arup.com/Soundlab?sc_lang=en-GB

King Island Wind farm: http://video.arup.com/?v=1_pqe8e2or

King's College (2009). London Charter for the Computer-Based Visualisation of Cultural Heritage. Version 2.1. <http://www.londoncharter.org/>

ICOMOS (2011) *Guidance on Heritage Impact Assessments for Cultural World Heritage Properties*, January 2011.

ICOMOS (2011) *La Valette principals*
http://www.icomos.org/Paris2011/GA2011_CIVVIH_text_EN_FR_final_20120110.pdf

UNESCO Man and Biosphere Programme <http://www.unesco.org/new/en/natural-sciences/environment/ecological-sciences/man-and-biosphere-programme/>

UNESCO *Historic urban landscape Recommendation* <http://whc.unesco.org/en/activities/638>

UNESCO World Heritage Centre (2015) *Operational Guidelines for the Implementation of the World Heritage Convention, 2015* <http://whc.unesco.org/en/guidelines/>

Stonehenge, Avebury and Associated Sites

World Heritage Centre *Stonehenge, Avebury and Associated Sites*:
<http://whc.unesco.org/en/list/373>

Stonehenge and Avebury WHS Management Plan
http://www.stonehengeandaveburywhs.org/assets/2015-MANAGEMENT-PLAN_LOW-RES.pdf

Pont du Gard

World Heritage Centre *Pont Du Gard, Roman aqueduct* <http://whc.unesco.org/en/list/344/>

Pont du Gard <http://www.pontdugard.fr>

Grands Sites de France network <http://www.grandsitedefrance.com/en.html>

6 ANNEXES

- I. Programme
- II. List of participants
- II. Summary of information provided by the State Party.

Background document

- IV. Statement of Outstanding Universal Value
- V. World Heritage Committee Decisions
 - World Heritage Committee Decision 37COM 8E - *Adoption of retrospective Statements of Outstanding Universal Value*
 - World Heritage Committee Decision 35COM 7B.116 - *Stonehenge, Avebury and Associated Sites (United Kingdom) (C 373bis)*
 - World Heritage Committee Decision 33COM 7B.129 - *Stonehenge, Avebury and Associated Sites (United Kingdom) (C 373)*
- VI. Extracts from SOC Reports (as provided by State Party)
- VII. A brief history of road improvement efforts at Stonehenge
- VIII. Stonehenge Environmental Improvements Project Summary of works and progress October 2015
- IX. Highways England Organogra

**APPENDIX 13 Report on the joint World Heritage Centre/ICOMOS
Advisory mission to Stonehenge, Avebury and
associated sites, 31 January – 3 February 2017**



United Nations
Educational, Scientific and
Cultural Organization

Organisation
des Nations Unies
pour l'éducation,
la science et la culture

World Heritage Patrimoine mondial

41 COM

Paris, 27 June / 27 juin 2017

Original: English

UNITED NATIONS EDUCATIONAL,
SCIENTIFIC AND CULTURAL ORGANIZATION
ORGANISATION DES NATIONS UNIES
POUR L'EDUCATION, LA SCIENCE ET LA CULTURE

CONVENTION CONCERNING THE PROTECTION OF THE WORLD
CULTURAL AND NATURAL HERITAGE

CONVENTION CONCERNANT LA PROTECTION DU PATRIMOINE
MONDIAL, CULTUREL ET NATUREL

WORLD HERITAGE COMMITTEE / COMITE DU PATRIMOINE MONDIAL

Forty-first session / Quarante-et-unième session

Krakow, Poland / Cracovie, Pologne
2-12 July 2017 / 2-12 juillet 2017

Item 7 of the Provisional Agenda: State of conservation of properties inscribed on the World Heritage List and/or on the List of World Heritage in Danger

Point 7 de l'Ordre du jour provisoire: Etat de conservation de biens inscrits sur la Liste du patrimoine mondial et/ou sur la Liste du patrimoine mondial en péril

MISSION REPORT / RAPPORT DE MISSION

Stonehenge, Avebury and Associated Sites (United Kingdom of Great Britain and Northern Ireland) (373bis)

Stonehenge, Avebury et sites associés (Royaume-Uni de Grande-Bretagne et d'Irlande du Nord) (373bis)

31 January – 3 February 2017

Report on the joint World Heritage Centre / ICOMOS Advisory Mission to Stonehenge, Avebury and Associated sites

31 January – 3 February 2017



Table of contents

Executive Summary

1. Introductory Statements

- 1.1 Acknowledgments
- 1.2. Aims and mandate of the February 2017 Mission

2. Context and background

- 2.1 Statement of Outstanding Universal Value (OUV)
- 2.2 Summary 1st Mission recommendations (October 2015 – report April 2016).
- 2.3 Reactions by the civil society
- 2.4 Governance and consensus building among heritage bodies

3. Responses by the SP to the recommendations of the first Mission - April 2016

- 3.1 Willingness to respond
- 3.2 Issues of archaeological organisation and quality control
- 3.3 Issue of visitor numbers and behaviour

4. Assessing Impact on OUV and Attributes of OUV

- 4.1 Archaeology and Heritage Impact Assessment
- 4.2 Process and structure
- 4.3 Standards sampling and excavations
- 4.4 Access and ownership

5. Summary of Corridor selection and route options around the World Heritage property

- 5.1 The Highways England (HiE) Scheme Requirements
- 5.2 Route Selection process
- 5.3 Impacts on the landscape
- 5.4 Willingness to pay survey, methodology and results
- 5.5 Highways England Summary
- 5.6 Mission comments on the overall options selection process and criteria

6. Proposed tunnel lengths and portal placements

- 6.1 Design fixes and costs
- 6.2 Process of design propositions and decision-making
- 6.3 Specific comments on the proposed Eastern and Western tunnel portals locations
- 6.4 Landscape impact at the western tunnel portal
- 6.5 Visitors access and control

7. Management Plan and sustainable tourism strategy

8. Future Consultation, Engagement and Advice

9. Conclusions and recommendations

9.1 Conclusions

9.2 Recommendations

List of Figures

References

Annexes

1 - Terms of reference for the present mission

2.1 - Unfolding of the Mission

2.2- List of present: contributors, abbreviations, names of bodies and their roles

3 - Position statement from Historic England, National Trust and English Heritage on Highways England's public consultation on route options for the A303 road improvement scheme in the Stonehenge world heritage site (8 February 2017, see <https://historicengland.org.uk/whats-new/news/historic-england-english-heritage-national-trust-on-proposed-a303-stonehenge-tunnel>)

4 - Extracts of Highways England Technical Appraisal Report

Executive summary

A joint ICOMOS/UNESCO advisory Mission was undertaken from 31 January to 3 February 2017 to the Stonehenge component of the "Stonehenge, Avebury and Associated Sites", inscribed on the World Heritage List in 1986 (WH property). This advisory Mission, conducted at the invitation of the State Party (SP, signatory to the 1972 World Heritage Convention, namely the United Kingdom of Great Britain and Northern Ireland), concerned the proposed A303 Amesbury to Berwick Down road Scheme and its potential impacts on the Stonehenge World Heritage property and its Outstanding Universal Value (OUV). This Mission followed a previous Mission carried out in October 2015 and whose report, released in April 2016, has served the SP in its planning and decision making process in relation to this scheme. Both Missions are part of an ongoing process of consultation with international advisors, to ensure that any scheme advanced by the SP would, besides addressing the traffic issues raised:

- contribute to the conservation and enhancement of the WH property by improving access both within and to the site; and
- contribute to the enhancement of the historic landscape within the WH property, to improve biodiversity along the route, and to provide a positive legacy to communities adjoining the road.

The intention is that these objectives would be achieved in a manner which does not negatively affect or compromise the OUV of the WH property.

The Mission has responded in the following ways to the aims and objectives of the Terms of Reference set to the Mission by the SP (reproduced in full in Annex 1).

Terms of Reference

On the basis of briefings on the following, the complete package of which will be made available to the WHC and ICOMOS by Tuesday 20th December at the latest, the mission will consider:

- Progress by the UK State Party, Highways England and heritage partner organisations on the implementation of the recommendations of the April 2016 Mission report, responding to all points raised in that document.

The Mission considers that the SP and its organisations have been responsive to most recommendations of the first Mission. This successful implementation is manifest with regards to decisions concerning the emplacement of the Eastern Portal (to the east of the ‘Avenue’). As for the organisation of the heritage bodies (HE, NT, EHT and WCAS) into a Heritage Monitoring and Advisory Group (HMAG), the implementation is only partial, pending the creation, as recommended and expected by the Mission, of a proactive “scientific committee” including academics and representation from learned societies.

- The results of archaeological assessment and evaluation of possible route alignments, potential tunnel portal locations and possible associated new surface road within the WH property.

The Mission took note of archaeological assessments, both intrusive and non-intrusive, carried out at the corner of A303 / A360, as well as on the A303 in the area of the ‘Avenue’. In terms of heritage protection, these assessments have been successful in identifying further monuments on the west of the WH property and in confirming the attributes of OUV of the area, as an aid to design decisions on the possible placement of the Western portal, should a tunnel option proceed.

The Mission understands that archaeological work to inform the developing scheme route has been undertaken by Wessex Archaeology, commissioned by Arup Atkins Joint Venture (AAJV) for Highways England and that Historic England’s research within the WH

property has not been undertaken to inform road proposals, but that the results of Historic England's research have been made available to Highways England to inform their archaeological strategy. Some operational questions remain on the connections and calibration of these two inter-related research streams. There are also some problems with access to the terrain, which is apparently withheld by some landowners and which disrupts the sequence and planning of operations.

- The likely effects upon the attributes OUV of the WH property of potential tunnel portal sites and possible associated new surface road in the various options being considered, and as articulated in HIAs.

The HIAs undertaken for the State Party and considered by the Mission were: *Heritage Impact Assessment in relation to the Outstanding Universal Value of the Stonehenge, Avebury and Associated Sites WHS - Undertaken in accordance with the 2011 ICOMOS "Guidance on Heritage Impact Assessments for Cultural World Heritage Properties" - Iteration 1 Report*; and *Heritage Impact Assessment in relation to the Outstanding Universal Value of the Stonehenge, Avebury and Associated Sites WHS - Undertaken in accordance with the 2011 ICOMOS "Guidance on Heritage Impact Assessments for Cultural World Heritage Properties" - Iteration 2 Report*.

The Mission considers that the evaluations and assessments in these HIAs and the preliminary HIAs undertaken for Historic England and the National Trust by Snashall & Young (2014, 2017) identify that an alternative route (the F010) would have a lesser impact on the OUV of the WH property than the tunnel options currently under consideration and that the currently-proposed placement (option D061-62) 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.

The re-positioning of the eastern tunnel portal to the east of the 'Avenue', on-line on the current path of the A303 road but still within the World Heritage property, will bring some benefits to the Stonehenge landscape. Further refinements in the position are needed to ensure that impacts on OUV are avoided or mitigated. A location closer to the Countess roundabout should be considered, especially with regards to approach routes and infrastructure during construction, (bearing in mind other archaeological features in the vicinity, including the Mesolithic Blick Mead and the Iron Age Vespasian's Camp).

The Mission notes that the governance and decision making processes carried on by the SP (the developer Highways England and its commercial entity AAJV) is sophisticated, but has concluded that the manner in which the criteria are being applied do not give enough weight to the heritage priority required for a WH property, and specifically the preservation of its OUV, as required by the obligations of the State Party under the World Heritage Convention. The Highways England territorial planning process for the removal of the A303 aims at a major priority: to benefit traffic and development to the Southwest of the country, leading to the currently proposed Stonehenge traffic solutions (tunnel D061 and D062, or surface route F010). The design of the scheme within the WH property and road network development must however reconcile this target with avoiding adverse impact on the OUV of the World Heritage property in all its components.

The SP should therefore 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.

- Feedback on what kind of heritage-centred steering mechanism to ensure quality control at all stages of decision making is being set up or can be set up.
- The potential benefits to the WHS made by any archaeology identified during archaeological assessment and evaluation of potential tunnel portal sites and associated new surface road within its boundary and to wider research in the property on an ongoing basis

The Mission took note of the creation of the HMAG and the MOU between the official heritage bodies (following the recommendations of the first Mission published in April 2016). The Mission regrets that these steps have not been conducted to completion. The mission recommends that to ensure the participation of academics and representatives from learned societies in the HMAG, the proposed “scientific committee” should be established as previously proposed. This will also help in ensuring a wider perception that the World Heritage property is not receiving the best possible attention, in terms of heritage enhancement and protection. A stronger mechanism, drawing notably on international expertise, should be established, and be in a position, for example, to counter the fixation of the length of the tunnel to 2.9 km only, as proposed by AAJV in options D61-62.

The recommendation of the first Mission regarding the HMAG scientific committee should therefore be fully implemented by the SP, especially in relation to its upstream role.

- The whole asset life design of the proposed options within the WH property and road network development and longer term impact on the region.

The Mission remarked that engineering and design questions were still at an initial stage, and that clarifications were requested upstream. This is for example the case with the length of the proposed tunnel, which involved not only heritage issues and costs, but also technical considerations such as ventilation shafts. Regarding the long term impacts, the Mission noted that the SP has not yet undertaken thorough studies in anticipation of “the day after”, when (and if) a tunnel or bypass is operational and the Stonehenge landscape is reunited.

The Terms of Reference further indicates that the Mission shall provide advice on a number of specific matters, as follows:

- The measures that the UK State Party, Highways England and heritage partner organisations have taken, or have in progress, to respond to and implement the recommendations of the April 2016 Mission report

A number of priority recommendations have been implemented by the SP, such as 4.1.1 & 4.1.3. However, the second Mission considers that the order of priority of the recommendations implemented by the SP was inadequate and did not ensure an appropriate upstream process to fully protect the WH property and its OUV.

- The impact of the emerging scheme proposals on the OUV of the WH Property based upon the partial information available at the time of the mission in the design process, which comprises:

- The results of archaeological and other assessments and evaluation of potential tunnel portal sites and possible associated new surface road within the WH property in relation to the attributes of OUV

- The draft route of a potential tunnel schemes and associated new surface road within and adjacent to the WH property

- Initial computer-generated visualisations of aspects of potential new infrastructure, including tunnel portals, vertical alignment, cuttings and embankments

- Available Cultural Heritage Impact Assessments

The Mission extensively discussed the scheme proposals including those (F010) The results of those discussions are outlined in this report.

- Relevant technical and engineering aspects of the potential scheme as available at this stage of development

This matter was not addressed by the Mission, in view of the current status of the potential schemes and focus on potential impact on the OUV of the WH property.

- Relevant technical and planning aspects regarding the whole asset life design of the scheme within the WH property and road network development and longer term impact on the region.

This matter was not addressed by the Mission, in view of the current status of the potential schemes and focus on potential impact on the OUV of the World Heritage property.

- Evaluate additional expertise, consultation, desk review, TOR evaluation, skills assessment, advisory mission, technical assistance if need be.
- How best the World Heritage Centre and its Advisory Bodies can offer advice on the impact on the OUV of the WH property in light of the reporting process to the annual World Heritage Committee and statutory timescales of the Development Consent Order (DCO) application, as the plans to address the problems caused by the existing A303 trunk road traffic are further developed over the coming years

The Mission urged the SP to work further in order to identify satisfactory solutions to the A303 traffic issues that would not compromise the OUV of the WH property, and that would abide by the SP's international obligations in these matters. To this end, the joint ICOMOS/UNESCO advisory Mission readily endorses the SP's request to ensure the further engagement and availability of international advisors in subsequent Missions, with terms of references and a calendar to be jointly fixed. ICOMOS and UNESCO stand by the SP in this challenging and complicated process of ensuring that solutions to the A303 traffic issues are done in full respect of the WH property and its OUV.

Section 9 of this Mission report provides detailed recommendations and associated commentary. The following items are the key recommendations.

1. The Mission recommends that the F010 option be further explored as an alternative for further studies as it would have a significantly lesser impact on the OUV of the WH property than the tunnel options currently under consideration.
2. The Mission recommends that if the D061/D062 were still to be pursued as an option:
 - a) an extension of the tunnel should be considered so that the Western portal would be located outside the WH property to avoid its negative impacts on the OUV of the property, its landscape, monuments and archeological richness, and the Western portal and associated approach road are located so that they would not pose any threat to the property or its setting;
 - b) if a longer tunnel is considered, the SP should undertake a comprehensive Heritage Impact Assessment, which addresses all attributes of OUV, including archaeological and landscape integrity, visibility and noise factors, and incorporating a landscape impact study focusing on the inter-visibility and visual envelopes (viewshed) of the Western portal and highway locations to determine the necessary length of the tunnel that will not harm the OUV of the property and its setting.
 - c) the location of the Eastern portal which is to be repositioned, on-line on the current path of the A303 road but to the east of the important prehistoric feature known as the 'Avenue', linking the Stonehenge monument to the river Avon, be

further refined in order to ensure that potential impacts on OUV are avoided. A location closer to the Countess roundabout should be considered, especially with regards to approach routes and infrastructure during construction, (bearing in mind other archaeological features in the vicinity, including the Mesolithic Blick Mead and the Iron Age Vespasian's Camp).

3. The Mission recommends that the already constituted Heritage Monitoring Advisory Group, be immediately completed and strengthened with a fully operational "Scientific Committee".
4. The Mission recommends that a sustainable tourism strategy of presentation and promotion of the WH property be developed as soon as possible with the view 1) to frame the mitigation measures, such as the loss of direct visual access of Stonehenge Monument, into a wider context; 2) to ensure that the economic benefits related to the WH property are spread to the community and the wider county and 3) to ensure the lasting conservation of the site.
5. The Mission recommends that the SP and bodies involved agree to set up an open forum, gathering stakeholders, local communities, civil society representatives, citizens and all interested parties, as a place to engage into a constructive dialogue driven by the overarching strategy of the Management Plan, i.e. "achieving the correct balance between conservation, access, the interest of the local community and the sustainable use of the Site".
6. The Mission recommends that the project programme and the expectations of all major participants should be adjusted to align with the World Heritage Committee timeframe and process, through careful attention to the 'triggers' which instigate statutory timeframes and deadlines.

1. Introductory statements

1.1 Acknowledgments

The ICOMOS/UNESCO Advisory Mission – henceforth the Mission – wishes to express its gratitude to the State Party (The United Kingdom of Great Britain and Northern Ireland, henceforth the SP), and more specifically to the Department of Culture, Media and Sports (DCMS) and Historic England (HE), as well as to the National Trust (NT), English Heritage Trust (EHT) and Wiltshire County Archaeology Service (WCAS), for their excellent preparatory work, for the provision of ample documentation, and for enabling the Mission to be carried out in optimal conditions. Without mentioning all the individuals concerned (see list below) special thanks are due to Phil McMahon (HE) and to Nicola (Nick) Snashall (NT) for their coordination and responsiveness. As well, the SP and the various organisations involved are to be commended for the serious and wholehearted attention they have given to the first Mission report. While some of the initial recommendations were not fully followed through, or were only partially responded to, the clear willingness exhibited by the SP to respond, rely on and take on board the ICOMOS/UNESCO advice deserves special mention. In this respect, this could well provide an exemplary model of an interactive consultation process between State Parties and ICOMOS/UNESCO.

1.2 Aims and Mandate of the February 2017 Mission

1.2.1 The role and objective of this second "advisory" Mission, undertaken at the request of the SP, is to comment and provide advice on the ongoing process by which proposals are implemented and eventually promoted with regards to the A303 ABD scheme, as they relate to the OUV of the WH property.

More specifically, the SP has indicated (in its TOR document, PM, dated 13 January 2017, see Annex 1), that it sees the aim of this Mission to reach or address the following objectives:

- To feed back to the WHC and ICOMOS on the measures taken, planned, or in progress, to implement the recommendations of the April 2016 Mission report on archaeological heritage management, governance and decision making processes, territorial planning process and benefits, and long term traffic prediction and on the whole asset life design of the scheme within the WH property and road network development.
- To seek the advice of the WHC and ICOMOS on current progress with the emerging scheme proposal within and adjacent to the WH property based on work undertaken to inform its potential heritage impacts, including upon its OUV;
- To brief the Mission on the nature, timetable and phasing of the UK statutory planning process for nationally significant infrastructure projects and specifically the Development Consent Order (DCO) process under which the detailed scheme proposal would be put out for consultation and considered by the UK Planning Inspectorate;

- Examine what kind of heritage-centred steering mechanism will be put in place to ensure quality control at all stages of decision making.
- To agree on effective means of future engagement with ICOMOS (need for additional expertise, consultation, desk reviews, TOR evaluation, skills assessment, advisory mission, technical assistance) within the DCO consultation and examination process and, and to agree on a feasible timetable for such engagement, taking account of the fixed, statutory timeframe within which the DCO must work and of the fixed cycle of World Heritage Committee meetings. These are important considerations, as the DCO statutory process cannot be paused or halted to allow for additional consultation and the World Heritage Committee must also have the opportunity to consider the scheme, albeit outside of the UK statutory planning process.

The same document further states that the Mission shall provide advice on:

- The measures that the UK State Party, Highways England and heritage partner organisations have taken, or have in progress, to respond to and implement the recommendations of the April 2016 Mission report
- The impact of the emerging scheme proposals on the OUV of the WH property based upon the partial information available at the time of the mission in the design process, which comprises:
 - The results of archaeological and other assessments and evaluation of potential tunnel portal sites and possible associated new surface road within the WH property in relation to the attributes of OUV
 - The draft route of a potential tunnel schemes and associated new surface road within and adjacent to the WH property
 - Initial computer-generated visualisations of aspects of potential new infrastructure, including tunnel portals, vertical alignment, cuttings and embankments
 - Available Cultural Heritage Impact Assessments
- Relevant technical and engineering aspects of the potential scheme as available at this stage of development
- Relevant technical and planning aspects regarding the whole asset life design of the scheme within the WH property and road network development and longer term impact on the region.
- Evaluate additional expertise, consultation, desk review, TOR evaluation, skills assessment, advisory mission, technical assistance if need be.
- How best the World Heritage Centre and its Advisory Bodies can offer advice on the impact on the OUV of the WH property in light of the reporting process to the annual World Heritage Committee and statutory timescales of the Development Consent Order (DCO) application, as the plans to address the problems caused by the existing A303 trunk road traffic are further developed over the coming years

1.2.2 Disclaimer on the Advisory nature of the Mission

It is important to state outright – in view notably of various comments made following the publication of the first Mission report in April 2016 – that the Mission's remit is not to approve or endorse any proposal, let alone to speak authoritatively on behalf of ICOMOS/UNESCO or to anticipate in any way the official responses of these organisations, including the decisions of World Heritage Committee in this matter. The

comments and recommendations made by the Mission in this report aim to provide advice, highlight considerations, assess potential impacts and processes, and advance proposals relating to heritage management on possible routes and options that might be taken by the SP regarding the A303 Amesbury to Berwick Down scheme.

Even if the comments provided here appear to reach a level of detail commensurable with specific design scheme, these comments should not be taken in any way to indicate any endorsement or support for a particular proposal.

The advisory nature of the Mission is reinforced by the express indication by the SP in the 2017 Briefing Pack and during the Mission that the A303 ABD scheme is currently only at its outline stage, with no fully designed proposals. These will be completed following an announcement by the SP Government on the choice of preferred route in mid-2017, leading to the statutory public consultation planned for late 2017. Opportunities for changes and refinements of the scheme and its detail do therefore exist in the framework of this process.

1.2.3 The 'Non-Statutory Public Consultation Exercise' (12.01-05.03.2017)

The ICOMOS/UNESCO Mission unfolded (31.01- 3.02.2017) in parallel with an exercise of non-statutory public consultation launched by the SP, lasting from 12 January to 5 March 2017 (see <https://highwaysengland.citizenspace.com/cip/a303-stonehenge/>, and <https://www.gov.uk/government/consultations/a303-stonehenge>). The consultation put forward one proposed option (option 1), a 2.9km tunnel with two alternative approach roads D061 and D062 (North or south of Winterbourne Stoke at the Western exit of the tunnel). It also set out information on why other options had not been taken forward, including a bypass route to the south (option 2).

Results of this consultation are being analysed by the SP and will be made available soon.

This non-statutory public consultation exercise was mentioned in the SP Terms of references, and its contents and process were presented by the SP (notably on Day 2) and commented on during the Mission. Since the timing of the Mission coincided with that of the public consultation, it was not able to provide its views upstream; likewise, since the public responses received are still being processed, the Mission cannot comment on any results of this consultation.

It should however be noted that the procedures and contents of this non-statutory public consultation exercise – including the presentation of the route options D061 and D062 (North or south of Winterbourne Stoke at the Western exit of the tunnel), and the mention a tunnel 2.9km long (not "at least") – have obviously shaped the public responses, many of which were transmitted or copied to UNESCO, ICOMOS and members of the Mission (see sections 2.3 and 2.4 below).

Put otherwise, public response and reactions to the A303 ABD scheme are largely dependent on the information made available in this non-statutory public consultation exercise. This was not necessarily the case with responses from academics who had worked at Stonehenge and with heritage organisations with members who had worked at Stonehenge. However, so far as the proposed emplacements of the tunnel portals are

concerned, specific discussions and comments depend on the information made available in the non-statutory public consultation.

The SP may require some further comments and feedback on the consultation process, especially in view of the statutory consultation that is required as part of the DCO process. This could be an item for any further ICOMOS/UNESCO Mission.

1.2.4 Purpose of the Advisory Mission Report

The main purpose of the Mission has been defined in the Terms of Reference which focused on “the proposed dualling and tunnelling of the A303 within the World Heritage Property, between Amesbury and Berwick Down”. However, consideration of all possible corridors and routes and their respective comparative advantages or impacts (including Heritage Impact Assessment) occurred *after* the first Mission took place and the results of these considerations and assessments formed part of the Mission briefing. The current Mission has therefore been mindful of broader options, as well as the current tunnel proposal, with a view to facilitating an outcome which provides significant benefits to the Stonehenge landscape and/or removes impact on the OUV of the WH property.

The Mission wishes to clarify what is exactly at stake in considering the impact on the OUV of the proposed scheme routes project. The position along which the tunneling will restore the visual integrity of one part of the Stonehenge WH property should be considered along with the consequential loss of physical integrity of the archaeological layers of the property which will be caused by the tunnel approach roads, as well as the loss by the public of direct visual access to Stonehenge, which might be perceived as a value for sharing this heritage, although not overtly part of its OUV. These are the issues that need to be assessed by HIAs, prepared in accordance with the applicable ICOMOS Guidance, and based on the best possible knowledge of the overall property in relation to its OUV, so that any impact on OUV can be clearly understood and assessed before any decisions are taken.

2. Context and background

2.1 - Statement of OUV:

The World Heritage Property: Stonehenge, Avebury and Associated Sites

The World Heritage property Stonehenge, Avebury and Associated Sites was inscribed on the World Heritage List in 1986. It is amongst the earliest properties inscribed on the List and the site reflects the changing history of conservation and interpretation approaches as well as World Heritage criteria and procedures. The site spreads out on a very large area, mainly agricultural land, a vast hilly landscape punctuated with a few settlements, and a series of main roads, secondary roads and earth roads.

Brief synthesis:

Stonehenge, Avebury and Associated Sites² is internationally important for its complexes of outstanding prehistoric monuments. Stonehenge is the most architecturally sophisticated prehistoric stone circle in the world, while Avebury is the largest. Together with inter-related monuments and their associated landscapes, they demonstrate Neolithic and Bronze Age ceremonial and mortuary practices resulting from around 2000 years of continuous use and monument building between circa 3700 and 1600 BC. As such they represent a unique embodiment of our collective heritage.

The World Heritage property comprises two areas of Chalkland in southern Britain within which complexes of Neolithic and Bronze Age ceremonial and funerary monuments and associated sites were built. Each area contains a focal stone circle and henge and many other major monuments. At Stonehenge these include the Avenue, the Cursuses, Durrington Walls, Woodhenge, and the densest concentration of burial mounds in Britain. At Avebury they include Windmill Hill, the West Kennet Long Barrow, the Sanctuary, Silbury Hill, the West Kennet and Beckhampton Avenues, the West Kennet Palisaded Enclosures, and important barrows.

Stonehenge is one of the most impressive prehistoric megalithic monuments in the world on account of the sheer size of its megaliths, the sophistication of its concentric plan and architectural design, the shaping of the stones - uniquely using both Wiltshire Sarsen sandstone and Pembroke Bluestone - and the precision with which it was built.

At Avebury, the massive Henge, containing the largest prehistoric stone circle in the world, and Silbury Hill, the largest prehistoric mound in Europe, demonstrate the outstanding engineering skills which were used to create masterpieces of earthen and megalithic architecture.

There is an exceptional survival of prehistoric monuments and sites within the World Heritage property including settlements, burial grounds, and large constructions of earth and stone. Today, together with their settings, they form landscapes without parallel. These complexes would have been of major significance to those who created them, as is apparent by the huge investment of time and effort they represent. They provide an insight into the mortuary and ceremonial practices of the period, and are evidence of prehistoric technology, architecture and astronomy. The careful siting of monuments in relation to the landscape helps us to further understand the Neolithic and Bronze Age.

Criterion (i):

The monuments of the Stonehenge, Avebury and Associated Sites demonstrate outstanding creative and technological achievements in prehistoric times.

Stonehenge is the most architecturally sophisticated prehistoric stone circle in the world. It is unrivalled in its design and unique engineering, featuring huge horizontal stone lintels capping the outer circle and the trilithons, locked together by carefully shaped joints. It is distinguished by the unique use of two different kinds of stones (Bluestones and Sarsens), their size (the largest weighing over 40 t) and the distance they were transported (up to 240

km). The sheer scale of some of the surrounding monuments is also remarkable: the Stonehenge Cursus and the Avenue are both about 3 km long, while Durrington Walls is the largest known henge in Britain, around 500 m in diameter, demonstrating the ability of prehistoric peoples to conceive, design and construct features of great size and complexity.

Avebury prehistoric stone circle is the largest in the world. The encircling henge consists of a huge bank and ditch 1.3 km in circumference, within which 180 local, unshaped standing stones formed the large outer and two smaller inner circles. Leading from two of its four entrances, the West Kennet and Beckhampton Avenues of parallel standing stones still connect it with other monuments in the landscape. Another outstanding monument, Silbury Hill, is the largest prehistoric mound in Europe. Built around 2400 BC, it stands 39.5 m high and comprises half a million tonnes of chalk. The purpose of this imposing, skilfully engineered monument remains obscure.

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.

The megalithic and earthen monuments of the World Heritage property demonstrate the shaping of the landscape through monument building for around 2000 years from circa 3700 BC, reflecting the importance and wide influence of both areas.

Since the 12th century when Stonehenge was considered one of the wonders of the world by the chroniclers Henry de Huntington and Geoffrey de Monmouth, the Stonehenge and Avebury Sites have excited curiosity and been the subject of study and speculation. Since early investigations by John Aubrey (1626-1697), Inigo Jones (1573-1652), and William Stukeley (1687-1765), they have had an unwavering influence on architects, archaeologists, artists and historians. The two parts of the World Heritage property provide an excellent opportunity for further research.

Today, the property has spiritual associations for some.

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.

The design, position and interrelationship of the monuments and sites are evidence of a wealthy and highly organised prehistoric society able to impose its concepts on the environment. An outstanding example is the alignment of the Stonehenge Avenue (probably a processional route) and Stonehenge stone circle on the axis of the

midsummer sunrise and midwinter sunset, indicating their ceremonial and astronomical character. At Avebury the length and size of some of the features such as the West Kennet Avenue, which connects the Henge to the Sanctuary over 2 km away, are further evidence of this.

A profound insight into the changing mortuary culture of the periods is provided by the use of Stonehenge as a cremation cemetery, by the West Kennet Long Barrow, the largest known Neolithic stone-chambered collective tomb in southern England, and by the hundreds of other burial sites illustrating evolving funerary rites.

Integrity

The boundaries of the property capture the attributes that together convey Outstanding Universal Value at Stonehenge and Avebury. They contain the major Neolithic and Bronze Age monuments that exemplify the creative genius and technological skills for which the property is inscribed. The Avebury and Stonehenge landscapes are extensive, both being around 25 square kilometres, and capture the relationship between the monuments as well as their landscape setting.

At Avebury the boundary was extended in 2008 to include East Kennet Long Barrow and Fyfield Down with its extensive Bronze Age field system and naturally occurring Sarsen Stones. At Stonehenge the boundary will be reviewed to consider the possible inclusion of related, significant monuments nearby such as Robin Hood's Ball, a Neolithic causewayed enclosure.

The setting of some key monuments extends beyond the boundary. 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.

The survival of the Neolithic and Bronze Age monuments at both Stonehenge and Avebury is exceptional and remarkable given their age – they were built and used between around 3700 and 1600 BC. Stone and earth monuments retain their original design and materials. The timber structures have disappeared but postholes indicate their location. Monuments have been regularly maintained and repaired as necessary.

The presence of busy main roads going through the World Heritage property impacts adversely on its integrity. The roads sever the relationship between Stonehenge and its surrounding monuments, notably the A344 which separates the Stone Circle from the Avenue. At Avebury, roads cut through some key monuments including the Henge and the West Kennet Avenue. The A4 separates the Sanctuary from its barrow group at Overton Hill. Roads and vehicles also cause damage to the fabric of some monuments while traffic noise and visual intrusion have a negative impact on their settings. The incremental impact of highway-related clutter needs to be carefully managed.

Development pressures are present and require careful management. Impacts from existing intrusive development should be mitigated where possible.

Authenticity

Interventions have been limited mainly to excavations and the re-erection of some fallen or buried stones to their known positions in the early and mid-twentieth century in order to improve understanding. Ploughing, burrowing animals and early excavation have resulted in some losses but what remains is remarkable in its completeness and concentration. The materials and substance of the archaeology supported by the archaeological archives continue to provide an authentic testimony to prehistoric technological and creative achievement.

This survival and the huge potential of buried archaeology make the property an extremely important resource for archaeological research, which continues to uncover new evidence and expand our understanding of prehistory. Present day research has enormously improved our understanding of the property.

The known principal monuments largely remain in situ and many are still dominant features in the rural landscape. Their form and design are well-preserved and visitors are easily able to appreciate their location, setting and interrelationships which in combination represent landscapes without parallel.

At Stonehenge several monuments have retained their alignment on the Solstice sunrise and sunset, including the Stone Circle, the Avenue, Woodhenge, and the Durrington Walls Southern Circle and its Avenue.

Although the original ceremonial use of the monuments is not known, they retain spiritual significance for some people, and many still gather at both stone circles to celebrate the Solstice and other observations. Stonehenge is known and valued by many more as the most famous prehistoric monument in the world.

There is a need to strengthen understanding of the overall relationship between remains, both buried and standing, at Stonehenge and at Avebury.

Protection and management requirements

The UK Government protects World Heritage properties in England in two ways: firstly, individual buildings, monuments and landscapes are designated under the Planning (Listed Buildings and Conservation Areas) Act 1990 and the 1979 Ancient Monuments and Archaeological Areas Act, and secondly through the UK Spatial Planning system under the provisions of the Town and Country Planning Acts. The individual sites within the property are protected through the Government's designation of individual buildings, monuments, gardens and landscapes.

Government guidance on protecting the Historic Environment and World Heritage is set out in National Planning Policy Framework and Circular 07/09. Policies to protect, promote, conserve and enhance World Heritage properties, their settings and buffer zones are also found in statutory planning documents. The protection of the property and its setting from inappropriate development could be further strengthened through the adoption of a specific Supplementary Planning Document.

At a local level, the property is protected by the legal designation of all its principal monuments. There is a specific policy in the Local Development Framework to protect the Outstanding Universal Value of the property from inappropriate development, along with adequate references in relevant strategies and plans at all levels. The Wiltshire Core Strategy includes a specific World Heritage Property policy. This policy states that additional planning guidance will be produced to ensure its effective implementation and thereby the protection of the World Heritage property from inappropriate development. The policy also recognises the need to produce a setting study to enable this. Once the review of the Stonehenge boundary is completed, work on the setting study shall begin.

The Local Planning Authority is responsible for continued protection through policy development and its effective implementation in deciding planning applications with the management plans for Stonehenge and Avebury as a key material consideration. These plans also take into account the range of other values relevant to the site in addition to Outstanding Universal Value. Avebury lies within the North Wessex Downs Area of Outstanding Natural Beauty, a national statutory designation to ensure the conservation and enhancement of the natural beauty of the landscape.

About a third of the property at both Stonehenge and Avebury is owned and managed by conservation bodies: English Heritage, a non-departmental government body, and the National Trust and the Royal Society for the Protection of Birds which are both charities. Agri-environment schemes, an example of partnership working between private landowners and Natural England (a non-departmental government body), are very important for protecting and enhancing the setting of prehistoric monuments through measures such as grass restoration and scrub control. Much of the property can be accessed through public rights of way as well as permissive paths and open access provided by some agri-

environment schemes. Managed open access is provided at Solstice. There are a significant number of private households within the property and local residents therefore have an important role in its stewardship

The property has effective management plans, coordinators and steering groups at both Stonehenge and Avebury. There is a need for an overall integrated management system for the property which will be addressed by the establishment of a coordinating Stonehenge and Avebury Partnership Panel whilst retaining the Stonehenge and Avebury steering groups to enable specific local issues to be addressed and to maintain the meaningful engagement of the community. A single property management plan will replace the two separate management plans.

An overall visitor management and interpretation strategy, together with a landscape strategy needs to be put in place to optimise access to and understanding of the property. This should include improved interpretation for visitors and the local community both on site and in local museums, holding collections excavated from the property as well as through publications and the web. These objectives are being addressed at Stonehenge through the development of a visitor centre and the Interpretation, Learning and Participation Strategy. The updated Management Plan will include a similar strategy for Avebury. Visitor management and sustainable tourism challenges and opportunities are addressed by specific objectives in both the Stonehenge and Avebury Management Plans.

An understanding of the overall relationship between buried and standing remains continues to be developed through research projects such as the “Between the Monuments” project and extensive geophysical surveys. Research Frameworks have been published for the Site and are regularly reviewed. These encourage further relevant research. The Woodland Strategy, an example of a landscape level management project, once complete, can be built on to include other elements of landscape scale planning.

It is important to maintain and enhance the improvements to monuments achieved through grass restoration and to avoid erosion of earthen monuments and buried archaeology through visitor pressure and burrowing animals.

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. At Avebury, a World Heritage Site Traffic Strategy will be developed to establish guidance and identify a holistic set of actions to address the negative impacts that the dominance of roads, traffic and related clutter has on integrity, the condition and setting of monuments and the ease and confidence with which visitors and the local community are able to explore the wider property.

The wider landscape of the WH property as a whole should be considered when addressing the potential impact on OUV and not only the Scheduled monuments as specific concerned components of the OUV, *a.i.* Stonehenge monuments and surroundings monuments. Likewise, the integrity of the wider landscape of the WH property is to be considered and not only the Scheduled monuments. Consequently, the *Vision for the Stonehenge and Avebury World Heritage Site*, as defined in the Management Plan, which has clearly set out the full range of attributes of OUV, should be the guiding document for ensuring the OUV of the whole property is sustained.

2.2 Summary of the First Mission Recommendations (October 2015 – Report April 2016)

A first ICOMOS/UNESCO Advisory Mission took place on 27-30 October 2015, at the request and invitation of the SP, following the December 2014 announcement by the UK Government that as part of its attempts to solve the long-running traffic problems along the A303 ABD trunk road it explored several options, including that of investing in a bored tunnel "at least 2.9 km" long. The report of the Mission was subsequently released to the SP, and made available in April 2016 on the UNESCO website as a downloadable PDF file (<http://whc.unesco.org/en/documents/141037/>, and <http://whc.unesco.org/en/list/373/documents>).

At the time of the first Mission, no precise plans existed regarding roads or tunnel portals, and the only relatively specific data provided was the notion of a tunnel "at least 2.9 km long". This notion was reached on the basis of potential portal placements (A1 and E) as suggested on predominantly heritage grounds by English Heritage (now English Heritage and Historic England) and the National Trust; (see comments in section 6.2 in the present report). Moreover, other options than a bored tunnel had clearly been explored, including different corridor routes that would bypass the WH property.

The aim of that first Mission was to familiarise the international advisors with the WH property, and with the scope and challenges presented the Scheme, including its potential impact on the WH property's OUV. As the Mission report indicated,

What is at stake here is not a technical issue in terms of either engineering or archaeology. Technically speaking the situation is fairly standard. The challenge is the process, the setting up of governance, monitoring systems and operational mechanisms, which will allow for high quality results and international standards to ensure an outcome that respects OUV.

The first Mission did provide some comments on the proposed or hypothetical placement of the portals, and made the case that the OUV of the WH property would be better served and enhanced by placing the eastern portal (if at all a tunnel was to be bored) to the east of the Avenue – a proposition that was subsequently endorsed by the SP (see section 6.2, 6.3 below). The first Mission Report also indicated its concerns regarding the western portal and its potential adverse impact.

Given however the initial and preliminary nature of the scheme, more attention was dedicated by the first Mission to issues of process, standards, governance, operations and monitoring surrounding the WH property and its OUV – issues involving the State Party, the developer Highways England (a state owned company) a range of heritage bodies as well as local residents, interest groups, academics and other stakeholders.

The first Mission concluded that:

The mission considers that the project for the relocation of the existing road underground into a "tunnel of at least 2.9k" could readily adopt appropriate well-established construction methods and spatial planning approaches. Hence, with good design and construction controls, and respecting essential archaeological and heritage management measures, the tunnelled length of the road would be expected to have a beneficial impact on the attributes of Outstanding Universal Value (OUV). However, the siting and design of the tunnel portals, approach cuttings/embankments, entry/exit ramps, mitigation measures and the temporary

construction works have the potential to adversely impact OUV. These latter aspects of the scheme, in particular, will require rigorous investigation, evaluation, iterative design and assessment if they are to protect the attributes of OUV within the World Heritage site.

In addition, the Mission made a range of recommendations. The main ones are listed here:

- 1) Establish a heritage-centred steering mechanism between the Heritage bodies and including scientific experts, dealing with monitoring and MOU.
- 2) Set up a role for further joint UNESCO /ICOMOS missions to advise on OUV protection and enhancement.
- 3) Provide organogram of the SP actors involved.
- 4) Include of best practices in technology for BIM and virtual visualisation.
- 5) Ensure the involvement of Landscape architect.
- 6) Align Heritage Impact Assessment (HIA) with the Development Consent Order (DCO) process.
- 7) Undertake studies on visitor changes in numbers and behaviour.
- 8) Review and implement international best practice for highway and tunnel design.
- 9) Address issues of temporary construction and efficiency in logistics.
- 10) Clarify and formalise relations between heritage bodies, as well as interactions between the developer and archaeological management. Ensure that heritage bodies are as vigorous and proactive as possible in defending heritage ad OUV, including in the context of commercial archaeology.
- 11) Review elements of communication strategy.

These first Mission recommendations were addressed by the SP in the time stretch between the missions, though not all the responses were fully addressed. A discussion of the SP responses is provided in section 3 below.

2.3 Reactions by the civil society

In the weeks before the Mission took place, before and after the non-statutory public consultation exercise was launched (see section 1.4.3 above), the World Heritage Centre was the destination of a strong campaign from the civil society, including associations such as the *Stonehenge Alliance*.

While some elements of the public have expressed strong support for the project, and for the concept of a tunnel, strong opposition has also been expressed. The main claim was against the road scheme proposals to replace the current A303 “by a twin bore tunnels with long and deep tunnels entrance cuttings and up to 1.6 Km of new 4-lane dual carriageway at surface level within the World Heritage Site, along with huge new grade-separated junctions either side of it”. The majority of the emails used standard text. However, some messages were more detailed especially on a) the potential impact of the proposed south route option D 062 on the solstice alignment; b) the methods and techniques used to conduct archaeological surveys at the proposed location of the tunnels entrance points; c) the public consultation on the tunnel route within the WH property only; d) the impact on the night sky landscape of streetlights; e) potential conflicts of interests of members of the Heritage Monument Advisory Group; f) knock-on effects on Avebury of the loss of visibility of Stonehenge from the road.

The Mission raised these issues openly during its meetings, notably with the developers Highway Highland and with the Heritage bodies (HE, NT, EHT, WCAS). Some specific

responses, such as those related to the quality and the location of the archaeological excavations surveys or the alignment of the proposed western portal on the winter solstice are addressed further in the report.

The overall impression of the Mission is that the (as yet informal) response provided by the State Party to the public consultation and campaign is not yet fully satisfactory, as although the State Party treats all representations seriously, the objections to the project were characterized as coming exclusively from activists, who have sustained ‘in principle’ objects to the project. While it is acknowledged that engagement with representatives from civil society about the project extends back for years, it appeared to the Mission members who met with some of these civil society groups, that more transparency including for a more encompassing, better informed public consultation on all route options would have been beneficial to the reception by the public and by academics. The strong, continuing campaign underlines the lack of inclusion in the decision process of representatives from civil society, especially of informed movements of *amateurs* or of learned societies and academics.

2.4 Governance and consensus building among stakeholders (Historic England, National Trust, English Heritage, Highways England, Wiltshire Council,)

They are at least seven bodies involved: DCMS, HE, NT, EHT, WC, HiE and AAJV. All these bodies were represented and the Mission had opportunities to discuss extensively formally and informally with each of them. However, in accordance with the Terms of Reference for the Mission, no exchange occurred with representatives of the civil society, despite the strong campaign and by contrast with the previous Mission, when an extensive and useful process of such encounters occurred. This approach was adopted on the basis that full stakeholder consultation was taking place as part of Highways England’s public consultation exercise. However, the Mission concluded that future advisory missions by ICOMOS/UNESCO should adopt an open and inclusive process and therefore should include structured meetings on the latest development of the scheme with civil society, professional archaeologist experts, local communities and other stakeholders.

The good governance system is a crucial aspect of the development project and was a priority recommendation of the first advisory Mission. Since then, the A303 Amesbury to Berwick Down *Heritage Monitoring & Advisory Group (HMAG)* has only been partially constituted (see section 3.2 and 4.2, 4.3 below). The membership and the terms of reference of this board of experts have been provided in the 2017 Briefing Pack for the second advisory Mission, including representatives of HE, NT, EHT and WCAS. All of those members were present during the meetings of the first day of the Mission. The situation of the HMAG was presented by the Cultural Heritage work stream Leader of AAJV and Historic England. The SP is to be commended for setting up this Group. Although it was indicated during the Mission that the Group had weight, that relevant discipline specialists were involved and that individual positions are made public, the Group has limitations. Although it was requested that the mechanism be heritage-centred, its membership should not be limited to official heritage bodies, but should include also independent professionals and academics. The role of the HMAG includes advice and setting the standards and approving the scope of archaeological work associated with the scheme, but not broader decision making. The HMAG, including the proposed “scientific committee’ can provide a very valuable heritage-centred steering mechanism which can also contribute to ensuring transparency in a highly sensitive and symbolic context. The role of the scientific

committee whose membership and role was unclear before the Mission remains somewhat unclear.

Consequently, the Mission concluded that the SP should review the membership and the mandate of the current HMAG to include academic archaeologists, representatives of learned archaeological societies, or groups such as ASAHRG. Also, it should be clarified again that the ultimate mandate of such mechanism is not limited to managing aspects *for the benefit* of the OUV of the WH property, but to ensure that the OUV of the property **is fully maintained particularly including its integrity and authenticity**.

Furthermore, and considering the strong campaign from civil society, the Mission recommends that the SP and bodies involved agree to set up a consultative arrangement such as an open forum, gathering stakeholders, local communities, civil society representatives, citizens and all interested parties, as a place to present the communities concerns and engage into a constructive dialogue driven by the overarching strategy of the Management Plan, i.e. “achieving the correct balance between conservation, access, the interest of the local community and the sustainable use of the Site”.

3. Responses by the SP to the recommendations of the first Mission (April 2016 report)

3.1 As already indicated, the SP and its agencies addressed some of the ICOMOS/UNESCO recommendations following the first Mission. Many of the responses given in the 2017 Briefing Pack can be taken as such, and do not require much in the way of comments (see section 2.2. above for the main recommendations). There are however aspects that need to be reconsidered or that do not appear to have been addressed, notably concerning the following two points – "Issues of archaeological organisation and quality control" (point 3.2 below), "Visitor Numbers and behaviour" (point 3.3 below). Relevant aspects, alongside of course other issues emerging from the second Mission, will be presented in section 4, 5 and 6 below

3.2 On "Issues of archaeological organisation and quality control".

(Recommendations 1.1, 3.2, 3.3 and 3.1 of the first Mission, responded to in points 5.2 and 5.14 of the 2017 Briefing Pack).

3.2.1 The SP and its agencies have taken a series of measures to ensure that proper oversight and control is exercised on archaeological and heritage operations within the WH PROPERTY and the A303 ABD scheme. The creation of a "A303 ABD Heritage Monitoring and Advisory Group" – henceforth HMAG – is a welcome step, as is the Memorandum of Understanding proposed between the main heritage bodies.

3.2.2 Some issues remain to be address or considered. These include (a) the decisional and control capacity of the HMAG, especially in relation to the archaeological operators on the ground and (b) the composition of the HMAG

3.2.3 The following are quotes from the 2017 Briefing Pack (p.16).

HMAG (Board of Experts)

5.2.2 HMAG (Board of Experts) will provide **advice and support** with regard to the archaeological and wider heritage impacts of the project's design, assessment, implementation and mitigation. Where **supplementary advice and expertise** are required HMAG will request additional advice from members of the Scientific Committee (see below).

Scientific Committee

Membership

5.2.6 Membership of the Scientific Committee comprises the following:

- Heritage Monitoring & Advisory Group; and
 - Additional subject matter experts in the archaeology of the Stonehenge landscape.
- Membership **to be** confirmed separately. CVs **will be** made available.

Purpose

5.2.7 At the request of HMAG (Board of Experts) members of the Scientific Committee **will be** invited to **provide additional subject matter advice** and expertise **on particular issues relating to the archaeological and wider heritage impacts** of the project's design and implementation in relation to the Neolithic & Bronze Age of the Stonehenge landscape and the consequent impact on the OUV of the WHS.

3.2.4 It was reiterated orally during the Mission – by WCAS in particular, as well as HE and NT – that decision-making role and capacity to impose requirements by HMAG are

actually stronger than the wording of "advice and support" might imply. Nevertheless, and although it is acknowledged that the initiators and decision-takers are the curatorial bodies: Historic England, Wiltshire Council and additionally for their own land, the National Trust, the archaeological reports of the operations already carried out (and annexed to the 2017 Briefing Pack) are regularly couched in terms that suggest influence is also exerted by the developers – Highways England – or on their behalf AAJV, who tender and contract archaeological work, both non-intrusive and intrusive, to commercial companies such as Wessex Archaeology.

This question of the initiation, oversight and planning of archaeological work on the A303 ABD scheme will be returned to in sections 4.2 and 4.3 below.

3.2.5 As it is presented, the HMAG is composed of four national and local official heritage bodies (EH, NT, EHT and WCAS), and a "scientific committee". Two issues remain unclear: (a) at present, the "scientific committee" does not exist, and its members have apparently **not yet** been identified, contacted or confirmed, (b) the actual circumstances in which their "supplementary advice and expertise" will be called for are not specified. This results in a major problem of timing and sequencing, insofar as decisions are in the process of being taken and works have commenced, without the benefit of input from the scientific committee.

As further dealt with in sections 4.2 and 4.3 below, this situation is of concern in several respects. The archaeological component of the project may not enjoy the full benefit of all available guidance and advice. There is also a risk to perceptions of the reliability of the heritage assessment process, and also the overall confidence of both the professional archaeological community and the wider public. In this respect, archaeological operations undertaken as part of the project should benefit from guidance from an HMAG which is fully established as proposed, including a functional scientific committee.

3.3 – Issue of visitor numbers and behaviour

(Recommendation 2.3 of the first Mission, responded to in point 5.9 of the "2017 Briefing pack").

3.3.1 The initial recommendation was to study and understand the potential changes in visitor numbers and behaviour that may occur upon the opening up of the landscape with a tunnel scheme, and the impacts of these changes on OUV.

3.3.2 The following are quotes from the 2017 Briefing Pack (p. 27-28).

5.9.1 English Heritage (EH) and National Trust (NT) **will work** together to establish potential changes in visitor numbers and behaviour that may occur by opening up the landscape with a tunnel scheme. **Once the likely impact has been established**, EH and NT will work together to understand the impact this might have on current visitor operations, the need for new forms of access and interpretation and both organisations will need to identify measures to mitigate negative impacts on OUV and in the environs of the WH PROPERTY.

Timescales

5.9.7 It is expected that this work would take **12-18 months to complete** but this will be an iterative process and reviewed against the progress of the Highways England project development. Implementation of access and interpretation outcomes would follow.

Funding

5.9.8 **The cost and funding of this work is to be established.** The expertise and in-house resources of EH and NT will be utilised where possible and discussions are underway with Highways England and AAJV to establish what information or resources they could provide.

3.3.3 It may be that the initial recommendation was not clearly formulated, but the Mission considers that the responses given here are inadequate, notably with regards to the proposed timing of the study and its as yet undecided funding. The SP appears not to have sufficiently measured the importance and urgency of:

- (a) an adequate preparedness to the eventuality, in less than 10 years from now, that a tunnel or a bypass opens and operates in a reconfigured Stonehenge landscape; or
- (b) the ability to demonstrate already now, to official bodies and agencies, to academics, stakeholders and the wider public (including opponents of the scheme), that the SP is actually anticipating and planning ahead on this matter. This will be further addressed below.

4 – Assessing Impacts on OUV and Attributes of OUV

The OUV of the WH property and its attributes are clearly set out in Section 2 above and relate to the idea of an archaeological landscape that is more than a random assembly of sites but is seen increasingly to be a landscape of organised or related sites – both spatially and visually.

As any potential projects should be considered for their impact on this landscape, through HIAs, it is essential that such assessments are based on the best possible data related to knowledge of the archaeological landscape.

As a general initial comment, it must be stressed and acknowledged that the assessment of the archaeological landscape, as well as its individual components, as part of a Heritage Impact assessment (HIA) represents a major and indeed crucial challenge in the A303 scheme, relating both directly and indirectly to impact on OUV, including integrity and authenticity. This is a matter about which the SP is indeed well aware.

It is also acknowledged that approach roads at the end of any proposed tunnels will irreversibly impact on the integrity of the complexes of monuments at Stonehenge as an exceptional insight into the funerary and ceremonial practices in Britain in the Neolithic and Bronze Age. The shaping of the landscape through monument building for around 2000 years demonstrated the importance of the intangible and spiritual links of monuments, such as the alignment of the Stonehenge Avenue and the Stonehenge stone circle on the midsummer sunrise and midwinter sunset.

Far from impacting on the integrity, the A303 scheme should aim to restore the integrity of the landscape.

4.1 Preliminary Archaeological Assessment

4.1.1

As a further initial comment, it is worth recalling here the disclaimer made above (section 1.2.2) regarding the advisory nature of the Mission: as indicated there " Even if the comments provided here appear to reach a level of detail commensurable with specific design scheme, these comments should not be taken in any way to indicate any endorsement or support for a particular proposal". This is all the more the case that no decisions have yet been made by the SP, and neither route nor specific design are yet determined, let alone any DCO.

A range of archaeological operations, both non-intrusive and intrusive, have been carried out in relation to the currently proposed A303 tunnel option (as discussed below, section 4.2.2). The results of these investigations have been incorporated into the Heritage Impact Assessments undertaken for the scheme, on behalf of the State Party: "*Heritage Impact Assessment in relation to the Outstanding Universal Value of the Stonehenge, Avebury and Associated Sites WHS - Undertaken in accordance with the 2011 ICOMOS "Guidance on Heritage Impact Assessments for Cultural World Heritage Properties" - Iteration 1 Report*", and "*Heritage Impact Assessment in relation to the Outstanding Universal Value of the Stonehenge, Avebury and Associated Sites WHS - Undertaken in accordance with the 2011 ICOMOS "Guidance on Heritage Impact Assessments for Cultural World Heritage Properties" - Iteration 2 Report*". The archaeological investigation results also informed the preliminary Heritage Impact Assessment study, "Stonehenge A303 improvements: outline

assessment of the impacts on the OUV of the WH property of potential route options presented by Highways England for January 2017" carried out by N. Snashall & C. Young (Snashall & Young 2017) as a follow-up of their 2014 report (Snashall & Young 2014), which informed Historic England's and the National Trust's own position in relation to options under consideration.

These archaeological assessments and undertakings can be considered in two complementary ways (a) their contribution to heritage impact assessments with regards to the WH property' OUV, and heritage management, and (b) their contribution to scientific knowledge.

4.1.2 So far as heritage management is concerned, the archaeological work already carried out seems to be making a contribution to towards the overall impact assessment process.

The Heritage Impact Assessments undertaken for the scheme, on behalf of the State Party initially considered seven options (iteration 1), then a refined selection of three options (iteration 2), including the F010 option. Although the F010 option was identified as having the least potential impact on the OUV of the WH property, the alternative tunnel options were put forward for public consultation. Nevertheless, the archaeological investigation and HIA process have resulted in some concept and design changes.

This is the case with the proposed emplacement of the Eastern Portal, which, following the first Mission report, has been relocated to the east of the "Avenue" in order to reduce heritage impacts on the WH property' OUV (Route D061-62 in Figure 4.1- 4.3).

This may also become the case with propositions regarding the Western Portal emplacement, where archaeological and heritage considerations may influence forthcoming revised propositions and decisions.

4.1.3 Archaeological works commissioned by Highways England to inform scheme proposals have been undertaken in accordance with specifications agreed with, and signed off by, Historic England, Wiltshire Council Archaeological Service, and where it affects their land, the National Trust. The archaeological work has been undertaken following methodologies, with aims and oversight being clearly set out and followed through.

What appears less well established is the capacity of these archaeological undertakings to build on academic work already undertaken. One of the main challenges that should be addressed further is the need for the highest possible standards of archaeological operations on the WH property. This is also important for the wider A303 ABD project. No decisions have yet been made on the final route and no road building, tunnelling or engineering activity has occurred – except for archaeological investigations and evaluations. Besides reinforcing the actual archaeological activities, resulting from intrusive and non-intrusive investigations (on site and in the lab), it is essential to ensure that no archaeological work on the WH property, its setting and the A303 ABD road scheme could be perceived as being potentially sub-standard.

4.1.4 Such perceptions about archaeological operations and standards have featured among a wider range of issues raised by members of the public, civil society and other stakeholders to ICOMOS and to the WHC and UNESCO concerning the Stonehenge tunnel project.

Several of these comments represent highly knowledgeable queries and concerns about field procedures, sampling and recording. Further comments have expressed concern over the access, perusal and good use actually made by the operators involved of previously generated information (be it the HER managed by WCAS, national databases, publications in regional, national or international academic venues, or in the 'grey literature' available locally or through ADS).

It is important that the archaeological work undertaken as part of the project continue to occur in accordance with the code of conduct and standards of Chartered Institute of Archaeologists and be transparently demonstrated to meet or exceed standards for academic archaeological work. This objective may be assisted by:

- a) recruiting the HMAG scientific committee, as soon as possible with both ASAHRG and academic researchers fully involved; and
- b) ensuring that the standard of archaeological work at the WH property meets the standards demanded of research excavations, and not those, necessarily different in their aims, practice and yes, costs, that apply in some areas of commercial archaeology. This would also mean to follow and implement the recent report published for the WHS management by Wessex Archaeology "A Research Framework for the Stonehenge, Avebury and Associated Sites World Heritage Site: Research Agenda and Strategy" (Leivers & Powell 2016):

<http://www.stonehengeandaveburywhs.org/assets/Research-Agenda-and-Strategy-1.pdf>

4.2 Process and structure

4.2.1 On the operators on the ground

As reported in the 2017 Briefing Pack and presented during the Mission, a range of archaeological operations, both non-intrusive and intrusive, have recently been carried out in relation to the A303 ABD Scheme by two operators, HiE-AAJV-WE, and HE.

One is the Highways England commissioned AAJV, through their contractors Wessex Archaeology, who have been working in the South-East corner of the A303 / A360 and to the East of the Stonehenge monument (SW1, SW2, SE1 and NE1, NE2 in Figure 1a).

The geophysical (non-intrusive) work by Wessex Archaeology for AAJV is detailed in their report "A303 Amesbury to Berwick Down. A303 Geophysical Survey Report. Interim Draft. Arup Atkins Joint Venture. HE551506-AA-EHR-SWI-RP-YE-000006, P02, S4, 20/12/2016" (pp. 446 ff. in the Complete Briefing Pack).

The trial excavations (intrusive evaluation) undertaken by Wessex Archaeology for AAJV were undertaken within area SW1 and SW2 – see "A303 Amesbury to Berwick Down. A303 Archaeological Evaluation. Report Interim Draft. Arup Atkins Joint Venture, HE551506-AA-EHR-SWI-RP-YE-000005, P01.2, Interim Draft" (pp. 581 ff. in the Complete Briefing Pack). It is indicated there that anticipated evaluation (intrusive) could not be carried out in some areas because access was denied (see section 4.4. below).

The other entity engaged in archaeological operations within the WH property in relation to the A303 ABD scheme is Historic England, through its own archaeology excavation and Analysis team – see "Historic England. Excavation and Analysis. HE7238 - Stonehenge Southern WH property Survey Assessment Report" (pp. 66 ff. in the Complete Briefing

Pack). Although HE's archaeological research has not been undertaken to inform Highways England's route selection and design work, The HE team has been undertaking non-intrusive survey and intrusive evaluations in two adjacent areas to South-East corner of the A303 / A360 (Diamond Field Borland's farm and Diamond Field Druid's Lodge) as well as West Amesbury Farm (see Figure 1b) (see figures in p. 339 and 366 of the Complete Briefing Pack). This work has been carried out as part of and in continuation of the Stonehenge Southern WHS Survey project (HE7238), a research project led and funded by HE to explore and better understand the archaeological resources of the Stonehenge WH property that lie south of the current A303 road.

Notwithstanding the coordinating role of the HMAG, and that Historic England's archaeological team and Highways England's archaeological consultants and contractors were well aware and informed of each other's operations, no comprehensive map of archaeological operations related to the A303 ABD scheme undertaken so far has been provided to the Mission – a map that would include both intrusive and non-intrusive work by ALL operators. The Mission reiterates the importance of calibrating and harmonising the work and results of ALL operators involved in the A303 ABD scheme, to ensure that both heritage and research needs are best served.

4.2.2 Availability of information on archaeological operations and results.

Every effort should be made to make as much information on archaeological operations and results available as speedily and readily as possible for academic researchers and for the general public. This includes interim and technical reports of various non-intrusive and intrusive evaluation activities, as well as excavations. The Mission has been advised that all reports on archaeological works undertaken as part of the scheme will be released to the public at the point they have been reviewed and signed off by both the contracting body and HMAG. The survey and investigation reports belong to Highways England and will be made fully and publicly available without restriction on their use. When these documents are released, the information within them will feed into the HER (Historic Environment Record, SMR), by whom, at whose financial costs and responsibility?

4.3 Heritage Impact Assessments standards

However good the archaeological survey work is, it still needs to be used effectively in HIAs and thus related to OUV and attributes of OUV.

The Mission considers that the evaluations and assessments in both HIAs undertaken for the State Party (Iterations 1 and 2) and the preliminary HIAs undertaken for Historic England and the National Trust by Snashall & Young (2014, 2017) identify that an alternative route (the F010) would have a lesser impact on the OUV of the WH property than the tunnel options currently under consideration and that the currently-proposed placement (option D061-62) 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.

The Mission considers that the preliminary HIA by Snashall & Young (2014, 2017) makes it clear that, so far as the proposed Western portal is concerned, the currently-proposed placement (option D061-62) 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.

The Mission notes that the Governance and decision making processes carried on by the SP (the developer Highways England and its commercial entity AAJV) is sophisticated, but has concluded that the manner in which the criteria are being applied does not give enough weight to the heritage priority required for a WH property, and specifically to sustaining OUV, an obligations of the State Party under the World Heritage Convention. The Highways England territorial planning process for the removal of the A303 aims at a major priority; to benefit traffic and development to the Southwest of the country, leading to the proposed Stonehenge traffic solutions (tunnel D061 and D062). The design of the scheme within the WH property and road network development must however reconcile this operational objective with avoiding adverse impact on the OUV of the WH property and it is therefore not appropriate for the F010 option to have been discounted prior to the public consultation held on the scheme proposals. The Mission has consciously and appropriately considered and made comment on the F010 option, notwithstanding that this option was not overtly included as part of the Advisory Mission's Terms of Reference.

The Mission notes that all HIAs undertaken for the project should comply with the requirements and procedures set in the ICOMOS 2011 Heritage Impact Assessment Guidance and should also engage with the specific obligations of the SP under the World Heritage Convention. In particular it should be noted that benefits arising from changes in some parts of the property cannot outweigh negative impacts on OUV arising from impacts elsewhere.

4.4 Access and ownership

4.4.1 In the course of the Mission, it has become clear that some archaeological and heritage assessment related works could not be carried out at present, owing to the continuing lack of consent from the private landowner concerned, especially to the south of the A303 (see David Roberts, Andrew Valdez-Tullett and Alice Forward, "HE7238 - Stonehenge Southern WHS Survey Assessment Report", Historic England Excavation and Analysis (p. 76 of the Briefing Pack, as well as p. 266). Other archaeological reports provide further evidence of this, when for example it is stated that "The proposed evaluation of part of NE2 did not go ahead at this stage due to access constraints" in AAJV, A303 Archaeological Evaluation Report Interim Draft, HE551506-AA-EHR-SWI-RP-YE-000005 P01.2, Interim Draft, joined in the Complete Briefing pack, p. 581) and see Figure 1a).

Unlike the central area of the WH property (owned by HE, NT, EHT), both the proposed portal locations (East and West) are situated on privately owned land. The Mission considers that this state of affairs (which includes uncertain access to land for archaeological evaluation purposes) is detrimental to well-informed heritage impact assessment, because archaeological information that can inform decisions on tunnel routes, portal placements, access road and infrastructure hubs, is not available at an appropriate juncture of the decision-making process.

Indeed, the Mission considers that the implications of these access issues could have a flow-on impact on the credibility of existing and future HIAs if it were to transpire that access for thorough archaeological evaluation in the framework of HIAs may be secured too late for informed and impartial decision making processes.

5 - Corridor selection and route options around the World Heritage property

The following text is a summary of the process set out by Highways England (HiE) and reflect their views and what the State Party has set out as of January 2017 and it follows the Technical Appraisal Report (on line) prepared by AAJV to serve as public information. It is a synthesis made by the mission from a larger text which is presented in annex 4.

This section summarizes the existing problems and constraints in the study area of the existing A303 between Amesbury and Berwick Down, including the long lasting problems created by the existing A303 road passing through the heart of the Stonehenge, Avebury and Associated Sites World Heritage property (WH property), within 165 meters of the ancient stone circle and is bases on the Report which details the identification, sifting and appraisal of 8 corridors, then 7 route options considered, and finally 3 options. The procedures to determine the advantages and disadvantages of each route selected is also explained here.

A Power Point was also presented by the Highways England and AAJV, (Feb 2nd 2017) focusing on the development and appraisal of options for the many solutions that have been put forward to solve the A303 route. This with the Technical Appraisal Report are the two sources used in this section to explain the corridor selection and route options that led to the three alternatives presently under public consultation in January/ February 2017, in order to reach a final choice as an alternative to A303.

The Mission's opinions comments are only presented in 5.6 where a diagnosis of the problem of route selection from the Stonehenge OUV point of view as the State Party selection process was based on weighing up many parameters of which OUV was only one aspect.

5.1-The Highways England (HiE) Scheme Requirements

The Technical Report and the power point which summarized it was presented by AAJV and both started by announcing the Highways England requirements for the traffic solution. Highways England had the following objectives for the new road:

- Transport: to create a high quality route that resolves current and predicted traffic problems and contributes towards the creation of an Expressway between London and the South West;
- Economic growth: in combination with other schemes on the route, to enable growth in jobs and housing by providing a free flowing and reliable connection between the East and the South West peninsula;
- Cultural heritage: to contribute to the conservation and enhancement of the WH property by improving access both within and to the site; and
- Environment and community: to contribute to the enhancement of the historic landscape within the WH property, to improve biodiversity along the route, and to provide a positive legacy to communities adjoining the road.

Other concerns were also stated by HiE for the future road from which the mission underlines:

The strategic route will be redirected so as to reduce its site and sound impacts on the WH PROPERTY. *The redirected route will treat archaeological features with sensitivity and*

will protect the Outstanding Universal Value (OUV) of the WH PROPERTY. It will seek to minimise any damage to or loss of archaeology.

These intentions are important because they present clear principles serving as the basis for the selected road and the impact on the landscape around the iconic stone circle and the landscape belonging to the WH property which the mission had to analyse.

5.2 - Route Selection process

For the route selection process an identification of earlier corridor options was done where a wide range of proposed solutions to traffic problems on the A303 at Stonehenge over many years was identified. A review was undertaken of some 60 route options that have been proposed by Government, stakeholders and the public in the past. These options were grouped into a series of corridors which contained route options with similar characteristics. This resulted in eight corridors, representing the groups of route options.

The objective of this phase of the selection process (Design Fix A) was to undertake a multi- criteria assessment of the eight corridors and ultimately to recommend corridor(s) to be taken forward for further consideration.

The assessment and appraisal methodology used the following three criteria:

- a) Highways England Requirements.
- b) Web-based Transport Appraisal Guidance's (WebTAG) Early Assessment and Sifting Tool (EAST).
- c) National Policy Statement for National Networks (NPSNN) environmental aspects.

And the outcomes of the appraisal are resumed in four major comments of interest for the Mission:

- A) Surface route options within the WH property (Corridors B, C and E)
- B) Tunnelled Routes within the WH property (Corridor D)
A tunnelled route through the WH property would reduce severance within the WH property and improve the setting of key assets such as Stonehenge. The surface elements may cause adverse effects on the character of the WH property but it is considered that substantial harm can be avoided by locating the tunnel portals far away from the WH property core.
- C) Surface Routes outside the WH property (Corridors A, F (north and south) and G)
On balance, the harmful impacts would outweigh the benefits associated with the removal of the A303 through the WH property.
- D) Corridor F surface route options to the south of the WH property would remove the A303 from the WH property in its entirety. Surface route options to the south of the WH property would also offer a less direct route for through traffic and would therefore offer reduced transport benefits. More traffic would also remain or divert onto local roads (rat running), giving rise to adverse impacts on local villages and communities.

On the basis of the initial assessments, as summarised above the better performing corridor options were identified. Corridors A, B, C, E and G were not taken forward for further consideration. This left tunnel options within Corridor D and surface options within Corridor F (north) and Corridor F (south) being taken forward for further consideration in Design Fix B. Ultimately, a single Option 1 tunnel route running from the east past Stonehenge was selected, which then divided into Option 1N and Option 1S to offer a choice of northern or southern bypass for the village of Winterbourne Stoke.

At this point discussion with the Highways England representative and AAJV clarified that other projects in the South area of the WH property dealing with the military airport and new location for a major industrial investments were being considered and the possibility of Corridor F (south) had for that reason to take a longer route.

The procedure for the selection of the routes included an assessment of the seven options corridors against the National Policy Statement for National Networks and this considered the necessary areas of assessment as pointed below:

- Air quality.
- Carbon emissions.
- Biodiversity.
- Waste management.
- Civil and military aviation and defence interests.
- Coastal change.
- Dust, odour, artificial light, smoke, steam.
- Flood risk.
- Land instability.
- The historic environment (this includes impacts on WH PROPERTY).
- Land use including open space, green infrastructure, and greenbelt.
- Noise and vibration.
- Impacts on transport networks.
- Water quality and resources.

5.3- Commentary on Impacts

Tunnel based routes within Corridor D would still include portals and a section of above ground dual carriageway within the WH property which impacts on the landscape. Highways England consider that it would nevertheless bring substantial benefits for the WH property arising from the closure of the A303 to the south of Stonehenge, reducing severance within the WH property and the impact of traffic in the WH property. Overall, it is considered that the potential exists for the benefits to outweigh the harm.

As far as the impact on the landscape, at grade routes within Corridors A, B, C, and D have the potential to impact on the high quality landscape surrounding the circles, rings, avenue and cursus and a number of visual receptors in local communities such as Durrington, Shrewton Amesbury, Larkhill, and Winterbourne Stoke.

In summary according to HiE all corridors scored poorly when assessed against the Landscape criteria, with Corridors E, F (south), and G performing the worst due to the high quality landscape of the AONB and a high number of sensitive visual receptors

Corridor D, which includes tunnel sections within the WH property, scored best when assessed against the noise criteria, with corridors A and E performing the worst due to communities experiencing increases in noise levels.

Corridor D would reduce transport costs, improve regional connectivity, support the visitor economy and provide journey time savings compared to the existing situation. Corridor D had a good fit against the CSRs, particularly economic growth and transport, with the best overall fit of all the corridors. Similarly, the corridor scored the best of all corridors against environmental criteria and EAST. This corridor offers reduced severance

and potential to enhance the WH property and is the best performing corridor of all that were assessed. It was therefore recommended that Corridor D was taken forward for further consideration.

Corridor F (North) has a good fit with the CSR for cultural heritage and offers reduced severance and potential enhancement within the WH property by avoiding direct impact upon it. It was recommended that Corridor F (north) was taken forward for further consideration.

In terms of landscape both D061 and D062 would have a moderate adverse effect with scope for further mitigation during design development. For F010 the magnitude of change and the sensitivity of the high quality rural landscape along the approximate 21.5 km length and the visual impacts of the highly intrusive crossings of the Upper Avon Valley and River Till, would result in a substantive adverse effect on the landscape with limited scope for mitigation.

For the historic environment, both route options D061 and D062 would result in an overall neutral score compared with a large beneficial effect for F010. In terms of the WH property, F010 would also result in a large beneficial effect, whilst D061 would result in a slight/moderate beneficial effect and D062 a slightly greater moderate beneficial effect. These differences arise from the routing of D062 west of the western portal where it avoids important archaeological remains and uses local topography to better fit into the landscape of the WH.

The following table provides the results of the assessment of the seven option corridors for each of the route options.

Fig 5.1- Client (HiE) Scheme Requirements summary table (Source: Technical Appraisal Report, Atkins Arup 2016)

Document	Client Scheme Requirements	D061	D062	F010
Client (HiE) Scheme Requirements	Transport: to create a high quality route that resolves current and predicted traffic problems and contributes towards the creation of an Expressway between London and the South West	3	3	2
	Economic growth: in combination with other schemes on the route, to enable growth in jobs and housing by providing a free flowing and reliable connection between the East and the South West peninsula	3	3	2
	Cultural heritage: to contribute to the conservation and enhancement of the WH property by improving access both within and to the site	2	2	3
	Environment and community: to contribute to the enhancement of the historic landscape within the WH property, to improve biodiversity along the route, and to provide a positive legacy to communities adjoining the road	3	3	2

All route options would improve journey quality, reliability and safety for through traffic. However, F010 is expected to encourage more traffic to use local roads adjacent to communities to the north of the existing A303, resulting in adverse severance effects.

However, F010, due to its greater length, has the potential to result in significant loss of priority habitats and associated biodiversity. Benefits of route options D061 and D062 would include a shorter scheme in terms of its length, landscape reconnection and habitat restoration, leading to a reduction in road fatalities and increase in wildlife movement relative to route option F010.

All three options would result in a net beneficial effect on noise. However F010 has the potential for a larger beneficial noise effect than D061 or D062 due to the reduced noise impact of the existing A303 on Amesbury.

Current appraisal guidance (WebTAG) does not monetise or seek to quantitatively value impacts on historic environment. It instead relies on qualitative scores. In some respects, the value of cultural heritage assets is intangible and will remain unquantifiable. However, techniques exist which seek to monetise the value that people place on cultural heritage assets and the PowerPoint and the Technical Report both presented the willingness to pay methodology and results.

5.4. Willingness to pay survey: methodology and results

The Willingness to Pay Research presented by HiE was undertaken only on the basis of the tunnelled option (Route Option D061). A contingent valuation study was undertaken to provide a more balanced quantitative assessment of value for money. The aim of this study was to understand the value that visitors to the WH property, A303 users, and UK residents put on the removal of the A303 from its current location within the WH property, in relation to noise reduction, increased tranquillity, visual amenity and reduced landscape severance in the WH property.

The survey responses have been used to generate estimates of the aggregate willingness to pay of the UK population as a whole or, put another way, the overall value that society attributes to these benefits. It was considered that responses to the survey were highly influenced by impacts on Stonehenge itself as the most recognisable monument in the World WH property.

The contingent valuation study involved undertaking face to face surveys at the Visitor Centre as well as on-line surveys with a stratified sample of UK residents. The research considered three separate populations:

- Stonehenge Visitors.
- A303 Road Users.
- General population.

The Results of the inquiry are summarized below:

Fig 5.4- Respondents 'Willing to Pay' for the Proposed Scheme (Source: Technical Appraisal Report, Atkins Arup 2016)

	Visitors	Road users	General population
Willing to pay to move the road	67.4%	67.4%	59.2%
Requiring compensation for the removal of the road	0.5%	2.1%	2.3%
Neither willing to pay nor requiring compensation	32.2%	30.5%	38.4%
Total	100%	100%	100%

Those willing to pay something for the proposed improvement were asked how much willing to pay an increase in annual taxes over a three-year period to support the scheme.

In summary, the aggregate net benefit for visitors to Stonehenge is £24m, for road users it is £51m, and for the general population it is £1.1 billion. Combining these together results in an estimated aggregate net present value of £1.3 billion (2016 prices and values) for the removal of the section of the A303 for a tunnel.

Fig 5.5. Aggregate Willingness to Pay/Accept (Source Technical Appraisal Report, Atkins Arup 2016)

Group	WTP/WTA variable	%	Relevant Population	Mean (£ Net Present Value)	Aggregation to national level
Visitors	Annual tax	67%	363,776	£68	£24m
	Compensation (one off)	0.5%	2,517	£188	
Road Users	Annual tax	67%	854,212	£22	£51m
	Compensation (one off)	2%	27,204	£81	
General Population	Annual tax	59%	31,653,894	£14	£1,251m
	Compensation (one off)	2%	1,229,012	£58	
Total net present value (2016 prices and values)					£1,326m
Total net present value (2010 prices and values)					£992m

It should also be recognised that, in practice, the willingness to pay values cover a range of impacts not necessarily limited to historic environment. The values generated by the surveys are likely to capture impacts on noise, air quality landscape and amenity, as well as impacts on historic monuments. In overview, the willingness to pay research provides an assessment of the public value attributed to removing the road from the WH property. It provides a partial assessment of the benefits of the scheme which complements qualitative assessment based on expert opinion. Nonetheless, understanding the value that people place on the benefits of the scheme, the research helps us to better understand the trade-offs between cost and impact.

5.5- Highways England position summary

In respect of cultural heritage impacts, Highways England considers that all options would deliver transformative benefits for parts of the WH property by improving the setting of scheduled monuments, including Stonehenge itself, and by removing the physical barrier that currently divides the Site into two parts.

As noted, for all options, the benefits of removing the road from the WH property need to be balanced against the negative impacts of the construction of a new or widened surface highway in an otherwise rural environment. As for heritage impacts, quantifying such effects is highly challenging.

In relation to construction, design and management (CDM) safety assessment, route options D061 and D062 would involve significant tunnel construction, a highly specialised and technically complex activity. This would be considered a significant construction risk activity, but was assessed as manageable by a competent contractor. Route option F010 would involve the construction of significant viaducts over the River Avon and the River Till, which would require significant amount of working at height, another significant but manageable construction risk.

In regards to the scheme programme, route options D061 and D062 could be delivered to meet the road investment strategy (RIS) programme dates and achieve a start on site by March 2020. Route option F010 would require additional survey information leading to a 12 month delay relative to route options D061 and D062, and thus would achieve a later start on site date of approximately March 2021.

In conclusion, based on the more detailed WebTAG assessment and appraisal of the sifted best performing route options for corridors D and F, and the fit with the scheme objectives, the following route options are proposed to be taken forward to Stage 2 for public consultation and further appraisal, with no significant characteristics differentiating the two options:

- Route option D061: Approximately 2.9km length tunnel with route running north of Winterbourne Stoke, eastern tunnel portal located east of The Avenue and the western tunnel portal located west of Normanton Gorse to minimise visual impact to and from Stonehenge.
- Route Option D062: Approximately 2.9km length tunnel with route running south of Winterbourne Stoke, eastern tunnel portal located east of The Avenue and the western tunnel portal located west of Normanton Gorse to minimise visual impact to and from Stonehenge.

The mission was also informed that:

- 1- The estimated cost of the 2.9km tunnel is £1.4 billion; and
- 2- If the tunnel is 4.5km it would cost £2 billion.

5.6- Mission comments on the overall options selection process and criteria

From the point of view of the mission and the inscription of the WH property on the World Heritage List, the OUV is the key consideration, although it is recognised that HiE also takes into consideration many other factors which seem to be given equal weight. This problem was addressed during the discussion and the Mission pointed out that the option D061 and D062 highways crossing the WH property would have a highly damaging impact on OUV and that this key issue could not be outweighed by all other criteria and detailed justification put forward by HiE.

Corridor F surface route options to the south of the WH property which would remove the A303 from the WH property in its entirety presented a preferable solution for the WH property and impact on OUV. The SP responded that a surface route option to the south of the WH property would also provide a less direct route for through traffic and would therefore offer reduced transport benefits. Another issue on this route option was pointed out as more traffic would also remain or divert onto local roads (rat running), giving rise to adverse impacts on local villages and communities.

The mission recalled that the submission by various organisations contesting the tunnel suggests that these adverse impacts could be overcome, so this argument led to a new information about the non-willingness to develop the F010 longer surface solution: HiE clarified that a major project in the South area of the WH property near the airport runway within the military area was being considered as the future location for a major industrial investment, affecting therefore the length of Corridor F (south) that had for this reason to go further away and become a longer route. Nevertheless, the F010 option (even if longer) warrants further consideration.

As for the tunnel solution, notwithstanding the evaluations in the HIAs, the mission considers that HiE presents an over-emphasis on the benefits to OUV, or more specifically, benefits to the setting of the monuments in the central area of the WH property and understates the dis-benefits to the WH property of the tunnel/approach highways option – for instance it is said on p.3 of the Highways England 2016 Technical Appraisal Report that: *B) Tunnelled Routes within the WHS (Corridor D) A tunnelled route through the WHS would reduce severance within the WHS and improve the setting of key assets such as Stonehenge [by this is meant the main henge monument not the whole WH component]. The surface elements may cause adverse effects on the character of the WHS but it is considered that substantial harm can be avoided by locating the tunnel portals far away from the WH Site core*

This suggests that improving the setting of the Stonehenge monument by removing A303 is considered to be an improvement while adverse impact elsewhere in the WH property could be mitigated by putting the portal away from the central area so that it was not visible from the main henge monument.

The mission clarified that the whole WH property landscape had to be taken into account in assessing adverse impact and that the harm/ benefit consideration was relevant, but did not solve the negative impact on the OUV of the whole WH property. The proposed approach highways to the tunnel (outside the proposed portals, but within the WH property) would harm the OUV of the WH property.

The willingness to pay research presented by Highways England is an innovative procedure to help the evaluation of a major change in the area of the WH property, which affects the whole population of the UK as they will have to pay for this improvement. The final result is given in money value and adds arguments to the decision to be undertaken and may enrich the diagnosis of this second Mission, though only the tunnel was considered in the inquiry so the F010 proposal was set aside.

Since the estimated cost of the 2.9km tunnel construction is 1.4 billion, the willingness to pay survey has given an encouraging estimated aggregate net value of £1.3 billion (2016 prices and values) for the removal of the section of the A303 for a tunnel. The full length of the tunnel to cross the width of the WH property would be 5.6km with an estimated cost in excess of 2 billion which is almost the double of the ‘willingness to pay’ amount. This discussion is further presented in section 6.4.

Another factor was discussed when comparing F010 solution and D01/ D02; the former taking much longer to finish (Route Option F010 would require additional survey information leading to a 12 month delay relative to Route Options D061 and D062, and thus would achieve a later start on site date of approximately March 2021) thus affecting the

Development Consent Orders (DCO) timeline. It was explained by HiE that “when considering an application for development consent, the Secretary of State considers its benefits including for economic growth, job creation, and environmental improvement. This will be considered against adverse impacts of the scheme including long-term cumulative impacts. Such applications are required to be supported by a business case prepared in accordance with Treasury Green Book principles.” This approach had resulted in a clear preference for the tunnel, though the mission considered that the F010 solution had less impact, and was better fitted to preserve the OUV of the WH property.

The assessment methodology used to assess options, takes a broad approach, recognising the uniqueness of Stonehenge and its international importance, but also weighing up impacts on the many different individual monuments affected, either positively or negatively, by the scheme. The mission emphasised that impact on ALL attributes of the OUV of the WH property, including its landscape and the relationships between the monuments within it, not just the changes to the landscape around Stonehenge itself, require consideration. While the central area of the WH property area would benefit, the area of the portals and the associated approach roads would significantly impact upon the attributes of OUV.

For a World Heritage property, a simple balance between positive and benefit impacts is not appropriate. The appropriate ‘test’ is not whether or not there is a net benefit to OUV or other heritage values, but rather whether the outcome has an adverse impact on OUV. The prime objective should be to avoid adverse impacts on OUV. If impacts on OUV are unavoidable, that could be a basis for deciding not to proceed with the project. Thus the issue of balance for WH properties has to be constrained by the fact that however great the benefits of a project, these cannot compensate for irreversible impacts on OUV.

The ICOMOS *Guidance for the preparation of Heritage Impact Assessments* (2011) notes impacts on OUV can be positive – such as public benefits – as well as negative. But positive impacts cannot outweigh negative impacts. The mission report must focus on potential adverse effects on OUV of the WH property and especially on irreversible impacts.

The Mission recognises that the State Party and its relevant authorities under national planning structures need to balance a range of issues and factors in making decisions regarding the proposed project and that there are potential public access and landscape benefits. However, the mission considers that:

- The F010 option should be explored further as an alternative (even if it will take a longer route and a longer time frame) for further studies; and it costs far less.
- in view of the impact of the western tunnel portal on the WH property’s OUV, the two options D061 and D062 are effectively the same solution.
- D061-062 would cause considerable damage to the OUV of the WH property, through adverse effects of the Western Portal and approach road on the archaeological remains, on their landscape attributes, and on visibility and the wider setting.
- that the re-positioning of the eastern tunnel portal to the east of the 'Avenue', but still within the WH property, is an improvement, but is not an ideal solution; further refinements in the position are needed to ensure that impacts on OUV are avoided or mitigated. A location closer to the Countess roundabout should be considered, (bearing in mind other archaeological features in the vicinity, including the Mesolithic Blick Mead and the Iron Age Vespasian’s Camp).
- should a tunnel option remain under consideration, an extension of the tunnel should be considered so that the Western Portal should be located outside the WH

property to avoid its negative impacts on the OUV of the property, its landscape, monuments and archeological richness.

6- Proposed tunnel lengths and portal placements

6.1 Design fixes and costs

6.1.1 As stated in the 2017 Briefing Pack, a decision has been reached at the Design Fix C stage, that the:

"(2.2.9). Design Fix C assessed the route options identified in Design Fix B. The assessment started with a review of the three 4.5km tunnel options and determined that these were not deliverable within the Government's **prescribed terms and objectives** set out in the Road Investment Strategy and therefore did not constitute viable options. These route options were then discounted from further assessment"

The Mission would appreciate a brief explanation (or a reminder, if the information has already been provided) regarding these "prescribed terms and objectives"? Why and how were these criteria not met for the explored 4.5 km options? How are these criteria quantified, and particularly whether and how they are related to any issues of costs? Presumably the same criteria apply to shorter tunnel options, and they need to be explicitly stated.

The estimated actual construction costs of the tunnel were given, and they do not increase proportionally as the underground stretch tunnel length increases. From the Highways England Technical Appraisal Report 2016 and the presentation of Feb 2nd discussed in section 5, the estimated cost is as follows:

- 1- The estimated cost of a 2.9km tunnel is £1.4 billion
- 2- If the tunnel is 4.5km, it would cost is £2 billion
- 3- As far as the Mission could gather if the tunnel is extended by 0.9km westward, for a total length of 3.8km, its estimated cost would be £1.78 billion.

6.2 Process of design propositions and decision-making

6.2.1 An overview of the changing proposals, from prior to the first Mission through the intervening 14 months to the second Mission, makes it possible to better understand the range and sequence of considerations brought to play regarding the tunnel length and portal placements. These considerations are essentially heritage-related, economic, and technical.

6.2.2 An 'initial' state of affairs emerged following the December 2014 announcement by the UK Government that it would invest in upgrading the A303 ABD into a dual carriageway, including by its tunnelling on the perimeter of the WH property (see section 2.1 above). This announcement has led to several preliminary propositions by Highways England, the scheme developer. These included a "short" tunnel (being 2.1 km in length), as well as a longer tunnel, but one that would have been cut-and-cover rather than bored – that is, which is dug down from the surface over its whole length. This was quite rightly considered totally unacceptable by the official SP heritage bodies (HE, EHT) and the National Trust. The 2.1 km proposal was the subject of a public inquiry in 2004 and was recommended by the inquiry Inspector in his report published in 2005, but the UK Government cancelled the scheme in 2007.

6.2.3 English heritage agencies and institutions have proactively engaged with the issue, in order to provide to Highways England an answer to the question: "if a (bored) tunnel was to be built of a length inferior to 4.5 km, where would its portals be best placed on heritage grounds?" This 'best placement' was reached upon a complex factoring of predominantly heritage consideration, bearing on the assessment of adverse and beneficial effects to the WH property and its OUV. A study was carried out in 2014 by Nicola Snashall (NT) and Christopher Young (former EH – HE), and a number of potential locations were suggested by English Heritage (as it was then). As presented to the 2015 Mission, the more compelling locations in terms of heritage were identified as 'E' to the East ('online' – that is, on the path of the actual, single carriageway, A303) and 'A1' to the West (i.e. 'offline', to the south of the current A303). See Figure 2. The measured distance between these two points is of 2.9km – hence the proposal and proposal by the SP to build a bored tunnel "at least 2.9km long".

6.2.4 In October 2015, the first ICOMOS/UNESCO Advisory Mission raised serious misgivings about the location of the Eastern portal. It was considered of paramount importance to be able to recover the integrity of "The Avenue", an early Bronze Age path that leads from the Stonehenge monument to the Avon River (and clearly an integral part of the WH property OUV). While the Avenue is currently cut by the A303, the removal of this road will enable to recover its line (if not original fabric which is understood to have been destroyed by the construction of the present A303 road), provided that the Eastern tunnel portal was bored further to the East of it (and not to the west of it, as is point 'E', separating it from the Stonehenge monument).

The location for the Eastern portal is still under consideration, although the resulting eastward re-location was presented in the 2017 Briefing Pack presented to the current Mission. It has also been included in the documents of the non-statutory public consultation (run by Highways England from 12 January to 5 March 2017) as routes D061, D062 (see Figures 4.1-4.3 and section 1.4.3 above).

6.2.5 Studying the preparatory documents for the second UNESCO/ICOMOS Mission, and through inquiries during the Mission itself, it has become clear to the Mission members that, in the subsequent reiterations of the proposed routes (corridor D 061 - 062) a highly important design decision has taken place: since it was agreed to relocate the placement of the Eastern portal some 400 meters (as estimated on scaled Figure 3) eastwards (so as to 'reunite' the Avenue with the monument), a design decision was taken to move correspondingly by 400 metres eastwards the placement of the Western portal (initially proposed at A1, as discussed above). In other words, the length of the tunnel was considered to be fixed, at 2.9km: just like a piece of string, the moving of one end (eastwards) necessarily moves the other, in the same direction. This is illustrated through a map provided in a document produced by AAJV and entitled "A303 Amesbury to Berwick Down Heritage Impact Assessment in relation to the Outstanding Universal Value of the Stonehenge, Avebury and Associated Sites WHS Undertaken in accordance with the 2011 ICOMOS "Guidance on Heritage Impact Assessments for Cultural World Heritage Properties" Iteration 1 Report, HE551506-AA-GEN-SWI-RP-YE-000003, P3.0, 15th December 2016" appended to the complete 2017 Briefing Pack on pp. 730-791 (followed by appendices). The map in question is Figure 4: Corridor D route options p. 790, reproduced here as (Figure 3).

A comparison of Figure 2 (A1 in Snashall & Young 2014), Figure 3 (this AAJV produced map) and Figure 4.1-4.3 (from the non-statutory public consultation PDF document) shows that the AAJV Map – with the eastwards shift of the two portals clearly marked, and the

designation D061-62, is the one that has been put forwards in the public consultation – and commented on by various stakeholders.

The first Advisory Mission commented on the difficulties of a Western portal being sited within the WH property. Given the importance of the overall archaeological landscape of the property, the tunnel portals and approach roads would be a major change that could have severe consequences to the OUV of property.

The Mission has concluded that if a tunnel solution were ultimately to be pursued, as part of the iterative design process, an extension of the tunnel should be considered so that the Western Portal and its associated approach road would be located appropriately outside the WH property to avoid its negative impacts on the OUV of the property, including its landscape, monuments and archeological richness, or its setting; and, although the re-positioning of the eastern tunnel portal to the east of the 'Avenue', (but still within the WH property), is an improvement, it is not yet an ideal solution; and further refinements in the position are needed to ensure that impacts on OUV are avoided or mitigated. A location closer to the Countess roundabout should be considered (bearing in mind other archaeological features in the vicinity, including Blick Mead and Vespasian's Camp).

6.2.6 As one of the useful outcomes of this discussion regarding tunnel length and portal placements, an additional issue (on top of heritage and economic considerations) was identified, that of technical considerations. As indicated to the Mission orally by the Highways England, over a certain length of tunnel (- Such as? Is it 3, 4, 4.5 Km? What does it depend on? How can that be affected? -) it is necessary to provide the tunnel with ventilation through vertical shafts (in addition to that 'naturally' induced by traffic flow, or by a ventilation system at the portals). This technical requirement was apparently considered by the heritage bodies (though this does not appear in the documents provided), who requested to ensure that no such ventilation shafts would be placed within the WH property.

The Mission requests further clarification on this possible technical constraint, and on its possible role in limiting the length of the proposed tunnel. The Mission requests confirmation as to the reality of the requirement by the heritage bodies – that there be no ventilation shafts on the WH property – and the degree to which this request has contributed to rule out the 4.5 Km option discussed above. Further to that, it is requested that the SP and the heritage bodies weigh the benefits of a longer tunnel against the necessity of accepting one or two ventilation shafts with the WH property – a provisional HIA could be carried out, in view of assessing how might such shaft(s) be judiciously and sensitively located so as to have no or minimal impacts on heritage assets, on landscape, on visibility, on visitor safety and enjoyment etc. Furthermore different tunnel construction options might be considered that require less ventilation shafts.

6.3 Specific comments on the proposed Eastern and Western tunnel portals locations and approach roads

6.3.1 On the Eastern Portal.

The Mission notes that the recommendation of the April 2016 with regards to the recovery of the prehistoric 'Avenue' was taken on board. All proposals made subsequently, including in the non-statutory public consultation, have explicitly placed the Eastern portal to the East of the Avenue. Some documents, including the press release of the heritage

bodies, explicitly relate this decision to the first ICOMOS/UNESCO Mission report (see Annex 3).

The SP and its heritage bodies will nonetheless need to remain particularly vigilant, as further decisions are taken and plans proceed, that a full heritage impact assessment is carried out in the area, and that both the portal and its access route and construction infrastructure have no adverse effect on heritage assets that contribute to OUV. This needs to be emphasised because the area to the east of the Avenue within the WH property contains several heritage assets, some well known such as Vespasian's Camp, others in the course of being investigated, such as Blick Mead (Mesolithic). Concerns about these heritage assets have already been expressed by respondents to the public consultation.

6.3.2 On the Western Portal and its associated approach road.

The location of the Western Portal as currently proposed (e.g. in the non-statutory public consultation documents) is the subject of major criticism. In addition to various comments by professional archaeologists and other stakeholders, this Western portal proposal is also subject to considerable scrutiny by Snashall & Young 2017, in their preliminary HIA.

The objections raised by the above bodies and stakeholders to the current proposition D061-062 for both the portal and the almost 2km approach road concern issues of integrity to the archaeological landscape, as well as inter-visibility of the monument which are presented in section 6.4 and overall to impact on OUV. In addition, other objections are related to the presence of newly discovered or confirmed archaeological remains in the A303/ A360.

Indeed, as indicated above (section 4.1) the non-intrusive and intrusive evaluation work already carried out by AAJV and their sub-contractor Wessex Archaeology, as well as by Historic England has brought in some new results, which have been synthesised in Snashall & Young 2017. As indicated in their figure 2 ("Key groups of attributes of OUV", reproduced here as Figure 5) these include the occurrence of two long barrows and a hengiform monument in the area around the Diamond cove (n° 18 in the figure), and the broadening of the boundaries of the Normanton Down Barrow Group (n° 14/15).

The conclusions of the Snashall & Young 2017 report is that both routes D061 and D062 have to various degree adverse impacts on OUV, and cannot be as such accepted. This assessment by Snashall & Young 2017 served as the basis for the joint position statement by HE, NT and EHT following the non-statutory public consultation (Annex 3) whereby "The western tunnel portal location as shown in the consultation documents need significant improvement" (though no specific mention was made here of the highly adverse impact of the approach road).

The ICOMOS/UNESCO Mission fully endorses the reservations expressed by the heritage bodies – and those expressed even more forcefully by the professional archaeological community and the wider public as well – regarding the negative impact on OUV of currently proposed Western Portal (D061-62) and its associated approach road.

6.4 Landscape impact at the western tunnel portal

The impact on OUV should cover both archaeological sites and their disposition and inter-visibility in the landscape therefore the landscape analysis is not separate from archaeology. During the mission a video simulation was shown where the dynamics of the highway

“erupting” out of the tunnel on the proposed western portal within the WH property landscape could be seen with a bird’s eye view. The vision of the traffic dynamics, the embankments required to create a landscape surface, flat enough for the road levelling and highways’ smooth slopes, impressed the whole audience because of the considerable earth movements that this construction would require within the limits of the inscribed WH property.

It was noted that the video was generic, and did not reflect this specific scheme in any way in the portrayed use of embankments. However, from a landscape architecture point of view, the earth works of a highway with embankments are always an impacting procedure in any landscape, let alone one where every archaeological assessment is likely to reveal much information on a time period spanning from the Neolithic to the Romans.

The afternoon of that day, a visit on-site to different visual important points took place. Highways England, National Trust, Historic England and English Heritage pointed out the approximate place where the 2.9km tunnel would emerge, and this only confirmed the landscape impact and the harm that the western portal location decision as currently proposed (fig 6.4.1) would cause to the integrity of the WH property's complete landscape.

A photograph taken near Long Barrow (fig .6.4.2) shows the project director pointing to the estimated location where the Western portal will emerge (fig 6.4.3), to the east of the woodland patch called "the Diamond". In both proposed routes D061 and D062), the portal will destroy part of this forest. The exact location of this photograph is shown in point 5 in the map fig.6.4.1, and a view of this open landscape allowed the mission to understand the visual proximity of the Stonehenge circle to the many barrows and Neolithic remains, establishing a network of inter-visible landmarks that compose this rich landscape.

As seen from the photographs of the visit (fig.6.4.4) and the map the landscape presents green rolling hills, clumps of forest, a pig production area (fig 6.4.5), edges along the walks and from many points of view the barrows, the *Cursus*, and the circle are visible.

The removal of the A303 would finally unite this whole landscape within the WH property and that visitors will be able to (finally) enjoy this unique landscape without any disturbance, being able to walk from Stonehenge circle to Normanton barrows or along the Avenue and hiking the whole length of the *Cursus*, then the SP is improving much of the WH property as a united landscape.

This would allow visitors to appreciate and perceive this WH property as it was built during the millennia of ritual and religious use. However, in this case the cutting by a highway of this united landscape with the final 900m of outside open highway will just damage again the silence, the quietness and the view of this unique WH landscape.

6.5 Visitors access and control

6.5.1 As indicated above in dealing with the SP's responses to the 2016 recommendations, (section 3.3.), it is urgent that more be understood and planned with regards to "**the day after**", when and once the tunnel is open and operational and the landscape is "reunited". Question of access and control, the centralising position of the Stonehenge visitor centre (EHT) and other means of access to the land (NT) need already now to be anticipated – and shown to be taken seriously.

- The SP will want to ensure that it can deliver on its heritage promises, that burying the A303 in a tunnel (or through constructing a bypass) has heritage benefits in addition to traffic ones, and that whole Stonehenge landscape is made more accessible for a greater number.

- At the same time, the SP will want to ensure that proper protection and control measures are designed and applied, in a situation when the A303 (surface) is no longer here to serve as a 'natural' protective barrier and channel for Stonehenge related traffic.

- Some precise questions of access routes, car parks (paying? protected?), facilities and shops (with possibly local benefits) can be anticipated, as well as a diversity of access to Stonehenge, including a diversity of physical routes as well as narratives.

- Particular attention should be paid to the Avenue, and the Eastern Tunnel portal. With the link between the Stonehenge monument and the river Avon 'recovered', it can be expected that the Avenue, the stretches that remains and those that can be re-united, will generate further public and tourist attention, be it in the context of special events and processions (solstices) or on a more recurrent basis. Measure should be in place to ensure that enjoyment and appreciation of these features does not compromise their integrity in any way.

6.5.2 - The issue of **the 'free road-glimpse' of the Stonehenge monument** that will be lost needs to be taken seriously and address properly. The Mission recommends to the SP, as part of its anticipation and preparation ahead of the completion of longer Tunnel, or a bypass, to undertake- a comparative study of the 'public visibility' of selected sites and monuments, in urban settings or in the countryside, including (1)- all the WH property in the UK, (2) – the top 10 (or 15, 20, however relevant) most visited EHT and NT sites, and (3) the top 10 (or 15, 20, however relevant) most visited heritage sites in the UK (non EHT or NT)). Such a study will seek to assess how many and how such sites and monuments are (a) visible without entry (payment, control) and (b) at all visible, and to what degree from through road or public paths, without detours or specific deviations.

Such a study, involving heritage and tourism professionals, will serve to assess for its worth the important claim on the loss of the Stonehenge 'free view from the road'.

6.5.3 – **Between Stonehenge and Avebury.** All of the major monuments owned & cared for by the National Trust in both the Stonehenge and Avebury parts of the WH property are accessible for free and are permissive open access land, open 24 hours a day, 7 days a week, all year round. However, there an urgent need for better coordination between the two heritage bodies (EHT and NT) responsible for the management of the WH property, which appear to be behaving here somewhat like competitors for money-spending customers, rather than as partners in the custodianship and enhancement of what is a single WH property with a single overarching management plan. Instead of ignoring each component, or reluctantly parting with information ("we have run out of brochures and they have not yet restocked us", "sorry no map, but you'll need to drive northwards about 40 minutes" – paraphrases of answers given to the Mission expert at the Stonehenge information desk), it should be expected of these heritage agencies (and especially EHT, which oversees the visitor centre) to consider both components as if they were 'their own', with possibilities and encouragement of tie-in visits.

6.5.4 – Stonehenge-Avebury. The existing management mechanisms and process, (under which NT and EHT are active participants in the WH property governance structure –

comprising ASAHRG, the WHS Committees, WHS Partnership Panel, WHS Liaison Group and multiple WHS-focused task and finish groups) should be reviewed and refined to ensure that the two teams work better together, alongside of course the Wiltshire authorities and local stakeholders, to ensure that as smooth connections as possible are being made and reinforced between the Stonehenge and the Avebury components, in terms of visitor information (both on-site and upstream on the respective websites, with links etc.), access, facilities, experience, interpretation.

This process could be implemented within the framework of the MOU as recommended by the First Mission (recommendation 3.1). The SP has indeed set up subsequently a Memorandum of Understanding regarding the relationships and modes of collaboration between the heritage bodies (HE, NT, EHT and WCAS) (see point 5.14 of the Briefing Pack). Within the remit covered by this MOU (5.14.8, 5.14.9) should be added a working group specifically concerned with the links between the Stonehenge and the Avebury components of the property.

This connection between the Stonehenge and Avebury components is all the more relevant for two reasons:

- 1) Recent research and interpretation rightly emphasize the "landscape" dimension, which should address the inter-connectedness of the components of the WH property (e.g. Salisbury, Old Sarum, Devizes, Stonehenge and Avebury, Silbury hill, and more...).
- 2) The eventuality of the A303 ABD infrastructure project materialising will clearly cause considerable disruptions during construction. Visitor behaviour may well take new patterns and seek different routes and sites: the specific ways in which Avebury may be included in the circuit (with all the potential risks incurred in visitors upsurge) needs to be thought-out and agreed, with from the onset all national and local heritage bodies and stakeholders.

7 - Management Plan and sustainable tourism strategy

7.1 - Sustainable tourism strategy

The consideration of the WH property in its entirety (Stonehenge and Avebury) is a prerequisite to any mitigation measure to the current development project. Indeed, to resolve a traffic problem or to restore the integrity of the WH property does not imply the same approach. Up to now, it seems that the resolution of the traffic problem, by dualling the lines of the A303 and boring a tunnel, is presented as a project of restoration of the visual integrity of the WH property, therefore directly enhancing the OUV of the property. On the contrary, any change of the situation on which the adopted OUV was defined should be carefully considered on the property as a whole, including on the overall integrity and authenticity of the property and not on specific components of the OUV, ie: Stonehenge monuments and surroundings monuments. The wider landscape of the WH property is to be considered and not only the scheduled monuments. Therefore, the mitigation measures of the proposed project must address the traffic flows and the visitor flows in the property as a whole, *Stonehenge, Avebury and Associated monuments*. Two members of the Mission requested to go to Avebury on the last day of the mission and met with the local stakeholders with the view to understand the global situation and draft appropriate recommendations.

The visit to Avebury and the meeting with the local stakeholders confirmed the need to take into consideration more closely the Vision developed for the site in the 2015 Management Plan and to consider the impact of the change induced by the A303 project on the Vision itself (p.10 of the MP) and the subsequent management priorities. It is worth to recall that the Management Plan stated : “*given the density of the known archaeology, there is considered to be great potential for new discoveries within the WHS, and the protection of the archaeology and the landscape is given a high priority in development control decision within the WHS*” (MP, p.18). The 2015 Management Plan (the first joint Stonehenge and Avebury WH Site Management Plan) must be the reference document on which to ground the review of the heritage impact assessments and of the mitigation measures in all their aspects. In addition to the OUV and its attributes, key notions put forward by the MP should be used to this aim such **the landscape** in all its features and **the national and local values of the property**.

It is important to acknowledge that UNESCO policies and internationally agreed objectives, which should be reflected in the State Party management approach, are fully included in the Management Plan, including *Visitor Management and Sustainable Tourism* as a key management issue and opportunity. However, a WH property Sustainable Tourism Strategy is still to be developed.

Consequently, the mission recommends as a priority that, in line with the priorities of the 2015-2021 Management Plan, a sustainable tourism strategy of presentation and promotion of the WH property be developed as soon as possible with the view 1) to frame the mitigation measures, such as the loss of direct visual access of Stonehenge Monument, into a wider context; 2) to ensure that the economic benefits related to the WH property are spread to the community and the wider county and 3) to ensure the lasting conservation of the site.

The Mission further recommends that, in the same spirit, stakeholders meetings and public consultation about the Stonehenge scheme should be extended to Avebury and north of Wiltshire areas.

8 - Future Consultation, Engagement and Advice

Having regard to the requests in the Terms of Reference for the Mission to consider appropriate mechanisms for future consultation, advice and engagement, and how the World Heritage Centre and its Advisory Bodies can offer advice on the impact on the OUV of the WH property in light of the reporting process to the annual World Heritage Committee and statutory timescales of the Development Consent Order (DCO) application, as the plans to address the problems caused by the existing A303 trunk road traffic are further developed over the coming years, the Mission has concluded that the program of consultation, engagement and advice should continue.

There should be a process of ongoing consultation and discussion between the World Heritage Centre, ICOMOS (as Advisory Body) the State Party, the excavation and analysis team of Historic England, Highways England, the AAJV and Wessex Archaeology, and the HMAG, in order to facilitate the best possible outcome for the property.

A program of ongoing advisory Missions is warranted. One of the aims set by the Mission has been "To examine ways by which ICOMOS/UNESCO can offer further upfront advice as the project develops".

The Mission considers that a further Mission concerning the A303 ABD Scheme sets up a new 'consultative' process with stakeholders, local communities, residents, civil society, Stonehenge alliance, ICOMOS UK as well as professional archaeologists, academics and universities etc. During the first Mission in October 2015, such a "surgery" has proven very successful – including a 15 minutes presentation by a range of stakeholders to expose their views and gain a better understanding of their position. Given the development of the scheme and its growing precision of the Scheme, and prior to any decisions being taken, such a renewed consultation process in the framework of a joint ICOMOS/UNESCO Mission would prove very useful.

The timing and unfolding of such follow-up missions remain to be determined with the SP, in function of the calendar related to the A303 ABD scheme – DCO, Governmental decision, and also in function of the requirements of the World Heritage Centre and the World Heritage Committee.

The State Party needs to accept that for this iconic WH property it would be appropriate to adjust the project program and the expectations of all major participants to align with the World Heritage Committee timeframe and process, through careful attention to the 'triggers' which instigate statutory timeframes and deadlines. It would not be appropriate for the relevant SP Minister to take any decision without enabling the Committee inputs to inform that decision. The Mission notes that while there will be a State of Conservation report considered at the next Session of the Committee (after which the Committee Decision should guide the State Party and its agencies in how to proceed), that this need not preclude the Minister receiving advice and information earlier, but would require a longer timeframe for final decisions than is currently intended.

9. Conclusions and recommendations

9.1 Conclusions

A joint ICOMOS/UNESCO Advisory Mission was undertaken on the 31 January – 3 February 2017 concerning the A303 Amesbury to Berwick Down road Scheme and its impacts on the Stonehenge WH property and its OUV. Issues of traffic surrounding Stonehenge are long-drawn affair. The single carriageway stretches of the A303 within the WH property perimeter have long proved to represent (a) a hindrance to the flow of traffic in a major artery to the South-West of the country, and (b) an adverse impact on the Stonehenge monument (165m distant from the road) in terms of noise and pollution, and also on the wider Stonehenge landscape, its integrity and its enjoyment.

Like the preceding Mission in October 2015 (reported in April 2016), this Mission was undertaken at the request of the SP in order to obtain insights and advice on the ongoing process by which propositions are fleshed out and eventually promoted with regards to the A303 ABD Scheme. It must be emphasized that it is not the aim of this Mission to approve or endorse any proposals or to anticipate official responses by ICOMOS, UNESCO, or the World Heritage Committee.

In a Briefing Pack, the SP provided comprehensive information and documentation relating to:

- 1) its responses and actions upon the recommendations of the First Mission, and
- 2) the various measures undertaken since the first Mission (October 2015) in terms of choice of operator (AAJV) by the developer (HiA), and subsequently in terms of design, scheme development, route selection, Heritage Impact Assessment, and archaeological intrusive and non-intrusive operations.

The Mission took place during a phase of non-statutory public consultation (12.01 – 5.03.2017) launched by the SP and the scheme developer Highways England. Specific consideration of this consultation process was not part of the remit of the Mission: it is worth noting however that the information and proposals released as part of this public consultation was the one that was available to most stakeholders, academics and wider public – and that it is on the basis of this information that comments and reactions were formulated.

The Mission appreciated the investment, commitment and goodwill demonstrated by the SP and its agencies and officers. However, the Mission also noted weaker aspects in the process by which the findings of the HIAs and the OUV of the WH property and its attributes were integrated and taken into account in the decision-making mechanisms.

As well, for the tunnel option, specific proposals regarding portal locations made by the SP pose considerable threats to OUV. These weaknesses, addressed throughout this report and further discussed in the form of recommendations below, concern such aspects as the scientific reinforcement and credibility of HIA measures (both Archaeology and Landscape related), the transparency of the decision process, and the proposed location of the tunnel portals. Although commitment to a bored tunnel of "at least 2.9 km" long has been reiterated since the onset of the current process (2014), and although the SP's heritage bodies and the National Trust seem well conscious of the need for considerable flexibility in this respect, to avoid threats to OUV, this may not be fully the case with the scheme' developers and their consultants.

Regarding the currently proposed locations of the tunnel portals (if such a tunnel is to go ahead), the Mission has reached the following conclusions. The location of the Eastern portal as proposed (including in the non-statutory consultation) – is situated within the boundaries of the WH property. Its repositioning to the east of the important prehistoric feature known as the 'Avenue', linking the Stonehenge monument to the river Avon, clearly follows heritage and OUV considerations, and as such is to be welcomed. Nevertheless further refinements in the position are needed to ensure that impacts on OUV are avoided or mitigated. A location closer to the Countess roundabout should be considered, especially with regards to approach routes and infrastructure during construction, (bearing in mind other archaeological features in the vicinity, including Blick Mead and the Vespasian's Camp).

The location of the Western portal as currently proposed (including for the purpose of the non-statutory public consultation) is also situated within the boundaries of the WH property. This placement is highly likely to bring adverse impacts to a range of archaeological monuments on its course, and to the wider landscape inter-visibility relations of the WH property elements and thus to impact adversely and unacceptably on its OUV. This conclusion rejoins and reinforces the misgivings expressed by the SP heritage bodies, both during the Mission and in their joint position statement of 8 February (Annex 3).

The Mission urges the SP to work further in order to identify satisfactory solutions to the A303 traffic issues that would not comprise the OUV of the WH property, and that would abide by the SP's international obligations in these matters. To this end, the joint ICOMOS/UNESCO advisory Mission readily endorses the SP's request to ensure the further engagement and availability of international advisors in subsequent Missions, with terms of references and a calendar to be jointly fixed. ICOMOS and UNESCO stand by the SP in this challenging and complicated process of ensuring that solutions to the A303 traffic issues are done in full respect of the OUV of the WH property.

9.2 Recommendations

Following the 3 days of on-site visit and interactions with SP representatives, developers, heritage bodies and other stakeholders, the joint ICOMOS/UNESCO advisory Mission puts forward a series of recommendations.

These are presented here in sequence, dealing first with recommendation following from the previous Mission, with recommendation related to current developments, and with recommendations for further involvement in the process. For that reason there is some overlap.

9.3 Recommendations following from the first mission:

9.3.1 Recommendation proposed in relation to section 3.2 above.

The Mission recommends:

-That (a) the "HMAG scientific committee" be immediately fully constituted, and ensured to include independent scientific experts (i.e. unrelated to the 4 official bodies or agencies already implicated), such as university based academic researchers (e.g. from London, Southampton, or Bournemouth) and representatives of the "Avebury and Stonehenge

Archaeological and Historical Research Group" (ASAHRG) – as per requirements of the just published "Research framework document" (Leivers & Powell 2016).

-That (b) the scientific committee be implicated, upstream, in all matters that it considers relevant and within its areas of expertise, and not be limited to punctual or "additional advice" at the instigation and judgement of the HMAG official bodies.

-That (c) the "HMAG scientific committee" has the time, availability and access to all the information necessary in order to proactively ensure that all archaeological operations undertaken on the WH property (and indeed on the A303 ABD Scheme as a whole) are not limited to mitigation considerations in the framework of commercial, developer-led archaeology, but abides by academic standards and contribute also to ongoing research agendas and the generation of new knowledge.

9.3.2 Recommendation proposed in relation to section 3.3 above.

The Mission recommends:

-That the SP takes all the necessary steps to adequately study visitor behaviour and their changes as likely to occur in the eventuality of a tunnelled A303 road, or a bypass, and a reconfigured Stonehenge landscape. The proposed study, logically to be undertaken by the heritage bodies, should be launched as soon as possible, including its scoping, identification of in house or external expertise, and its funding by the developer. It should also include research and study, including surveys and questionnaires, leading to a thorough understanding of the issue of the "loss of visibility" of the Stonehenge monument by passing motorists.

9.4 Recommendations related to current developments

9.4.1 Recommendation proposed in relation to section 4.4 above.

The Mission recommends:

-That all the A303 ABD Scheme related Heritage Impact Assessment and archaeological evaluation work, both non-intrusive and intrusive, is undertaken to standards requested of the academic research projects undertaken in the same area. This includes the availability of skills and personnel, the appropriate use of mechanical and of manual tools, and appropriate sampling and analysis strategy etc. The scheme's developer and the heritage bodies should take on board the required duration and costs of these measures.

-That in the event that the project proceeds in a manner which requires further archaeological investigation then the SP should take all the necessary measures to ensure by all possible means that the archaeological operations undertaken on the A303 ABD – both within and outside the WH property perimeter – fulfil their dual mission, which is to provide well-established and potentially decisive heritage assessment, and also take the unique, unrepeatable opportunity to contribute research generated knowledge about the past. This objective may be assisted by:

- a) recruiting the HMAG scientific committee, as soon as possible with both ASAHRG and academic researchers fully involved; and
- b) ensuring that the standard of archaeological work at the WH property meets the standards demanded of research excavations, and not those, necessarily different in their aims, practice and yes, costs, that apply in some areas of commercial archaeology. This would also mean to follow and implement the recent report published for the WHS management by Wessex Archaeology "A Research Framework for the Stonehenge, Avebury and Associated Sites World Heritage Site: Research Agenda and Strategy" (Leivers & Powell 2016):

9.4.2 Recommendations proposed on section 5.

The Mission recommends:

-That the F010 option should be further explored as an alternative (even if it will take a longer route and a longer time frame) for further studies as it would have a much lesser impact on the OUV of the WH property (and also will cost considerably less);

- The SP should inform WH Centre, as per paragraph 172 of the *Operational Guidelines*, about the large industrial project near the military airport south of the WH property that could impact on the F010 road lay out but also on the property nearby.

-That, if a longer tunnel was to be pursued as an option, an extension of the tunnel should be considered so that the Western portal and its associated approach road would be appropriately located outside the WH property to avoid negative impacts on the OUV of the property, including its landscape, monuments and archeological richness, or its setting. The SP should undertake a comprehensive Heritage Impact Assessment for the portal and approach road placement which addresses archaeology, the visibility and noise factors incorporating a landscape impact study focusing on the inter-visibility and visual envelopes (viewshed) of the Western portal and highway locations. These studies should support a solution that avoids impact on the OUV of the WH property.

- That, while the re-positioning of the eastern tunnel portal to the east of the 'Avenue', but still within the WH property, is an improvement, it is not an ideal solution, and further refinements in the position are needed to ensure that impacts on OUV are avoided or mitigated. A location closer to the Countess roundabout should be considered, (bearing in mind other archaeological features in the vicinity, including the Mesolithic Blick Mead and the Iron Age Vespasian's Camp).

9.4.3 Recommendation proposed in relation to section 6.2 above.

The Mission recommends, if longer tunnel options are pursued:

-That the technical options and issues surrounding the ventilation of a tunnel be addressed in good time for decision taking on the length of a tunnel (and the placement of the portals). The needs for ventilation and the range of possible solutions should be understood upstream, including the opportunities provided (in terms of tunnel length and costs and the challenges raised (in terms of the placement and intrusiveness of eventual ventilation shafts).

9.4.4 Recommendation proposed in relation to sections 6.3 and 6.4 above.

The Mission recommends, if longer tunnel options are pursued:

-That negative impacts on the WH property and its setting should be avoided, bearing in mind that as an early WH inscription the WH property does not have a buffer zone and the rolling landscape within which it stands is prone to higher impacts from visual intrusions because of very high inter-visibility issues.

-That the SP should ensure that the process of portal location selection and design is more secure and explicit in terms of analysing their impact on OUV, and its attributes encompassing both archaeology and landscape,

-That because any change in the landscape; (and the tunnel portals and their approach roads are a major change); could have severe negative impacts on the OUV of the WH property,

(a) if the D061/D062 were still to be pursued as an option, an extension of the tunnel should be considered so that the Western portal would be located outside the WH property to avoid its negative impacts on the OUV of the property, its landscape, monuments and archeological richness, and the Western portal and associated approach road, are located so that they would not pose any threat to the property or its setting.

- That supported by visual studies (b) new designs are proposed to locate the Western portal and associated approach road so that they do not pose any threat to OUV in line with the SP's commitment to protect and enhance the OUV of the WH property, and that detailed HIAs are undertaken for each proposal.

-That (c) the A303 stretch west of the A360 to Berwick Down benefit from the same attention and standards of evaluation, HIA, archaeology and landscape, as those deployed within the perimeter of the WH property.

9.5 Recommendations for further involvement in the process

Recommendation proposed in relation to section 7 above and the Mission generally:

There should be a process of ongoing consultation and discussion between the World Heritage Centre, ICOMOS (as Advisory Body) the State Party, the excavation and analysis team of Historic England, Highways England, the AAJV and Wessex Archaeology, and the HMAG, in order to facilitate the best possible outcome for the property.

A program of ongoing advisory Missions is warranted. One of the aims set by the Mission has been "To examine ways by which ICOMOS/UNESCO can offer further upfront advice as the project develops", in response to that, and in view of the unfolding of the A303 ABD scheme and its possible future developments.

The Mission recommends that the SP establish a new 'consultative' process, such as an open forum, with stakeholders, local communities, residents, civil society, Stonehenge alliance, ICOMOS UK as well as professional archaeologists, academics and universities to engage into a dialogue with communities concerned.

The timing and unfolding of such follow-up missions remain to be determined with the SP, in function of the calendar related to the A303 ABD scheme – DCO, Government decisions and the requirements of the World Heritage Committee, the World Heritage Committee and ICOMOS.

However the Mission recommends that the project programme and the expectations of all major participants should be adjusted to align with the World Heritage Committee timeframe and process, through careful attention to the 'triggers' which instigate statutory timeframes and deadlines.

List of Figures (and sources)

Figure 1a. Site location plan – Wessex Archaeology (p. 625 of complete Briefing Pack). Figure 1 in "A303 Amesbury to Berwick Down. A303 Archaeological Evaluation. Report Interim Draft. Arup Atkins Joint Venture. HE551506-AA-EHR-SWI-RP-YE-000005, P01.2, Interim Draft".

Figure 1b. Site location plan – Historic England (p. 339 of complete Briefing Pack) Figure 1 in Historic England "Stonehenge Southern WHS survey, Diamonds field, Boreland farm, Wiltshire. Report on geophysical surveys, August 2015".

Figure 2. The "2.9 Km" proposal A1-E. From the Snashall & Young 2014 report, reproduced from the ICOMOS/UNESCO First Mission Report.

Figure 3. Corridor D route options (p. 790 of the Briefing Pack). Figure 4 in AAJV, "A303 Amesbury to Berwick Down Heritage Impact Assessment in relation to the Outstanding Universal Value of the Stonehenge, Avebury and Associated Sites WHS Undertaken in accordance with the 2011 ICOMOS "Guidance on Heritage Impact Assessments for Cultural World Heritage Properties" Iteration 1 Report, HE551506-AA-GEN-SWI-RP-YE-000003, P3.0, 15th December 2016".

Figure 4. 1. Public consultation Booklet January 2017 – Overview
4. 2. Public consultation Booklet January 2017 – Proposed option.
4. 3 Public consultation Booklet January 2017 – Proposed emplacement of Western Portal.
Highways England "A303 Stonehenge. Amesbury to Berwick Down. Public Consultation Booklet – January 2017"

Figure 5. "Key groups of attributes of OUV", p. 10 (Fig.2) in Snashall N. & Young C. 2017, "Stonehenge A303 improvement: outline assessment of the impacts on the Outstanding Universal Value of the World Heritage property of potential route options presented by Highways England for January 2017", HE & NT 2017

Fig 6.4.2. - Pointing to the western portal approximate location seen from Long Barrow



Fig. 6.4.3 - Western portal site at 1 to 30.000 - 2016 by Highways England

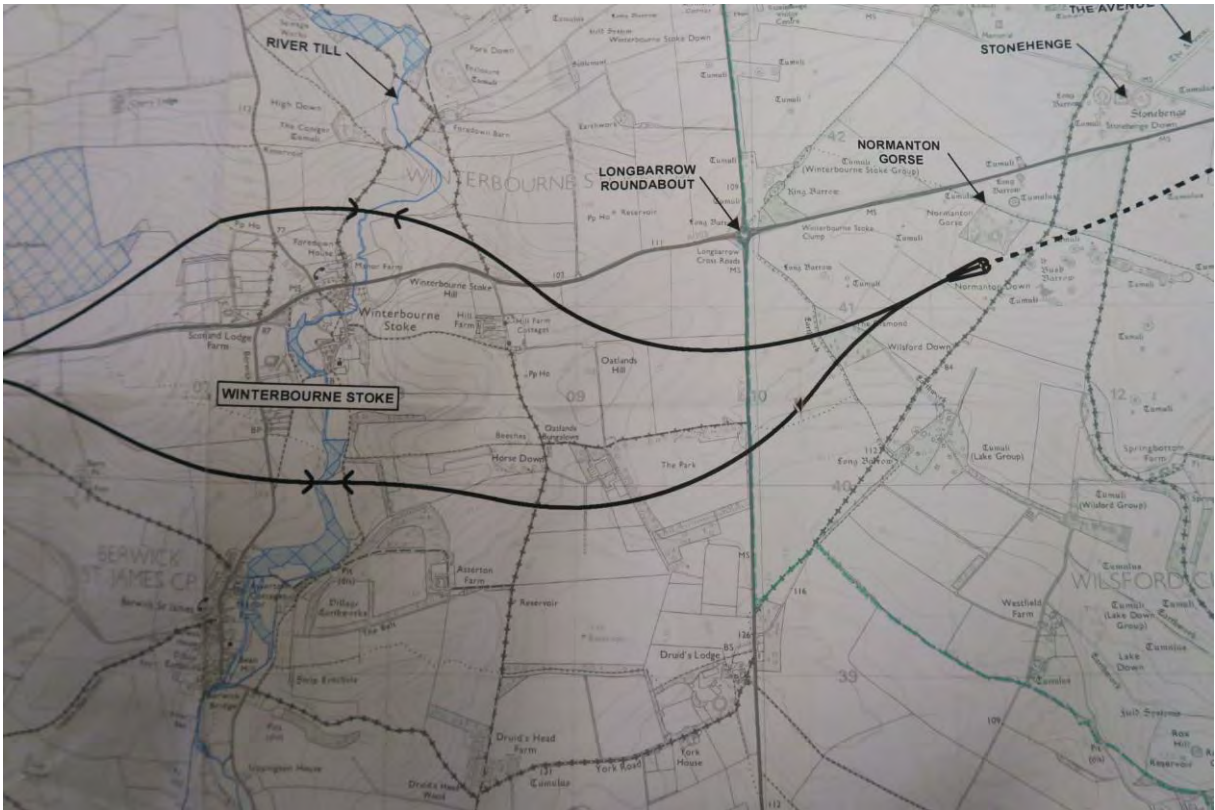


Fig. 6.4.4 - The rolling hills of Stonehenge WH property landscape



Fig. 6.4.5 - Pig farm seen from Long Barrow



References

- Snashall, Nicola & Young, Christopher (2014) Preliminary Outline Assessment of the impact of A303 improvements on the Outstanding Universal Value of the Stonehenge Avebury and Associated Sites World Heritage property, National Trust, and Christopher Young, Christopher Young Heritage Consultancy
- National Planning Policy Framework: <https://www.gov.uk/government/publications/national-planning-policy-framework--2>
- Heritage Impact Assessment in relation to the Outstanding Universal Value of the Stonehenge, Avebury and Associated Sites WHS - Undertaken in accordance with the 2011 ICOMOS “Guidance on Heritage Impact Assessments for Cultural World Heritage Properties” - Iteration 1 Report
- Heritage Impact Assessment in relation to the Outstanding Universal Value of the Stonehenge, Avebury and Associated Sites WHS - Undertaken in accordance with the 2011 ICOMOS “Guidance on Heritage Impact Assessments for Cultural World Heritage Properties” - Iteration 2 Report
- ICOMOS (2011) Guidance on Heritage Impact Assessments for Cultural World Heritage Properties, January 2011.
- ICOMOS (2011) La Valette principals
http://www.icomos.org/Paris2011/GA2011_CIVVIH_text_EN_FR_final_20120110.pdf
- UNESCO World Heritage Centre (2015) Operational Guidelines for the Implementation of the World Heritage Convention, 2015 <http://whc.unesco.org/en/guidelines/>
- World Heritage Centre Stonehenge, Avebury and Associated Sites:
<http://whc.unesco.org/en/list/373>
- Stonehenge and Avebury WHS Management Plan
http://www.stonehengeandaveburywhs.org/assets/2015-MANAGEMENT-PLAN_LOW-RES.pdf

References for Managing and quantifying visual resources

- Arbogast, B. 2005. *Bibliography of Selected References in Visual Resource Management*. Open-file Report 2005-1155. USGS. 89pp.
- Brush, R.O. & Shafer, E.L. 1975. Application of a landscape-preference model to land management. In Zube, E.H., Brush, R.O. & Fabos, J.G. (eds.). *Landscape Assessment: Values, Perceptions, and Resources*. Stroudsburg, Pennsylvania, Dowden: Hutchinson & Ross Inc.: 168-182.
- Daniel, T.C. 2001. *Whither scenic beauty? Visual landscape quality assessment in the 21st century*. *Landscape and Urban Planning*. 54: 267-281.
- Landscape Institute and Institute of Environmental Management & Assessment, *Guidelines for Landscape and Visual Impact assessment*, Routledge, Oxon, 2002
- Nassauer, J. I. e Larson, D. 2004. *Aesthetic Initiative Measurement System: A Means to Achieve Context-Sensitive Design*. *Transportation Research Record: Journal of the Transportation Research Board*. Vol. 1890, pp. 88-96.
- Qin, X., Meitner, M. J. e Zhang, X. 2008. Estimating Visual quality of Scenic Highway using GIS and Landscape Visualizations. Developing scenic highway design guidelines using GIS and landscape visualizations. In Proceedings, 2008 ESRI Education Users conference, August 2008, San Diego, California. s.l. : (CD), ESRI Press, p. 10 pp .
- Santos, J. 2001. Valuing alternative bundles of landscape attributes : cost-benefit analysis for the selection of optimal landscapes. *Finisterra*. 72: 207-239.
- Trent, Roger B., Neumann, Edward e Kvashny, Alon. 1987. *Presentation mode and question format artifacts in Visual Assessment Research*. *Landscape and Urban Planning*. Vol. 14 , pp. 225-235.
- USDA Forest Service. 1972. *Forest Landscape Management*. Volume One. Revision. Landscape Architecture Branch. Division of Recreation and Lands. Northern Region. Missoula. 137pp.

Identification models for visual envelopes

- Shang, H. & Bishop, I.D. (2000). Visual Thresholds for Detection, Recognition and Visual Impact in Landscape Settings. *Journal of Environmental Psychology* 20 (125-140).
- Steinitz, C., 2003. *Alternative Futures for Changing Landscapes: The Upper San Pedro River Basin in Arizona and Sonora*. Island Press, Washington, DC;
- Tress, B., Tress, G., 2003. Scenario visualisation for participatory landscape planning - a study from Denmark. *Landscape and Urban Planning* 64, 161-178.
- Vizzari, M., 2010. Spatial modelling of potential landscape quality. *Applied Geography*. doi:10.1016/j.apgeog.

Annexes

1 - Terms of reference for the present mission

2.1 - Unfolding of the Mission

2.2- List of present: contributors, abbreviations, names of bodies and their roles

3 - Position statement from Historic England, National Trust and English Heritage on Highways England's public consultation on route options for the A303 road improvement scheme in the Stonehenge world heritage site (8 February 2017, see <https://historicengland.org.uk/whats-new/news/historic-england-english-heritage-national-trust-on-proposed-a303-stonehenge-tunnel>)

4 - Summary of Highways England Technical Appraisal Report

Annex 1

Terms of reference for the present mission

UNESCO AND ICOMOS - second Advisory Mission to the Stonehenge Component of the Stonehenge, Avebury and Associated Sites World Heritage Site

Consideration of WHS landscape and OUV issues in relation to emerging draft proposals to improve the A303 trunk road running through the WH Property

Context

In December 2014 the UK Govt. announced that it would invest in a bored tunnel of at least 2.9km in length to solve the long-running traffic problems along the A303 trunk road within the WH Property. The removal of the damaging surface A303 from within the WHS has been a long-held ambition of the UK Govt., due to the chronic traffic congestion and serious harm the current road is causing to its Outstanding Universal Value (OUV). This is not only due to the noise, pollution and distraction of heavy traffic, but also due to the effective severance of the bulk of the WH Property to the south of the current A303 from the northern part of the Property containing Stonehenge and other major ceremonial sites and monuments.

Historic England, together with the National Trust and English Heritage, are engaging closely with the scheme promoters Highways England, in the interests of securing a scheme which has the optimum benefits for the WHS. In recognition of the need for any scheme proposal to demonstrate to the World Heritage Committee (the Committee) that it would not impact adversely on the Outstanding Universal Value of the WH Property in addition to resolving the traffic issues, we have initiated an ongoing process of engagement with both ICOMOS International (hereafter ICOMOS) and the World Heritage Centre (WHC). The overarching future aim of this engagement over the period of scheme design and assessment is to ensure that the scheme promoters and designers have the benefit of iterative advice from the Centre and ICOMOS throughout the process, to achieve the best result for the WHS and in doing so to satisfy the Committee that significant benefits for the WHS will be achieved.

The UK State Party invited UNESCO and ICOMOS to make an initial Advisory Mission in October 2015, so that the international experts could provide initial advice on archaeological and tunnel processes based on a familiarity with the Stonehenge component of the WH Property and its heritage/OUV, and an understanding of the broad thrust of the potential scheme (given that no plan proposals were in existence at that time). The mission also provided an opportunity for its experts to meet and gain an impression of the views of a wide range of stakeholders with an interest in the WHS and the A303.

The report of the October 2015 Mission was published in April 2016 and was welcomed by the State Party as a constructive engagement with the overall project by the international advisers. The report contained a comprehensive set of recommendations on the overall project processes based upon the information available at that early stage. Now that Highways England are progressing through a series of initial 'design fixes'¹ for a potential scheme ahead of the first tranche of public consultation early in 2017, the time is right to invite the WHC and ICOMOS to return to the WH Property and advise upon the emerging scheme.

Purpose of the Proposed Advisory Mission

The second proposed Advisory Mission has five main strands:

- To feed back to the WHC and ICOMOS on the measures taken, planned, or in progress, to implement the recommendations of the April 2016 Mission report (on

¹ Design Fixes are stage gateways in the process of route options selection and the evolution of a draft scheme design

archaeological heritage management, governance and decision making processes, territorial planning process and benefits, and long term traffic prediction and on the whole asset life design of the scheme within the WHS and road network development.

- To seek the advice of the WHC and ICOMOS on current progress with the emerging scheme proposal within and adjacent to the WHS based on work undertaken to inform its potential heritage impacts, including upon its OUV;
- To brief the Mission on the nature, timetable and phasing of the UK statutory planning process for nationally significant infrastructure projects and specifically the Development Consent Order (DCO) process under which the detailed scheme proposal would be put out for consultation and considered by the UK Planning Inspectorate;
- Examine what kind of heritage-centred steering mechanism will be put in place to ensure quality control at all stages of decision making.
- To agree on effective means of future engagement with ICOMOS (need for additional expertise, consultation, desk reviews, TOR evaluation, skills assessment, advisory mission, technical assistance) within the DCO consultation and examination process and, and to agree on a feasible timetable for such engagement, taking account of the fixed, statutory timeframe within which the DCO must work and of the fixed cycle of World Heritage Committee meetings. These are important considerations, as the DCO statutory process cannot be paused or halted to allow for additional consultation and the World Heritage Committee must also have the opportunity to consider the scheme, albeit outside of the UK statutory planning process.

Forthcoming public consultation exercise

Highways England is currently preparing for a non-statutory public consultation on its proposed route options, to commence in early 2017. Although this phase of public consultation is not a statutory requirement of the DCO, Highways England as the scheme promoter is committed to demonstrating best practice throughout the development of emerging scheme proposals.

This public consultation exercise will set out details of Highways England's work in sifting route options down to its proposals for public consultation and set out the supporting technical information which is available at this stage. This will include preliminary engineering information and the results of the archaeological assessment and evaluation of the Highways England's proposals and HIA.

The public consultation exercise must therefore be robust, unbiased and comprehensive, in the spirit of the DCO process the proposed scheme will later enter. Given the extensive nature of this forthcoming public consultation, it is not proposed to revisit the stakeholder consultation sessions which formed part of the 2015 Mission. The full range of stakeholders engaged in 2015 will be consulted by Highways England through January and February 2017 as part of a much wider-ranging consultation process.

The mission may provide guidance and technical expertise on the terms of reference of this non-statutory consultation process and include the results of the consultation in a heritage centred steering mechanism.

Terms of Reference

On the basis of briefings on the following, the complete package of which will be made available to the WHC and ICOMOS by Tuesday 20th December at the latest, the mission will consider:

- Progress by the UK State Party, Highways England and heritage partner organisations on the implementation of the recommendations of the April 2016 Mission report, responding to all points raised in that document.

- The results of archaeological assessment and evaluation of possible route alignments, potential tunnel portal locations and possible associated new surface road within the WH Property.
- The likely effects upon the attributes OUV of the WHS of potential tunnel portal sites and possible associated new surface road in the various options being considered, and as articulated in HIAs
- Feedback on what kind of heritage-centred steering mechanism to ensure quality control at all stages of decision making is being set up or can be set up.
- The potential benefits to the WHS made by any archaeology identified during archaeological assessment and evaluation of potential tunnel portal sites and associated new surface road within its boundary and to wider research in the property on an ongoing basis
- The whole asset life design of the proposed options within the WHS and road network development and longer term impact on the region.
- The nature of the Development Consent Order (DCO) process under which the detailed scheme proposal would be considered by the UK Planning Inspectorate, the statutory timescales for DCO, and the comprehensive nature of public consultation ahead of DCO submission.

The UK State Party and UNESCO will work to agree how best the WHC and ICOMOS can offer upstream advice on the protection of the OUV of the WHS. As the plans to address the problems caused by the existing A303 trunk road traffic continue to be developed over the coming years, Highways England as scheme developers will ensure budgetary provision will be made available to facilitate this upstream process. This should allow provision for additional expertise, consultation, desk review, TOR evaluation, skills assessment, advisory mission, technical assistance if needed.

The Mission shall provide advice on:

- The measures that the UK State Party, Highways England and heritage partner organisations have taken, or have in progress, to respond to and implement the recommendations of the April 2016 Mission report
- The impact of the emerging scheme proposals on the OUV of the WH Property based upon the partial information available at the time of the mission in the design process, which comprises:
 - The results of archaeological and other assessments and evaluation of potential tunnel portal sites and possible associated new surface road within the WHS in relation to the attributes of OUV
 - The draft route of a potential tunnel schemes and associated new surface road within and adjacent to the WHS
 - Initial computer-generated visualisations of aspects of potential new infrastructure, including tunnel portals, vertical alignment, cuttings and embankments
 - Available Cultural Heritage Impact Assessments

- Relevant technical and engineering aspects of the potential scheme as available at this stage of development
- Relevant technical and planning aspects regarding the whole asset life design of the scheme within the WHS and road network development and longer term impact on the region.
- Evaluate additional expertise, consultation, desk review, TOR evaluation, skills assessment, advisory mission, technical assistance if need be.
- How best the World Heritage Centre and its Advisory Bodies can offer advice on the impact on the OUV of the WHS in light of the reporting process to the annual World Heritage Committee and statutory timescales of the Development Consent Order (DCO) application, as the plans to address the problems caused by the existing A303 trunk road traffic are further developed over the coming years

Mission Report

A Report is to be submitted by the Mission team. **It is essential that this report be provided by the end of March 2017.** This will allow UK authorities and stakeholders to understand the WHC and ICOMOS's advice in time for it to be considered alongside the results of public consultation and incorporated within a report to be submitted to the Secretary of State for Transport in early May 2017. The Report will address the items listed in the terms of reference above, with a specific focus on the potential impacts on the OUV of the WHS of the proposed tunnel project and on possible traffic planning & design options.

It is an essential criterion of this Mission that the report is delivered within the timescale identified, due to the very short window of opportunity to incorporate the conclusions of the Mission within the report to the Secretary of State.

Contractual note – the report of the Advisory Mission should be delivered by the WHC to the Department for Culture, Media & Sport, acting as the UK State Party to the World Heritage Convention, who may choose to share it with the UK Permanent Delegation.

Information to be provided by the State Party in advance of the Advisory Mission – to be made available to the WHC and ICOMOS by 20th December 2016 at the latest

- As background for the 2017 Mission team, we will provide a copy of the full Briefing Pack supplied in advance of the October 2015 Advisory Mission, together with follow-up documents provided after the mission visit. We will also, for completeness, include a copy of the April 2016 Mission report.
- A briefing report setting out the measures taken, planned, or in progress, to implement and respond to the recommendations of the April 2016 Mission report. This will be a detailed report which will respond to each of the recommendations made in that document.
- Archaeological assessment and evaluation reports from fieldwork undertaken at potential tunnel portal sites and associated new surface road, including geophysical survey reports, desk-based assessment and archaeological field evaluation.
- Geotechnical and ground investigation reports to enable understanding of relevant non-heritage related engineering technical constraints or opportunities
- Maps showing the draft road-line for the bored tunnel and associated new surface road within and adjacent to the WH Property

- Initial computer-generated visualisations of aspects of potential new infrastructure, including tunnel portals, vertical alignment, cuttings and embankments
- Cultural Heritage Impact assessments of the proposed options on the attributes of OUV.
- Relevant technical and planning aspects regarding the whole asset life design of the scheme within the WHS and road network development and longer term impact on the region.
- Feedback on what kind of heritage-centred steering mechanism to ensure quality control at all stages of decision making is being set up or can be set up.
- A more detailed briefing pack on the Development Consent Order (DCO) process than was supplied for the initial Advisory Mission, setting out aspects of the application process, the comprehensive nature of public consultation, the examination process and timescales/key milestones in the programme for A303 Stonehenge. This briefing pack will allow delegates the opportunity to gain an initial understanding of the processes ahead of a presentation and discussion of the DCO during the Mission

ITINERARY

Day one, Tuesday 31st January 2017

- **Late AM** – Arrival in Wiltshire by Isabelle Anatole-Gabriel and Christina Castel-Branco. Collection arranged from local transport hub and afternoon spent on familiarisation tour of Stonehenge component of the WH Property – to include Stonehenge and visitor centre, Durrington Walls, Woodhenge, Cursus, driving tour of WHS perimeter. Professor Nathan Schlanger will travel directly to Tisbury for late afternoon/early evening.
- **Late afternoon** – Mission team transferred to hotel (The Lamb, Hindon) & settled into accommodation
- **Evening – 7pm for 7.30 pm**, Venue The Lamb, Hindon welcome dinner incorporating run through of Mission itinerary (guests from Department for Culture, Media and Sport, Highways England, their consultants Atkins Arup Joint Venture (hereafter AAJV), Historic England, English Heritage, National Trust, Wiltshire Council and the Chair of the WHS Partnership Panel (guest list to be circulated in advance of the dinner).

Day two, Wednesday 1st February

- **8.30am** collection from Lamb Inn (PM and CG)
- **9 AM** start at National Trust Tisbury Hub – Welcome & Introductions - NT Tea/coffee
- **9.15 am** First session - DCMS introduce response to 2015 Mission report – followed by presentations from Highways England, AAJV, Historic England, English Heritage, Wiltshire Council and National Trust on measures taken to implement & integrate recommendations – general discussion session, likely to be a half day workshop with a break at 11am for tea/coffee)
- **1pm** Lunch
- **2pm** Continuation/conclusion of first session
- **3pm** Break –tea/coffee
- **3.15pm** Afternoon session - the Development Consent Order process Highways England led – run through, focusing on strong emphasis on pre-app consultation, need for comprehensive and meaningful consultation – the statutory process and its stages – how Amesbury-to-Berwick Down project fits into the process – timescales and opportunities for engagement
- **4.30pm** Questions
- **5.30pm** Transfer to hotel (PM and CG)

Day three, Thursday 2nd February (based at Education Room, Stonehenge Visitor Centre)

- **8.30am** collection from Lamb, Hindon, for transfer to Stonehenge Visitor Centre
- **9AM** – Update from Highways England on options sifting and selection process – discarded options – forthcoming public consultation – then focus on “working assumption” tunnel route within WHS
- **10.45** tea/coffee break
- **11-1130** Presentation on Historic England archaeological survey work within Stonehenge WHS south of the A303 (the Southern WHS Survey, Phase 1)
- **1130-1230** Highways England/Wiltshire Council presentation of results of archaeological assessment & evaluation of potential tunnel portals and new surface road within WHS
- **12.30pm** Presentation of EH, NT, Historic England and WC positions on Highways England’s public consultation
- **1pm** Lunch
- **1.30-4.30pm** (max.)– out into WHS landscape – afternoon visiting route of potential tunnel scheme in light of morning session presentations – discussion re archaeological impacts, OUV, engineering and any other issues (informed by earlier discussion)
- **4.30pm** return to VC for tea/coffee/defrost and Questions
- **5.30pm** Transfer to hotel (PM and CG)

Day four, Friday 3rd February

- **9 AM** start at NT Tisbury Hub – wash-up session – opportunity for any initial feedback or observations on presentations or site visit
- **10.45am** tea/coffee break
- **11am** finish with closed session for Mission to have private discussion or opportunity to revisit key points in WHS landscape if required
- **1/1.30pm** (depending on above) Lunch and disperse – Mission guests driven back to local transport hubs. (National Trust)

Costs

Costs will be met locally by Highways England, the scheme promoters

Author – Phil McMahon, Inspector of Ancient Monuments, Historic England SW Office, 13th January 2017

Annex 2. 1

Unfolding of the Mission

(31 January – arrival to base, The Lamb B&B, Hindon)

Day 1 - 1st February 2017

Location National Trust Tisbury Hub
Welcome and Introductions (Ian Wilson (NT))

Topic 1 - DCMS response to 2015 Mission report (Hannah Jones - DCMS)

Followed by presentations on measures taken to implement and integrate recommendations: Highways England – Andrew Alcorn; AAJV – Andrew Croft; Historic England – Phil McMahon and Henry Owen-John; English Heritage – Jenny Davies; Wiltshire Council – Parvis Khansari and Melanie Pomeroy-Kellinger; National Trust – Ian Wilson, Ingrid Samuel and Nick Snashall

Topic 2 - Development Consent Order process (James Lough - AAJV)

Highways England led run through focusing on:

Pre-application consultation; the need for comprehensive and meaningful consultation; the statutory process and its stages; how the Amesbury-to-Berwick Down project fits into the process; timescales and opportunities for engagement

Day 2 - 2nd February 2017

Location Education Room, Stonehenge Visitor Centre

Topic 1 Update from Highways England on:

Options sifting and selection process – discarded options – forthcoming public consultation then focus on “working assumption” tunnel route within WHS (by Geoff Dodsworth, Andrew Croft and Liz Brown - AAJV).

Topic 2 Presentation on Historic England archaeological survey work within Stonehenge WHS south of the A303 (the Southern WHS Survey, Phase 1) (by David Roberts and Phil McMahon - HE).

Topic 3 - Highways England/Wiltshire Council presentation of results of archaeological assessment & evaluation of potential tunnel portals and new surface road within WHS (by Melanie Pomeroy-Kellinger –WCAS & Andrew Croft -AAJV)

Topic 4 - Presentation of Historic England, National Trust and English Heritage’s interim position on Highways England’s public consultation (by Phil McMahon - HE)

Topic 5 - WHS landscape tour – afternoon visiting route of potential tunnel scheme in light of morning session presentations – discussion re archaeological impacts, OUV, engineering and any other issues (informed by earlier discussion)

Day 3 - 3rd February 2017

Location National Trust Tisbury Hub

Topic 1 – Opportunity for any initial feedback or observations on presentations or site visit.

Topic 2 – Travel to Avebury by Cristina Castel-Branco and Isabelle Anatole-Gabriel with NT team. Visit aspects of Avebury Landscape on route – Silbury Hill (with Nick Snashall and Jan Tomlin - NT).

Annex 2. 2

List of present: contributors, abbreviations, names of bodies and their roles

Individuals

ICOMOS mission representatives:

Cristina Castel-Branco - Professor in Landscape Architecture, Centre for Applied Ecology, University of Lisbon, ICOMOS Scientific Committee on Cultural Landscapes

Nathan Schlanger - Professor of Archaeology, Ecole Nationale des Chartes

UNESCO World Heritage Centre representative:

Isabelle Anatole-Gabriel - Chief of the Europe and North America Unit at the World Heritage Centre

Hannah Jones - World Heritage Site and Underwater Policy Advisor, Department for Culture, Media and Sport

Henry Owen-John - Head of International Advice, Historic England

Andrew Vines - Planning Director South West, Historic England

Phil McMahon - Inspector of Ancient Monuments, Historic England

David Roberts - Project Manager, Archaeological Investigation and Excavation, Historic England

Ingrid Samuel - Historic Environment Director, National Trust

Nicola (Nick) Snashall - Archaeologist (Stonehenge and Avebury WHS), National Trust

Ian Wilson - Assistant Director of Operations, National Trust

Cass Genn - Senior Project and Stakeholder Manager (S-W Infrastructure), National Trust

Katherine Ryan - Project Coordinator, National Trust

Tracey Reed - Director of Operations, English Heritage Trust

Heather Sebire - Properties Curator West, English Heritage Trust

Jenny Davies - Acting General Manager, Stonehenge, English Heritage Trust

Sarah Simmonds - World Heritage Site Co-Ordinator, WHS Co-Ordination Unit

Melanie Pomeroy-Kellinger - County Archaeologist, Wiltshire Council

Parvis Khansari - Associate Director, Highways and Transport, Wiltshire Council

Andrew Alcorn - Project Manager, Highways England

Andrew Croft - Cultural Heritage Workstream Lead, Arup Atkins Joint Venture

James Lough - Stakeholder Workstream Lead, Arup Atkins Joint Venture

Geoff Dodsworth - Project Director, Arup Atkins Joint Venture

Liz Brown - Landscape Architect, Arup Atkins Joint Venture

Also present at the Avebury visit (on 3rd February):

Janet Tomlin – General Manager

Eva Stuetzenberger – Visitor Engagement and Enterprises Manager

Hilary Makins – Countryside Manager

Nick Snashall – WHS Archaeologist

Rosamund Cleal – Curator, Alexander Keiller Museum

Katherine Riyan – Senior Project Coordinator

Sarah Simmonds – WHS Partnership Manager

Heather Sebire – English Heritage Properties Curator West

Institutions: abbreviations, and their brief description

- AAJV** – Arup Atkins Joint Venture. The commercial entity contracted by Highways England to develop route options for the Scheme.
- DCMS** – Department for Culture, Media & Sport. UK Government department with responsibility for World Heritage Sites in England.
- EHT** – English Heritage Trust. Charitable body which manages the Stonehenge monument and Visitor Centre, and many other historic locations in England, under licence from Historic England.
- HiE** – Highways England. UK Government owned company charged with delivering the Road Investment Strategy and the maintenance and operation of England's trunk road and motorway network.
- HE** – Historic England. UK Government's advisor on the historic environment in England.
- ICOMOS** – International Council on Monuments and Sites. International non-governmental organisation providing independent expert advice on the protection of cultural and archaeological heritage to UNESCO.
- NT** – National Trust. A charitable conservation organisation, which owns and manages parts of the Stonehenge WHS.
- OUV** – Outstanding Universal values – UNESCO World Heritage convention criteria for granting World heritage status.
- SP** – State Party (to the 1972 convention). Here, the United Kingdom of Great Britain and Northern Ireland.
- UNESCO** – United Nations Education, Science and Culture organisation.
- WHS** – World Heritage Site.
- WCAS** – Wiltshire Council Archaeology Service. A dedicated county archaeological and historic environment advisory service, including HER, provided by the County of Wiltshire as part of its responsibilities.

Annex 3

Position statement from Historic England, National Trust and English Heritage on Highways England's public consultation on route options for the A303 road improvement scheme in the Stonehenge world heritage site (8 February 2017, see <https://historicengland.org.uk/whats-new/news/historic-england-english-heritage-national-trust-on-proposed-a303-stonehenge-tunnel>)

POSITION STATEMENT FROM HISTORIC ENGLAND, NATIONAL TRUST AND ENGLISH HERITAGE ON HIGHWAYS ENGLAND'S PUBLIC CONSULTATION ON ROUTE OPTIONS FOR THE A303 ROAD IMPROVEMENT SCHEME IN THE STONEHENGE WORLD HERITAGE SITE

Highways England has put forward initial route options for a road improvement within the Stonehenge World Heritage Site (WHS) which include a bored tunnel of at least 2.9km. These options for a potential scheme have been put to public consultation as one stage in an extensive process of pre-application engagement.

We believe that the proposals have the potential to deliver benefits for Stonehenge and its landscape, if sited and designed sensitively. Whilst the overall proposals are to be welcomed for the positive transformation which they could bring to the WHS, there are some aspects of what is currently presented in the consultation documents that will require significant improvement to ensure protection of the WHS.

We welcome the fact that the Government and Highways England invited the UNESCO World Heritage Centre and their heritage advisers ICOMOS back to the WHS for a second visit, to look at the detail of these initial proposals.

The three key points in Historic England, English Heritage and the National Trust's response to the A303 Stonehenge public consultation on route options relate to the principle of the bored tunnel and the two tunnel portals, as follows:

1. Centre Section – the Bored Tunnel

The options include a twin-bored tunnel of at least 2.9km, as committed to in the Government investment announcement of December 2014. This is a key aspect of any scheme which could unlock enormous benefits for Stonehenge and the wider WHS. It would allow the removal of much of the current, damaging surface A303 allowing the reunification of the large part of the WHS to the south of the existing road with the part to its north containing Stonehenge and the other currently accessible major ceremonial monuments. This would restore peace and tranquillity to Stonehenge whilst opening up safe public access to the many monuments and extensive landscape which lies to the south of the current A303.

2. Eastern Tunnel Portal

Highways England's proposals could deliver significant improvements for heritage in the eastern section of the route, where the proposals would allow the course of the Stonehenge Avenue – presently severed by the A303 - to be reunited. It is the first time that Government has recognised the importance of the Avenue in its proposals. It has responded to the advice given by the UNESCO World Heritage Centre and their heritage advisers ICOMOS in their April 2016 report. The proposed scheme is a significant improvement on the previously approved scheme from 2004, which would have worsened the severance of the Avenue by the A303.

3. Western Section

The western tunnel portal location as shown in the consultation documents needs significant improvement, due to its proximity to and impact on the Normanton Down barrow group – one of the key groups of ceremonial and funerary monuments for which the WHS is designated. We are presently considering how the western portal proposals might be amended to ensure benefit to this internationally important ancient landscape. We will include constructive comment on this as part of our formal response to the public consultation and will seek Highways England's commitment to improving this aspect of the scheme.

Engagement with international World Heritage experts

We are pleased that Government and Highways England invited the UNESCO World Heritage Centre and their heritage advisers ICOMOS to make a second visit to the Stonehenge landscape to consider the proposed route options. The constructive advice which they provided to Highways England following their initial visit to consider a potential road scheme in 2015 has been valuable in informing the development of the route options to their current form, including moving the location of the eastern portal to reunite the Avenue. This second visit gives them the opportunity to further shape the emerging proposals.

Historic England, English Heritage and the National Trust will be submitting their full responses to this first round of consultation before it closes on 5 March.

A number of public information events are being held for people to give their feedback, and further information is available online at: www.highways.gov.uk/a303stonehenge/consultation
We understand there will be another round of consultation later in 2017 on Highways England's more detailed proposed solution before they submit a Development Consent Order application to the Planning Inspectorate in 2018.

Annex 4

Summary of Highways England Technical Appraisal Report

Extracts from the Technical Appraisal Report - Highways England 2016

The Technical Appraisal Report that was provided by the Highways England project director during the Mission Feb 2nd 2017, is available at the following link:

https://highwaysengland.citizenspace.com/cip/a303-stonehenge/supporting_documents/Volume%201%20%20TAR%20red%201.pdf

From this large 320-page Report, the mission has extracted the sections that concern the selection of the present options to replace the A303.

Pages 2-4

Initial Corridor appraisal – Design Fix A

Identification of corridor options

There have been a wide range of proposed solutions to traffic problems on the A303 at Stonehenge over many years. A review was undertaken of some 60 route options that have been proposed by Government, stakeholders and the public in the past. These options were grouped into a series of corridors which contained route options with similar characteristics.

This resulted in eight corridors, representing the groups of route options described as follows, and illustrated in Appendix B2:

- Corridor A – Surface routes north of the existing A303 (wholly outside WHS).
- Corridor B – Surface routes north of the existing A303 (partially inside WHS).
- Corridor C – Surface routes within 1.0 km of the existing A303 (as the route options pass through the WHS).
- Corridor D – Routes including a tunnel (at least partially within the WHS).
- Corridor E – Surface routes south of the existing A303 (at least partially inside WHS).
- Corridor F (north) – Surface routes south of the existing A303 (wholly outside WHS) and north of Salisbury.
- Corridor F (south) – Surface routes south of the existing A303 (wholly outside WHS) and north of Salisbury, further south than Corridor F (north).
- Corridor G – Surface routes south of the existing A303 (wholly outside WHS) and south of Salisbury.

The objective of this phase of the selection process (Design Fix A) was to undertake a multi-criteria assessment of the eight corridors and ultimately to recommend corridor(s) to be taken forward for further consideration.

The assessment and appraisal methodology used the following three criteria:

- a) Client Scheme Requirements.
- b) Web-based Transport Appraisal Guidance's (WebTAG) Early Assessment and Sifting Tool (EAST).
- c) National Policy Statement for National Networks (NPSNN) environmental aspects.

Key outcomes of the appraisal

Surface route options within the WHS (Corridors B, C and E)

Surface route options within the WHS would offer transport benefits and could be delivered at a lower cost than a tunnelled solution but would be considered unacceptable from a cultural heritage point of view.

A surface route close to the existing A303 would fail to reduce severance within the WHS and would cause substantial harm to the Outstanding Universal Value (OUV) of the site.

Options involving a surface route to the north or south of the existing A303 would reduce the visual and noise impacts of the road on the Stonehenge monument itself but any such route would still affect the character of the WHS and would also cause substantial harm to the OUV of the site.

National Trust and Historic England have identified that a surface route through the WHS has the potential to ‘compound and multiply’ the harmful effects of the existing A303 and they would be unable to support surface dualling due to these very large adverse effects. They considered the harmful effects to be of such a large scale that it would likely lead to the inclusion of the WHS within the UNESCO’s World Heritage “in danger” list and may even lead to the loss of the WHS designation for Stonehenge and Avebury.

Tunnelled Routes within the WHS (Corridor D)

A tunnelled route through the WHS would reduce severance within the WHS and improve the setting of key assets such as Stonehenge. The surface elements may cause adverse effects on the character of the WHS but it is considered that substantial harm can be avoided with appropriate design. A tunnelled route has the potential to contribute to the enhancement of the historic landscape within the WHS. Notwithstanding its high capital cost, a tunnelled route would deliver transport and economic benefits in line with the objectives for the scheme.

Surface Routes outside the WHS (Corridors A, F (north and south) and G)

Because of the location of adjacent settlements, there is limited scope to realign the A303 to the north of the WHS (Corridor A), however, a route that would skirt the northern boundary of the WHS was considered. Such an option would reduce severance within the WHS, but it would also have substantial harmful impacts on other sensitive assets. On balance, the harmful impacts would outweigh the benefits associated with the removal of the A303 through the WHS.

Corridor F surface route options to the south of the WHS would remove the A303 from the WHS in its entirety. This would bring substantial benefits by reducing severance and improving the setting of key assets, including the Stonehenge monument. These benefits would need to be balanced against adverse environmental effects of constructing a longer route within a high quality, unspoilt landscape with the associated loss of habitats.

Surface route options to the south of the WHS would also offer a less direct route for through traffic and would therefore offer reduced transport benefits. More traffic would also remain or divert onto local roads, giving rise to adverse impacts on local villages and communities.

A surface route to the south of Salisbury was also considered (Corridor G). The length of such an option would lead to substantially increased habitat loss and severance compared to other corridors and it would also impact a significant number of communities and designated nature conservation sites. This option, whilst offering improved access to Salisbury would also fail to

reduce journey times for users of the A303 through this section. On this basis, the corridor was not considered to meet the transport and environmental objectives of the scheme.

Better performing corridor options

On the basis of the initial assessments, as summarised above, Corridors A, B, C, E and G were not taken forward for further consideration. This left tunnel options within Corridor D and surface options within Corridor F (north) and Corridor F (south) being taken forward for further consideration in Design Fix B. These are shown in Appendix E and also in Figure 2 below.

Pages 30-31

2.3 Expansion on headline requirements

2.3.1 The CSRs provide an overall framework of objectives. However, to assist with measuring performance against the CSRs, each of the four headline CSRs was expanded to provide a series of more detailed requirements.

Transport

- The road will be designed to modern standards and, in addition, to perform as an Expressway.
- The design of the road and connections with the local network will address issues of congestion, resilience and reliability. It will reduce risk of traffic diverting onto local roads.
- Road safety will be improved to at least the national average for a road of this type.

Economic growth

- The road capacity, together with Non-Motorised User (NMU) provision, will be increased to dual carriageway all-purpose between Amesbury and Berwick Down, linking with existing dual carriageways to the East and West.
- Grade separated junctions will be introduced to create a road that meets Expressway standards, designed to accommodate foreseeable traffic growth.
- Grade separation will also assist traffic and NMU wishing to cross the A303 and so stimulate local economic activity and reduce severance. A-GEN-SWI-RP-CX-000020 | P13, S0 21/12

Cultural heritage

- The existing road will be downgraded as it passes through the WHS for use by non-motorised users and for access.
- The strategic route will be redirected so as to reduce its site and sound impacts on the WHS. The redirected route will treat archaeological features with sensitivity and will protect the Outstanding Universal Value (OUV) of the WHS. It will seek to minimise any damage to or loss of archaeology.
- Grade separated junctions will be introduced in place of at-grade junctions on the A303 within the length of the scheme, improving access onto and off the A303, with well-designed signing to access the WHS.

- Where the road passes through the WHS it will have an iconic identity and be of good design. As far as is practicable and without compromise to safety, the design will seek to accommodate the specific needs of the WHS.
- Learning associated with any excavation within the WHS will be ensured, by working sensitively and in close collaboration with key heritage stakeholders.

Environment and community

- Land no longer forming the public highway within the WHS will be returned to the adjoining landowner. Where practicable and with the permission of the owner, it will be landscaped in accordance with the adjoining land.
- Biodiversity within new landscaping along the route will ensure a net addition over that which exists currently.
- The A303 will bypass Winterbourne Stoke and the existing road will be de-trunked as it passes through the village. This will improve the quality of life for the residents of the village.
Disruption to road users and local residents during the construction of the scheme will be minimised as far as is reasonably practicable. Also, opportunities for materials re-use will be sought as far as is practicable. Opportunities for mitigating impacts will be actively pursued in close consultation with communities.
- Learning and finds during the development of the scheme will be presented to local schools and communities. Presentations will be given to local and regional forums to raise awareness of the scheme, its timing and the potential economic benefits likely to result from an improved road network, as well as employment and supply chain opportunities during construction.
- The scheme will aspire to achieve a Civil Engineering Environmental Quality Assessment and Award scheme (CEEQUAL) rating of excellent.

Page 66-67

4.3 National policy

National Policy Statement for National Networks (NPSNN)

4.3.1 The NPSNN sets out Government policy for the need for, and delivery of, nationally significant road and rail projects. The policy states that the Government will deliver national networks that meet the long term needs of the country and support a thriving and prosperous economy.

4.3.2 Chapter 2 of the NPSNN sets out the following strategic objectives:

- Networks with the capacity and connectivity and resilience to support national and local economic activity and facilitate growth and create jobs;
- Networks which support and improve journey quality, reliability and safety;
- Networks which support the delivery of environmental goals and the move to a low carbon economy; and
- Networks which join up our communities and link effectively to each other.

4.3.3 It states a critical need to improve the road network to address congestion, providing safe, resilient and expeditious networks which support social and economic activity. These improvements may also address impacts of networks on quality of life and the environment¹⁰. A well-functioning road network is stated as critical to supporting national and regional economies¹¹.

4.3.4 The Government's policy to address this need is to bring forward enhancements and improvements to the existing network. This includes improvements to trunk roads, in particular dualling of single carriageway strategic trunk roads to increase capacity and improve performance and resilience.

4.3.5 Chapter 3 of NPSNN sets the need for improvements to the road network in the context of wider Government policies. These include:

- Environment and social impacts: networks should be designed to minimise social and environmental impacts and improve quality of life; the principles of the National Planning Policy Framework (NPPF) and Planning Practice Guidance (PPG), as well detailed policy set out in Chapter 5 of the NPSNN should be followed to mitigate effects.
- Emissions: the Government supports the switch to Ultra Low Emission Vehicles (ULEVs), and predicts that increases to emissions as a result of improvements to the road network will be very small as a result of current and future commitments to meet legally binding targets.
- Safety: the Government intends to remain a world leader in road safety, and scheme promoters are expected to take opportunities to improve road safety, employing the most modern and effective safety measures where proportionate.
- Technology: innovative technologies will be monitored for their benefits and risks, but are not expected to alleviate the need to address current congestion problems or negate the need for improvements to the road network.
- Sustainable transport: the Government expects applicants to use reasonable endeavours to address the needs of pedestrians and cyclists. This includes investing in locations where the national road network severs communities and where the national road network severs communities and acts as a barrier to cycling and walking by addressing historic problems, retrofitting solutions, and ensuring safety for cyclists on junctions.
- Accessibility: applicants should improve access wherever possible through delivering schemes which take all opportunities for improvements in accessibility for all users, including disabled users, of the strategic road network.
- Road tolling and charging: the Government's policy is not to introduce road pricing for key trunk roads on the strategic road network

4.3.6 Chapter 4 sets out the assessment principles for the consideration of highway schemes. In particular it states that subject to the detailed policies and protections in this NPSNN, and the legal constraints set out in the Planning Act, that there is a presumption in favour of granting development consent for NSIP projects, such as the proposed scheme.

4.3.7 When considering an application for development consent, the Secretary of State will consider its benefits including for economic growth, job creation, and environmental improvement. This will be considered against adverse impacts of the scheme including long-term cumulative impacts. Such applications are required to be supported by a business case prepared in accordance with Treasury Green Book principles.

4.3.8 The policy states that projects subject to The Infrastructure Planning EIA Regulations 2009 should include an environmental statement with the application. As part of this, the impacts from reasonably foreseeable schemes should be considered in the assessment. The maximum extent of the project's possible impact should be assessed where there are details which are yet to be finalised. The policy also sets out that the application should provide sufficient information for the carrying out of an appropriate assessment by the Secretary of State for Transport, where proposals are likely to have a significant effect on a European designated site.

4.3.9 In relation to alternatives, it is stated that all schemes should be subject to an options appraisal, which should also consider viable modal alternatives. However, where schemes were subject to an options appraisal to achieve their status within road investment strategies, option testing may not need to be considered by the decision maker.

4.3.10 The policy requires principles of good design to inform projects from their inception. The design should work to mitigate the impact of the project in terms of the environment, safety and sustaining operational efficiency. Proposed schemes which are fit for purpose and sustainable can contribute towards the area in which they are located; applicants should demonstrate how the design process has contributed to these aims.

4.3.11 Applicants will have to consider climate change adaptation in the siting, location, design, construction and operation of proposed schemes. This includes demonstrating that there are no critical features that will be affected by the effects of climate change in the long term; this is to be based on the Government's climate change risk assessment and consultation with statutory bodies. The policy also sets out that pollution control, nuisance and statutory nuisance, safety, security, and health should be considered by applicants in the design of their schemes.

4.3.12 Chapter 5 of the NPS sets out the assessment framework against which the application will be considered. The contents of this chapter will be used by the decision maker to establish whether the applicant has considered the necessary areas of assessment. The areas which must be considered are outlined below:

- Air quality.
- Carbon emissions.
- Biodiversity.
- Waste management.
- Civil and military aviation and defence interests.
- Coastal change.
- Dust, odour, artificial light, smoke, steam.
- Flood risk.
- Land instability.
- The historic environment (this includes impacts on WHS).
- Land use including open space, green infrastructure, and greenbelt.
- Noise and vibration.
- Impacts on transport networks.
- Water quality and resources.

Page 94 - 98

Assessment

Introduction

5.2.115 The results of the three assessment components described above and their respective sub-components were analysed in order to form a qualitative judgement on the potential beneficial and adverse impacts, in order to then make a recommendation on whether to progress a corridor for further consideration of route options within that corridor. The results of the overall assessment are provided below.

Assessment against Client Scheme Requirements

5.2.116 The details of the assessment against CSRs are shown in Appendix B4. Table 5-4 provides a summary of the assessment of the corridors using the 5-point scoring system described in the above methodology section.

[Table 5-4 Results of assessment against Client Scheme Requirements]

5.2.117 Against the Cultural Heritage CSR it can be seen that Corridors B, C and E scored poorly, with these corridors passing directly through the WHS at surface level. Corridor A scored slightly better as it does not pass through the WHS but is in close proximity to it which will cause harm to the setting of the WHS. Corridors F (both) and G scored well against this CSR as they completely avoid direct land take within the WHS.

5.2.118 In respect to the Environment and Community CSR, Corridors A, B and C scored poorly because they include land within a Nationally and Internationally (European) designated nature conservation site, and impact on communities to the north of the WHS. Corridor E scores poorly because it includes land within a Nationally and Internationally (European) designated nature conservation site, is close to a RSPB reserve and impacts on communities within the Woodford Valley. Corridor G scored poorly because it would impact on a significant number of communities along the corridor. It crosses a number of Nationally and Internationally (European) designated nature conservation sites and with its increased length, it is also likely to cause substantial areas of habitat loss. When these points are taken together it is concluded that Corridor G may not allow a net addition to biodiversity. Corridors F (north), F (south) score slightly better as they avoid the RSPB reserve but would impact on settlements within the Woodford Valley. Corridor D avoids impact on the RSPB reserve and settlements within the Woodford Valley and therefore scores better than the other corridors.

5.2.119 Corridors C and D performed well against the Economic Growth CSR, principally because route options within these corridors would deliver the shortest overall length of route of all the options being considered. The shortest route lengths would deliver the greatest journey time savings, and consequently the greater journey time benefits. The longer the route, the less journey time benefits would be delivered, therefore Corridors A, F (south) and G all scored poorly against this CSR.

5.2.120 In terms of the Transport CSR, Corridors C and D were assessed to provide the greatest benefits of all the corridors considered, closely followed by Corridors B and E as these provided the most direct link. Corridors A and F (north) would contain longer routes and therefore score lower. Corridor G scored poorly against this CSR because it would mean road users suffering considerable diversion relative to more direct routes.

Assessment against environmental criteria (having regard to EAST and NPSNN)

5.2.121 The details of the assessment against NPSNN are shown in Appendix B5. Table 5-5 below provides a summary of the assessment of the corridors using the 5-point scoring system described in the above methodology section.

Table 5-5 Results of assessment against NPSNN environmental criteria

Environmental Criteria	Corridor A	Corridor B	Corridor C	Corridor D	Corridor E	Corridor F (north)	Corridor F (south)	Corridor G
Historic Environment	1	1	1	2	1	4	4	2
Biodiversity	1	1	1	1	1	1	1	1
Landscape (incl streetscape and urban environment)	2	2	2	2	1	2	1	1
Air Quality	2	2	3	3	2	1	2	1
Noise	2	3	3	4	2	3	3	3
Water Quality and Resources	2	3	3	2	3	2	1	1
People and Communities	2	3	2	4	2	2	2	1
Geology, Soils and Materials	2	2	2	2	2	2	2	2

Historic environment

5.2.122 Whilst significantly reducing severance within the WHS, Corridor A would have the potential to harm the setting and key assets of the WHS, including Durrington Walls, and substantial harm to the Outstanding Universal Value (OUV) of the WHS is considered probable. Corridor A would also run through Bulford possibly requiring the demolition and certainly substantially harming the setting of listed buildings, and affecting a Conservation Area.

5.2.123 For Corridors B, C and E, surface routes within the WHS would result in severance, fundamentally altering its character and fabric and resulting in substantial harm to the OUV, which is unlikely to be outweighed by the removal of traffic from the existing A303. In addition these options are likely to require the removal of scheduled assets and would seriously degrade the setting of other scheduled assets.

5.2.124 Tunnel based routes within Corridor D would still include portals and a section of above ground dual carriageway within the WHS, but would bring substantial benefits for the WHS arising from the closure of the A303 to the south of Stonehenge, reducing severance within the WHS and the impact of traffic in the WHS. Overall, it is considered that the potential exists for the benefits to outweigh the harm.

5.2.125 Outside the WHS, all surface routes, including Corridors F (north) and (south) and Corridor G have the potential to adversely impact on the historic environment, including the setting of listed buildings and scheduled assets, registered park and gardens and Conservation Areas.

5.2.126 Adverse impacts were weighed against the benefits of the scheme on the WHS. In this respect Corridors D, F (north), F (south), and G are the better performing with F (north) and F (south) being the best when assessed against the Historic Environment criteria.

Biodiversity

5.2.127 Corridors A, B, C, D and E have the potential to impact the Salisbury Plain SPA/SAC, including Parsonage Down SSSI/NNR, and at new crossings over the River Avon SAC, encompassing the River Avon and River Till. The corridors also cross or are located in close proximity to a number of nationally designated sites and the Normanton Down RSPB Reserve.

5.2.128 Corridors F (north) and (south), and Corridor G would also have the potential to adversely affect the River Avon SAC. Furthermore, given the length of these corridors, they would be expected to result in larger areas of habitat loss and potential severance. Further south there is also the potential for Corridor G to have an adverse impact on Porton Down SPA and Chilmark Quarries Bat SAC.

5.2.129 All corridors scored equally poorly when assessed against the Biodiversity criteria.

Landscape

5.2.130 At grade routes within Corridors A, B, C, and D have the potential to impact on the high quality landscape of the non-statutory, locally designated SLA and a number of visual receptors in local communities e.g. Amesbury, Larkhill, Durrington, Shrewton and Winterbourne Stoke.

5.2.131 Corridor E, Corridor F (north), Corridor F (south) and Corridor G have the potential to impact to a greater or lesser extent on the nationally designated landscape of Cranborne Chase and West Wiltshire Downs AONB and a potentially high number of visual receptors within the more rural communities to the south of the WHS, including Steeple Langford, Stapleford, Wylde, Andover and Salisbury, and villages along the Vale of Wardour.

5.2.132 All corridors scored poorly when assessed against the Landscape criteria, with Corridors E, F (south), and G performing the worst due to the high quality landscape of the AONB and a high number of sensitive visual receptors including residential properties and PRoW.

Air Quality

5.2.133 Corridors A and B are located within 200m of up to four nationally designated ecological sites and have the potential to have an adverse impact on residential receptors at Larkhill, Durrington and Bulford.

5.2.134 In contrast Corridors C and D are unlikely to adversely affect residential receptors and have the smallest increase in emissions based on the traffic modelling undertaken for this Design Fix A stage.

5.2.135 In the south, Corridors E and F (north) and (south) are located within 200m of up to five nationally designated sites and would affect residential receptors within Amesbury, Steeple Langford, Berwick St James, Winterbourne Stoke, Normanton, Stapleford, Lower Woodford, Little Durnford. The closure of the A303 within the WHS and longer routes would result in higher emissions for Corridors F (north) and (south), with the highest emissions predicted for Corridor G. Corridor G would also pass within 200m of up to 10 nationally designated ecological sites and would have potential for adverse effects on residential receptors in communities that include Andover, Grateley, Salisbury, Barford St Martin, and Dinton.

5.2.136 Apart from Corridors C and D, the majority of corridors scored poorly when assessed against the air quality criteria, with Corridors F (north) and G performing the worst due to the greatest increase in emissions.

Noise

5.2.137 Traffic noise for Corridors A, B, C, and E is likely to increase noise levels in the northern and southern parts of the WHS and for communities and sensitive receptors including Larkhill, south of Durrington, Shrewton, west of Bulford, Berwick St James, Stapleford, and West Amesbury, whilst there would be a reduction in Winterbourne Stoke, and noise Important Areas along the A303. There would also be a reduction as the result of tunnel based options in Corridor D.

5.2.138 Traffic noise as the result of Corridor F (north) and (south), and Corridor G would reduce within the WHS as well as within communities in Amesbury and Winterbourne Stoke. However these corridors would introduce new road traffic impacts at a high number of communities and sensitive receptors in more than thirteen communities along the corridor.

5.2.139 Corridor D, which includes tunnel sections within the WHS, scored best when assessed against the noise criteria, with corridors A and E performing the worst due to communities experiencing increases in noise levels.

Water environment

5.2.140 Routes within Corridors A, B, F (north) and F (south) include two new river crossings with the potential to adversely affect the water quality, flood risk and biodiversity of the River Till and Avon and the internationally (European) designated habitats and species within the River Avon SAC. Routes C, D and E include a new crossing of the River Till with the potential for adverse effects on water quality, flood risk and biodiversity, and an existing river/floodplain crossing of the River Avon that could potentially be redesigned to provide new ecological and other benefits.

5.2.141 Corridor G includes new crossings of extensive floodplain associated with the River Nadder and River Avon downstream of Salisbury, including the historically, culturally and ecologically important Britford Water Meadows

5.2.142 Small parts of Corridors A, B and the majority of Corridor F (north) cross Source Protection Zone (SPZ) 2, whilst Corridors F (south) and G cross SPZ 1 (The most sensitive area within an SPZ). Corridors C, D and E do not cross the SPZ.

5.2.143 For Corridor D, the tunnel construction would pose the most significant risk to groundwater and, depending on method, could potentially disrupt groundwater flows and the dispersal to the River Avon. However this may be managed by careful planning and design.

5.2.144 Potential adverse impacts associated with the new river crossings and European sites mean that all corridors have a mostly low fit with water environment criteria. However Corridor F (south) and Corridor G score poorly when assessed against the water environment criteria due to the potential for adverse impacts on SPZ 1, the Britford Water Meadow and the River Avon and Nadder floodplains.

People and communities

5.2.145 Corridor A would significantly increase severance within the community of Larkhill. Corridors F (north), F (south) and G would increase severance of access to Amesbury or to Salisbury from several villages located in between these two centres.

5.2.146 Corridors B, C and E would not reduce severance within the WHS nor between Amesbury and residential areas to the north including Larkhill, Durrington and Bulford and Salisbury to the south. Corridors A, D, F (north), F (south) and G would minimise severance and maximise opportunities for connectivity within the WHS.

5.2.147 Corridor D scores best in the assessment against the severance criteria for people and communities, with Corridor G performing the worst due to communities experiencing significant levels of severance.

Geology and soils, and materials

5.2.148 All corridors include sources of potential contamination with varying levels of associated risk. Corridors A and B include potentially contaminant land uses such as MoD Larkhill that includes heavy weapon artillery ranges, Down Barn historical landfill site and non-delineated military waste disposal areas. For Corridors F (north) and F (south) the MoD Boscombe Down airfield and military base spans the majority of the corridor in the east, presenting a potentially significant constraint in respect of land contamination.

5.2.149 All corridors would generate at least a moderate amount of arisings with the tunnel based options in Corridor D and the length of Corridor G considered to generate a significantly higher volume.

5.2.150 All corridors scored poorly when assessed against the Geology and Soils and Materials criteria.

Page 99 - 103

Assessment utilising EAST

5.2.151 The details of the assessment against EAST are shown in Appendix B6. Table 5-6 shows the summary of the assessment of the corridors using the 5-point scoring system.

Table 5-6 Details of the assessment against EAST Cases

EAST Case	Corridor A	Corridor B	Corridor C	Corridor D	Corridor E	Corridor F (north)	Corridor F (south)	Corridor G
Strategic Case	2	1	1	4	1	3	3	1
Economic	3	3	4	4	3	3	2	1

Case								
Managerial Case	2	2	2	4	2	2	2	1
Financial Case	2	2	2	2	2	2	2	1
Commercial Case	3	3	3	3	3	3	3	3

Strategic case

5.2.152 Corridor D was the best performing as it delivered Government and local objectives and addressed well the transport issues. Corridors B, C and E failed to deliver environmental objectives and Corridor G delivered neither transport nor environmental objectives.

Economic case

5.2.153 Economic growth: Corridors C and D performed the best on journey time savings and reliability due to their short lengths. Corridors F (south) and G were the worst performing due to the lengths of routes leading to an increased potential for delay and incidents.

5.2.154 Carbon emissions: Emissions from vehicles were the largest component of this assessment. Corridors C and D were the shortest and therefore were the best performers. Corridors F (south) and G, being the longest, performed the worst.

5.2.155 Socio-distributional impacts and the regions: Weighed over a number of criteria all corridors performed similarly.

5.2.156 Local environment: On balance Corridor D performed the best. The other corridors performed well against some criteria but poorly against others. Overall the other corridors performed worse than Corridor D.

5.2.157 Wellbeing: Weighed over a number of criteria all corridors performed similarly

5.2.158 Expected value for money category based on the indicative Benefit Cost Ratios (BCR): Corridors B, C and F (north) performed the best. Corridor D offered lower value for money, primarily due to the high cost of a tunnel. Corridor G performed the worst due to high cost and limited user benefits with the increased length of the route.

Managerial case

5.2.159 Corridor D performed best as a tunnel scheme had been tested in public previously and there was strong and detailed evidence to support it. Corridor G performed worst as it followed a completely new route which was considered to be more difficult to get through DCO and had no evidence to support it.

Financial case

5.2.160 The financial case considered Capital and Revenue costs and overall cost risk. Corridor G performed worst due to its length which would lead to higher costs.

Commercial case

5.2.161 The commercial case considered funding sources and potential income generated with all corridors scored equally at this stage.

Summary of overall assessment

5.2.162 The results of the three different assessment methodologies (CSRs, EAST and environmental criteria having regard to NPSNN) were drawn together to facilitate a balanced review of the corridors and the recommendation of corridors to be taken forward for further development and appraisal. A summary of the key findings for each corridor is provided in Table 5-7 below.

Table 5-7 Overall Corridor assessment summary

Overall Corridor assessment summary
<p>Corridor A</p> <p>Corridor A would provide a route to the north of the WHS. This would reduce severance within the WHS, and could also result in some benefit to the WHS. However, the harm it would cause to the setting of the WHS and key assets within it (e.g. Durrington Walls) mean substantial harm to the OUV of the WHS is probable and, on balance potential harm to the OUV of the WHS would outweigh the benefits associated with the removal of the A303.</p> <p>The corridor may also adversely affect Nationally and Internationally (European) designated nature conservation sites including through the direct loss, in two locations, of parts of Salisbury Plain SPA/SAC. It is likely that this would require significant compensation measures and conflicts with the objective of achieving a net addition in biodiversity.</p> <p>The corridor has the potential to adversely affect communities and land within the settlements at Larkhill, Durrington and Bulford.</p> <p>The corridor would reduce transport costs, improve regional connectivity, support the visitor economy and provide journey time savings compared to the existing situation. Corridor A runs along the northern boundary of the WHS. It is difficult to avoid the receptors or to</p> <p>expand the corridor without resulting in further direct impacts or worsening impacts on receptors such as the Salisbury Plain Special Protection Area (SPA) / Special Area of Conservation (SAC) and communities at Larkhill, Durrington and Bulford. On balance, the overall assessment of the corridor is unlikely to change and it would continue to perform poorly against a number of environmental criteria. Corridor A delivered a relatively poor fit against the CSRs, and overall performed poorly against the environmental criteria. The performance against the EAST criteria was also poor.</p> <p>Given the overall poor environmental performance and the poor fit against the CSRs, it was recommended that this corridor was not taken forward for further consideration.</p>

Corridor B

Corridor B would provide a surface dual carriageway route to the north of the existing A303, but would sever the WHS, fundamentally altering its character and fabric and causing substantial harm to the OUV of the WHS. The corridor would adversely affect nationally and internationally (European) designated nature conservation sites which could conflict with the objective of achieving a net addition in biodiversity, but it would reduce road traffic noise and severance in Winterbourne Stoke.

The corridor would reduce transport costs and improve regional connectivity, although the adverse environmental impacts on the WHS may cause negative economic impacts on the visitor economy. The corridor would provide journey time savings compared to the existing situation.

Corridor B performed poorly against the CSRs, specifically in relation to Cultural Heritage and Environment and Community and overall performed relatively poorly against the environmental criteria. The performance against the EAST criteria was average.

Due to the substantial impact on the WHS, and the consequential poor fit against the CSRs, it was recommended that this corridor was not taken forward for further consideration.

Corridor C

Corridor C would provide a surface dual carriageway route close to the existing A303 corridor. This would cause substantial harm to the OUV of the WHS and the corridor offers limited opportunity to reduce severance within the WHS and there would be limited or no benefit in terms of noise. The corridor would not contribute to the enhancement of the historic landscape within the WHS and has the potential to adversely affect nationally and internationally (European) designated nature conservation sites which could conflict with the objective of achieving a net addition in biodiversity. It would reduce road traffic noise and severance in Winterbourne Stoke.

The corridor would reduce transport costs and improve regional connectivity, although the adverse environmental impacts on the WHS may cause negative economic impacts on the visitor economy. The corridor would provide journey time savings compared to the existing situation.

Corridor C delivered a very poor fit against the CSRs of Cultural Heritage and Environment and Community, but scored well against Economic Growth and Transport. Overall, Corridor C performed poorly against the environmental criteria. The performance against the EAST criteria was average.

Due to substantial impacts on the WHS it was recommended that this corridor was not taken forward for further consideration.

Corridor D

By providing a tunnel within the WHS, Corridor D reduces severance and benefits the character of the WHS and the setting of key assets such as Stonehenge. The above ground elements may cause adverse effects on the character of the WHS but it is considered that substantial harm can be avoided with appropriate design and mitigation. The corridor has the potential to contribute to the enhancement of the historic landscape within the WHS. It would reduce road traffic noise

and severance in Winterbourne Stoke.

The corridor would reduce transport costs, improve regional connectivity, support the visitor economy and provide journey time savings compared to the existing situation. Corridor D had a good fit against the CSRs, particularly Economic Growth and Transport, with the best overall fit of all the corridors. Similarly, the corridor scored the best of all corridors against environmental criteria and EAST.

This corridor offers reduced severance and potential to enhance the WHS and is the best performing corridor of all that were assessed. It was therefore recommended that Corridor D was taken forward for further consideration.

Corridor E

Corridor E would provide a surface level dual carriageway through the WHS to the south of the existing A303. This corridor presents limited potential to reduce severance within the WHS, causing substantial harm to the OUV. The corridor would not contribute to the enhancement of the historic landscape within the WHS. It would reduce road traffic noise and severance in Winterbourne Stoke although this should be weighed against the potential to increase noise in other settlements within the corridor such as at Berwick St James, Stapleford and West Amesbury.

The corridor would reduce transport costs and improve regional connectivity, although the adverse environmental impacts on the WHS would cause negative economic impacts on the visitor economy. The corridor would provide some journey time savings compared to the existing situation.

Corridor E performed poorly against the CSRs, specifically in relation to Cultural Heritage and Environment and Community and overall performed poorly against the environmental criteria, specifically Historic Environment, Biodiversity and Landscape. The performance against the EAST criteria was average.

Due to the impact on the WHS, and the consequential poor fit against the CSRs, it was recommended that this corridor was not taken forward for further consideration.

Corridor F (north)

Corridor F (north) would provide a surface option that would completely avoid the WHS to the south and it would reduce severance and benefit the character of the WHS and the setting of key assets, bringing substantial benefits. Any route that lies entirely within Corridor F (north) would run through the Boscombe Down airfield. The acceptability of this would be informed by engagement with the MoD during the design development stage.

The corridor has the potential to contribute to the enhancement of the historic landscape within the WHS although it may adversely affect some nationally and internationally (European) designated nature conservation sites, and the length of the corridor would lead to increased habitat loss compared to other corridor options. It would reduce road traffic noise and severance in Winterbourne Stoke although this should be weighed against potential adverse noise, severance and visual effects in other settlements within the corridor.

Economic benefits would be reduced because the length of the route would be longer than the existing road, meaning vehicles have to travel greater distances. However, the corridor would

provide journey time savings compared to the existing situation, improve regional connectivity and support the visitor economy. Corridor F (north) performed relatively well the CSRs, specifically in relation to Cultural Heritage. The overall performance against the environmental criteria was average, but showed detriment in respect of air quality. The performance against the EAST criteria was average. This corridor has a good fit with the CSR for Cultural Heritage and offers reduced severance and potential enhancement within the WHS by avoiding direct impact upon it. It was recommended that Corridor F (north) was taken forward for further consideration.

Corridor F (south)

Corridor F (south) would provide a surface option that would completely avoid the WHS to the south and it would reduce severance and benefit the character of the WHS and the setting of key assets bringing substantial benefits. The corridor has the potential to contribute to the enhancement of the historic landscape within the WHS although it may adversely affect some nationally and internationally (European) designated nature conservation sites. The length of the corridor would lead to increased habitat loss compared to other corridor options, thus offering limited opportunity to increase biodiversity. The corridor would also result in adverse landscape impacts where it passes through the Cranbourne Chase AONB, and would likely affect a high number of sensitive visual receptors. The majority of the corridor is located within the inner part (Zone 1) of a source protection zone for groundwater. It would reduce road traffic noise and severance in Winterbourne Stoke although this should be weighed against the potential adverse noise, severance and visual effects in other settlements within the corridor.

The corridor would marginally reduce transport costs, improve regional connectivity and support the visitor economy. Hence, economic benefits are likely to be relatively slight. Corridor F (south) performed relatively well against the CSRs, specifically in relation to Cultural

Heritage, but the additional length of the route impacted upon the Transport and Economic criteria. The overall performance against the environmental criteria was poor, with detrimental impacts to Biodiversity, Landscape and Water. The performance against the EAST criteria was average.

This option has a good fit with the CSR for Cultural Heritage, and would offer reduced severance within the WHS by avoiding direct impact upon it. It has the potential to enhance the WHS but it performs less well in a number of environmental areas most noticeably landscape and provides reduced economic and transport benefits compared to Corridor F (north). On this basis it was recommended that Corridor F (south) was not taken forward for further consideration.

Corridor G

Corridor G would provide a surface option that would effectively provide a Salisbury southern bypass. This corridor would reduce severance and benefit the character of the WHS and the setting of key assets such as Stonehenge bringing substantial benefits to the WHS. The corridor would contribute to the enhancement of the historic landscape within the WHS. However, it would adversely affect numerous nationally and internationally (European) designated nature conservation sites and areas of ancient woodland. The length of the corridor would lead to substantially increased habitat loss and severance, thus offering limited opportunity to increase biodiversity. The corridor passes to the south of Salisbury and a significant section of the

corridor is located within the Cranbourne Chase and West Wiltshire Downs AONB. It would reduce road traffic noise and severance in Winterbourne Stoke although this should be weighed against the potential adverse noise, severance and visual effects in other settlements within the corridor.

The corridor would not reduce transport costs as the benefits from the increase in traffic speed and creation of grade-separated junction are outweighed by the longer route. Hence there would be no improvements in regional connectivity and support for the visitor economy. Hence, there would be no associated economic benefits.

Whilst this option would offer reduced severance and potential to enhance the WHS it is likely to lead to substantial habitat loss. Journey times would increase giving lower economic benefits compared with the more direct routes.

Corridor G performed poorly against the CSRs, specifically in relation to Cultural Heritage and Environment and Community. The overall performance against the environmental criteria was very poor. The performance against the EAST criteria was also the worst performing corridor.

Given the significant increase in journey length for through traffic and the associated disbenefits associated with the longer route, and the consequential poor fit against the CSRs, it was recommended that this corridor was not taken forward for further consideration.

Pages 163 - 165

Assessment scoring

9.2.8 Route options were scored against each CSR and policy objective using the following three point Red-Amber-Green (RAG) scale:

3	Strong alignment. Route option makes a substantial positive contribution towards meeting relevant objectives.
2	Moderate alignment. Route option makes some contribution towards meeting relevant objectives.
1	Weak alignment. Route option makes little or no contribution towards meeting relevant objectives.

9.2.9 The CSR assessment undertaken at Design Fix A used a five point scoring scale, as required by Early Assessment and Sifting Tool (EAST). A three point scale was considered appropriate for the strategic fit assessments conducted at Design Fix C, and for this assessment of the three route options against CSRs and local and national policies, drawing on the WebTAG findings.

9.3 Assessment

Client Scheme Requirements assessment

9.3.1 Table 9-1 provides a summary of this assessment for each of the route options. Table 9-1 Client Scheme Requirements summary table

Document	Client Scheme Requirements	D061	D062	F010
Client Scheme Requirements	Transport: to create a high quality route that resolves current and predicted traffic problems and contributes towards the creation of an Expressway between London and the South West	3	3	2
	Economic growth: in combination with other schemes on the route, to enable growth in jobs and housing by providing a free flowing and reliable connection between the East and the South West peninsula	3	3	2
	Cultural heritage: to contribute to the conservation and enhancement of the WHS by improving access both within and to the site	2	2	3
	Environment and community: to contribute to the enhancement of the historic landscape within the WHS, to improve biodiversity along the route, and to provide a positive legacy to communities adjoining the road	3	3	2

9.3.2 In general, Route Options D061 and D062 align more closely with the CSRs than Route Option F010. However, Route Option F010 aligns most strongly with the cultural heritage CSR as it would remove the road from the WHS in its entirety. This would be a substantial benefit for the WHS and the setting of Stonehenge and other Scheduled Monuments. Route Options D061 and D062 would also remove the road from a key part of the WHS, and all three route options would allow the reconnection of the Avenue, a scheduled monument of high importance that is currently severed by the existing road. All three options would also improve access to the site by improving local traffic conditions. These are very notable benefits.

9.3.3 However, route Options D061 and D062 would introduce major new infrastructure into the WHS, adversely affecting important assets and key attributes of the site's OUV. On balance, D061 would result in a Slight/Moderate beneficial effect for the WHS, and D062 in a Moderate beneficial effect. Strategic fit with the cultural heritage CSR is therefore considered moderate for both route options.

9.3.4 In other respects, Route Option F010 performs less strongly than Route Options D061 and D062. While Route Option F010 would provide benefits in terms of increased capacity and improved reliability, the longer length of the route restricts potential journey time savings in comparison to Route Options D061 and D062, thereby limiting potential benefits and strategic alignment in terms of improved connectivity and economic growth.

9.3.5 Route Option F010 also has the potential for larger adverse impacts on the environment and community than Route Options D061 and D062. For example, the length and alignment of Route Option F010 could encourage traffic on to local roads to the north of the existing A303, resulting in further adverse severance effects. The route option could also introduce adverse severance effects to communities along the proposed route to the south of the existing A303, such as Berwick St James and Upper Woodford. The length of the route has the potential to result in significant loss of priority habitats and associated biodiversity.

9.3.6 All options would reduce the impact of traffic on Winterbourne Stoke, and have the potential for other beneficial environment and community effects such as a net benefit in terms of reducing noise and a net improvement in local air quality, although there is an increase in NOx emissions across the scheme area. However, route option F010 performs considerably less well in terms of impacts on local communities than route options D061 and D062, and also has

the potential for a larger adverse effect on biodiversity. This reduces its strategic fit with the environment and community CSR, relative to route options D061 and D062.

National policy assessment

9.3.7 Table 9-2 provides a summary of national policy alignment for each of the three route options. Route Options D061 and D062 generally align more closely with national policy objectives than F010. Route Option F010, which involves the construction of a longer surface route, offers smaller journey time savings than for D061 and D062 and, as such, contributes less directly to policy objectives relating to connectivity and economic growth.

Table 9-2 National policy summary table

Document	Relevant objectives	D061	D062 F010
National Policy Statement for National Networks (NPSNN)	Networks with the capacity and connectivity and resilience to support national and local economic activity and facilitate growth and create jobs	3	32
	Networks which support and improve journey quality, reliability and safety	3	32
	Networks which support the delivery of environmental goals and the move to a low carbon economy	1	11
	Networks which join up our communities and link effectively to each other	3	31
Road Investment Strategy for the 2015/16 – 2019/2020 Road Period (RIS1)	Making the network safer	3	32
	Improving user satisfaction	3	32
	Supporting the smooth flow of traffic	3	32
	Encouraging economic growth by working to minimise delay	3	32
	Delivering better environmental outcomes	2	22
	Helping cyclists, pedestrians and other vulnerable users	3	32

9.3.8 All route options would improve journey quality, reliability and safety for through traffic. However, F010 is expected to encourage more traffic to use local roads adjacent to communities to the north of the existing A303, resulting in adverse severance effects. This route option also has the potential to introduce new adverse severance effects for communities to the south of the existing A303, and therefore performs less well against objectives relating to local traffic issues and communities.

9.3.9 In terms of environmental objectives, all three route options are expected to result in a net overall increase in greenhouse gas water environment. However, F010, due to its greater length, has the potential to result in significant loss of priority habitats and associated biodiversity. Benefits of route options D061 and D062 would include a shorter scheme in terms of its length, landscape reconnection and habitat restoration, leading to a reduction in road fatalities and increase in wildlife movement relative to route option F010.

9.3.10 All three options would result in a net beneficial effect on noise. However F010 has the potential for a larger beneficial noise effect than D061 or D062 due to the reduced noise impact

of the existing A303 on Amesbury. All three options have the potential to result in a net improvement in local air quality due to a reduction to exposure of concentrations of particulate matter, although there is an increase in NOx emissions across the scheme area.

Network (ARN) were reviewed; due to the limitations of the regional changes in the current local model, the local ARN was used. It is recognised that not all changes in carbon emissions are captured with this approach; this may skew the results of the emissions comparison, particularly during the early years of operation of the Scheme. This limitation will be appropriately addressed once the new regional model becomes available.

Pages 200-204

Cultural Heritage Impacts – The Value of Removing the Road from the World Heritage Site

11.4.26 Current appraisal guidance (WebTAG) does not monetise or seek to quantitatively value impacts on historic environment. It instead relies on qualitative scores. In some respects, the value of cultural heritage assets is intangible and will remain unquantifiable. However, techniques exist which seek to monetise the value that people place on cultural heritage assets.

Willingness to Pay Research

11.4.27 As noted, a Contingent Valuation study has been undertaken to provide a more balanced quantitative assessment of value for money. The aim of this study is to understand the value that visitors to the World Heritage Site, A303 users, and UK residents put on the removal of the A303 from its current location within the Stonehenge World Heritage Site (WHS), in relation to noise reduction, increased tranquillity, visual amenity and reduced landscape severance in the Stonehenge WHS.

11.4.28 The research elicits a value for the benefits of the scheme as perceived by visitors to the World Heritage Site and UK residents. Respondents to the survey were provided with information on the current route and a description of the impact of the existing A303 on the World Heritage Site. They were also been provided with information on the expected impacts of the scheme. On the basis of this information, respondents were asked to consider what (hypothetically) they would be willing to pay in an increase in annual taxation to realise the benefits of the scheme.

11.4.29 Care has been taken to ensure that responses are focussed on the impact of removing the road from the landscape, rather than factors such as transport benefits and considerations of affordability.

11.4.30 The survey responses have been used to generate estimates of the aggregate willingness to pay of the UK population as a whole or, put another way, the overall value that society attributes to these benefits.

Quantitative versus Qualitative Analysis

11.4.31 The quantitative research is intended to complement but not replace the qualitative appraisal of environmental impacts (including the historic environment assessment) undertaken

in accordance with WebTAG guidance. There are a number of important differences between the willingness to pay research and the WebTAG historic environment.

11.4.32 The quantitative assessment places a value on the impact of the scheme as perceived by visitors to the World Heritage Site, users of the A303 and the UK population. Although respondents are provided with high level information about the World Heritage Site and its features, in the vast majority of cases, their valuation will not be based on expert opinion as is the case with the qualitative assessment.

11.4.33 Linked to this, it is likely that responses to the survey will be highly influenced by impacts on Stonehenge itself as the most recognisable monument in the World Heritage Site. In contrast, the historic environment assessment takes a broader approach, recognising the uniqueness of Stonehenge and its international importance, but also weighing up impacts on the many different monuments affected, either positively or negatively, by the scheme. The historic environment assessment has to consider all aspects of the World Heritage Site landscape and the relationships between the monuments within it, not just the changes to the landscape around Stonehenge itself.

11.4.34 It should also be noted that the willingness to pay survey is focussed primarily on impacts on Stonehenge within the World Heritage Site, whilst the WebTAG qualitative assessment takes into account any impacts on the historic environment outside the World Heritage Site. There are a substantial number of important monuments, listed buildings and other assets around the WHS that may be adversely or beneficially affected by the scheme and these need to be taken into account when weighing the overall level of benefit and harm to the historic environment. The historic environment WebTAG assessment also addresses assets within the boundary of the World Heritage Site which are not directly connected with the Outstanding Universal Value of the World Heritage Site and, importantly, it has to assess impacts on individual monuments in their own right regardless of the World Heritage Site designation.

11.4.35 Finally, it should also be recognised that, in practice, the willingness to pay values cover a range of impacts not necessarily limited to historic environment. The values generated by the surveys are likely to capture impacts on noise, air quality landscape and amenity, as well as impacts on historic monuments. In this regard, the willingness to pay research is closely related to a number of environmental topics covered in the qualitative WebTAG assessment.

11.4.36 In overview, the willingness to pay research provides an assessment of the public value attributed to removing the road from the World Heritage Site. It provides a partial assessment of the benefits of the scheme which complements qualitative assessment based on expert opinion. Nonetheless, understanding the value that people place on the benefits of the scheme, the research helps us to better understand the trade-offs between cost and impact.

Applying the Results of the Assessment

11.4.37 At this stage, the research has been undertaken only on the basis of the tunnelled option (nominally, Route Option D061). However, the research is primarily concerned with the impact of removing the road from part or all of the World Heritage Site. Therefore, the research can also be used to infer the likely benefits of the surface route in this respect.

11.4.38 In respect of cultural heritage impacts, all options would deliver transformative benefits for parts of the World Heritage Site by improving the setting of scheduled monuments,

including Stonehenge itself, and by removing the physical barrier that currently divides the Site into two parts. Therefore, the results of the assessment may underestimate the benefits of Route Option F010. However, it is likely that the value attributed to the scheme respondents is focussed on the impact of the scheme on Stonehenge (the most recognisable feature of the World Heritage Site), rather than impacts on monuments located to the east or west of Stonehenge that would be affected by the construction of tunnel portals or new sections of highway.

11.4.39 Whilst these differences are highly material to the qualitative assessment of heritage impacts, in respect of the quantifiable impacts of the benefits of removing the road from the World Heritage Site, the tunnelled and surface options are similar.

Results

11.4.40 As noted, the Contingent Valuation study involved undertaking face to face surveys at the Visitor Centre as well as on-line surveys with a stratified sample of UK residents. The research considered three separate populations:

- Stonehenge Visitors.
- A303 Road Users.
- General population.

11.4.41 Each survey was tested through survey pilots and appropriate refinements were made. In general the pilots demonstrated that the surveys were appropriate and clearly understood by respondents.

11.4.42 Respondents were asked whether they would be willing to pay to remove the road from the World Heritage Site. The majority of respondents reported that they would be willing to pay some amount to remove the road. The proportion of people willing to pay was highest for visitors and road users (both 67.4%). It was 59.2% for the general population.

11.4.43 Respondents who were not willing to pay to remove the road were further asked if they would require compensation in the event that the scheme went ahead. This was an important part of the research given that it ensured that those who perceived the scheme has having negative impacts (for example, because it would result in Stonehenge no longer being visible to road users when travelling on the A303) were also able to place a value on these impacts.

11.4.44 The percentage shares of people requiring compensation were very low for all populations, and was lowest for Stonehenge visitors (0.5%). Across the three groups between 30% and 38% of people neither required any compensation, nor were not willing to pay.

Table 11-1 Respondents ‘Willing to Pay’ for the Proposed Scheme

	Visitors	Road users	General population
Willing to pay to move the road	67.4%	67.4%	59.2%
Requiring compensation for the removal of the road	0.5%	2.1%	2.3%
Neither willing to pay nor requiring compensation	32.2%	30.5%	38.4%
Total	100%	100%	100%

11.4.45 Those willing to pay something for the proposed improvement were asked how much willing to pay an increase in annual taxes over a three-year period to support the scheme, whilst those requiring compensation were asked what they would be willing to accept in compensation should the scheme go ahead.

11.4.46 The average willingness to pay/accept values derived from the survey were then aggregated to the relevant population levels within each of the three groups. Willingness to accept is subtracted from willingness to pay in order to provide a net overall benefit. In accordance with good practice, a range of validity tests have been undertaken which demonstrate that the variation in values across different sub- groups of respondents are logical and internally consistent.

11.4.47 In summary, the aggregate net benefit for visitors to Stonehenge is £24m, for road users it is £51m, and for the general population it is £1.1 billion. Combining these together results in an estimated aggregate net present value of £1.3 billion (2016 prices and values) for the removal of the section of the A303 for a tunnel. For comparability with the overall cost benefit analysis this result has been converted to 2010 prices and values to give a value of £1.0bn.

Table 11-2 Aggregate Willingness to Pay/Accept

Group	WTP/WTA variable	%	Relevant Population	Mean (£ Net Present Value)	Aggregation to national level
Visitors	Annual tax	67%	363,776	£68	£24m
	Compensation (one off)	0.5%	2,517	£188	
Road Users	Annual tax	67%	854,212	£22	£51m
	Compensation (one off)	2%	27,204	£81	
General Population	Annual tax	59%	31,653,894	£14	£1,251m
	Compensation (one off)	2%	1,229,012	£58	
Total net present value (2016 prices and values)					£1,326m
Total net present value (2010 prices and values)					£992m

11.4.48 Upper and lower bound results have also been derived based on a 95% confidence interval for the Willingness to Pay / Accept values based on the respective sample sizes. The results show a range of £1.2bn to £1.5bn. The interpretation of this analysis is that we are 95% confident that the willingness to pay (net of willingness to accept) is between £1.2bn and £1.5bn.

Table 11-3 Upper and Lower Bound Estimates

11.4.49 It is acknowledged, however, that given the nature of this research there are uncertainties beyond those relating to confidence intervals. Notwithstanding that any assessment of this nature is subject to a significant margin for error, the assessment demonstrates that the

benefits of removing the road from the World Heritage Site – as perceived by Stonehenge visitors and the general public – are substantial.

Valuing Impacts on the Landscape beyond Stonehenge

Approach

11.4.50 As noted, for all options, the benefits of removing the road from the World Heritage Site need to be balanced against the negative impacts of the construction of a new or widened surface highway in an otherwise rural environment. As for heritage impacts, quantifying such effects is highly challenging. Where landscape impacts are highly material (i.e. scored as moderate or large), DfT has identified that an illustrative monetisation of landscape impacts can help inform the overall value for money assessment of a scheme.

	Lower Bound (of 95% Confidence Interval)	Central Estimate (Mean)	Upper Bound (of 95% Confidence Interval)
Total net present value (2016 prices and values) (£)	1,190	1,326	1,463
Total net present value (2010 prices and values) (£)	889	992	1,093

Page 212

Table 11-15 Programmatic Appraisal

£M 2010 Prices and Values	Option D061	Option D062	Option F010
Initial BCR	0.7	0.7	0.4
Adjusted BCR	0.9	0.9	0.7
BCR Including Monetised Heritage and Landscape Impacts	1.5 – 1.7	1.6 – 1.8	1.5 – 1.8
Complementary Approach to Wider Economic Benefits	1.9 – 2.1	2.0 – 2.2	

Page 266

Table 18-6 Summary of environmental assessment outcomes

Parameter	Option D061	Option D062	Option F010
Noise (NPV of change in Noise)*	£180,000	£225,000	£3,660,000
Air quality: Total value of change in	-£310,000	-£320,000	-£490,000

air quality*			
Greenhouse Gases (NPV of change in Greenhouse gases)*	-£50,106,484	-£50,615,971	-£53,875,360
Landscape	Moderate Adverse	Moderate Adverse	Very Large Adverse
Townscape	Neutral	Neutral	Neutral
Historic Environment (overall)	Neutral	Neutral	Large Beneficial
Historic Environment (WHS)**	Slight / Moderate Beneficial	Moderate Beneficial	Large Beneficial
Biodiversity	Large Adverse	Large Adverse	Very Large Adverse
Water environment	Large Adverse	Large Adverse	Moderate Adverse

* a positive value represents a benefit whilst a negative value a disbenefit

** Scores are as per WebTAG guidance (TAG Unit A3), these differ from DMRB derived impact and effect scores.

Overall Summary

22.1.1 The identification of the existing problems and constraints for the scheme and the options development, sifting and appraisal process, to ultimately determine the route options to be taken forward for public consultation, was split into three stages: Design Fix A; Design Fix B; and Design Fix C.

22.1.2 In Design Fix A, some 60 historical routes that have been proposed by Government, stakeholders and the public in the past, were reviewed and grouped into eight corridors which contained routes with similar characteristics. The corridors were assessed against the Client Scheme Requirements (CSRs), WebTAG and EAST criteria, and the National Policy Statement for National Networks (NPSNN) environmental aspects. The outcome of this initial corridor appraisal was that Corridor D (part tunnel part surface route options within the WHS to the south of the existing A303) and Corridor F (wholly surface route options to the south of the WHS) were the best performing corridors and should be taken forward for further consideration and development of route options.

22.1.3 A number of route options were then developed in Design Fix B, within the two best performing corridors, and sifted against the key engineering and environmental constraints to confirm 7 route options in Corridor D and 3 route options in Corridor F to be taken through initial route options appraisal. The methodology used to appraise the options (Design Fix C) followed that used for the Initial corridors appraisal, and was based on the guidance in the WebTAG Option Assessment Framework. The outcome of this initial options appraisal was that three of the best performing Corridor D and F route options were taken forward for further more detailed WebTAG appraisal to determine the route options for consultation.

22.1.4 The three better performing route options D061, D062 and F010, were taken through a WebTAG appraisal with the outcomes of the assessments reported in Appraisal Summary Tables (refer to Appendix H).

22.1.5 The further appraisal confirmed that Route Options D061 and D062 would deliver a better fit against the Client Scheme Requirements (CSRs) and the relevant local and national planning, transport and economic policy objectives, than Route Option F010, thus providing better alignment with the scheme objectives.

22.1.6 Route Options D061 and D062 would provide a shorter, more direct route for through traffic along the A303 relative to Route Option F010, reducing the extent of rat-running through local villages and delivering a journey time saving of approximately 4 minutes compared to the existing case. A journey along Route Option F010 would involve travelling an additional 3.7km relative to Route Options D061 and D062 and consequently, the journey time saving (in relation to the existing situation) is reduced and is less at approximately 2.75 minutes. A consequence of the longer Route Option F010 alignment and the proposed junction locations is an increase in rat-running through local villages.

22.1.7 The economic appraisal undertaken provided an assessment of the overall value for money of the investment on the basis of costs and benefits that can be monetised. If assessed on the basis of traditional metrics of transport user benefits, Route Options D061 and D062 performed better than Route Option F010, although costs outweigh benefits for all options. However, if the value of removing the A303 from the vicinity of Stonehenge is included in the assessment, a positive economic case can be made for each of the options. In overall terms, when viewed from this broader perspective, the options performed similarly. At this stage in the assessment, the scheme was assessed as offering 'medium' value for money.

22.1.8 Route Options D061 and D062 performed marginally better than Route Option F010 in terms of limiting the separation of residents from services and facilities within their community. This is due to reduced severance at a number of locations along the route and on the affected road network. In particular, Route Options D061 and D062 remove traffic from Winterbourne Stoke, reduce traffic for other nearby settlements such as Shrewton, Durrington and Larkhill, and also include new pedestrian facilities at Countess Roundabout. With the criteria of physical activity, Route Options D061 and D062 also performed better due to a lower degree of Public Rights of Way (PRoW) severance relative to Route Option F010. All options were comparable in terms of journey quality due to reductions in traveller stress.

22.1.9 The distributional impacts assessment identified no significant differentiators between the impact of Route Options D061 and D062, with these outperforming Route Option F010 overall due to fewer adverse impacts.

22.1.10 WebTAG environmental appraisals were undertaken on each of the three route options. For all options it is predicted that properties affected in the study area would experience low levels of change in noise, with a small number of properties assessed as experiencing noise nuisance. All options would provide noise benefits, with the level of noise reduction around Winterbourne Stoke better for Route Option D062 and Route Option F010 having further noise benefits for properties in Amesbury.

22.1.11 In terms of greenhouse gases all options would result in an increase in user carbon, with F010 resulting in the greatest increase due to vehicle flows and the much longer distance travelled. For air quality, the increase in vehicle flows and the much longer distance travelled for F010 would also result in the highest NOx emissions. For all options air quality receptors within 200m would experience a reduction in exposure to PM10 emissions, leading to improved local air quality. This improvement is offset for all options by the overall increase in exposure to NOx leading to an overall reduction in air quality.

22.1.12 In terms of landscape both D061 and D062 would have a Moderate Adverse effect with scope for further mitigation during design development. For F010 the magnitude of change and the sensitivity of the high quality rural landscape along the approximate 21.5 km length and the visual impacts of the highly intrusive crossing of the Upper Avon Valley would result in a Very Large Adverse effect on the landscape with limited scope for mitigation.

22.1.13 For the historic environment, both Route Options D061 and D062 would result in an overall Neutral score compared with a Large Beneficial effect for F010. In terms of the WHS, F010 would also result in a Large Beneficial effect, whilst D061 would result in a Slight/Moderate Beneficial effect and D062 a slightly greater Moderate Beneficial effect. These differences are due to the routing of D062 west of the western portal where it avoids important archaeological remains and uses local topography to better fit into the landscape of the WHS.

22.1.14 For Route Options D061 and D062 biodiversity and the water environment have both been assigned the same level of Large Adverse effect, with potential effects on water environment predicted to substantially reduce post construction. For biodiversity, mitigation through design development is predicted to result in a reduction in the scale of impact. Route Option F010 crosses 2.4km a Special Protection Zone 2 (SPZ) which is reflected in the Moderate Adverse assessment for water environment. For biodiversity F010 is nearly twice the length of D061 and D062 and at surface level would result in a Very Large Adverse effect. This is due to the direct adverse impacts to internationally (European) and nationally designated ecological sites.

22.1.15 All options were assessed to have a positive impact upon on road safety as the existing A303 is an accident blackspot, and all new route options will increase capacity and be designed

to high safety standards. All proposed route options would significantly reduce the risk of hazards to road users. Additionally, the horizontal and vertical alignments and associated forward visibility would improve significantly relative the existing conditions.

22.1.16 As a result of having shorter travel distances, Route Options D061 and D062 were assessed to have the potential to deliver greater in-service accident benefits over Route Option F010. In relation to Construction, Design and Management (CDM) safety assessment, Route Options D061 and D062 would involve significant tunnel construction, a highly specialised and technically complex activity. This would be considered a significant construction risk activity, but was assessed as manageable by a competent contractor. Route Option F010 would involve the construction of an additional significant viaduct over the River Avon, which would require significant amount of working at height, another significant but manageable construction risk.

22.1.17 In terms of performance against the assessment criteria of operation, technology and maintenance, all options performed to a similar level with Route Options D061 and D062 requiring enhanced operation and maintenance features specific to the tunnel.

22.1.18 In regards to the scheme programme, Route Options D061 and D062 could be delivered to meet the Road Investment Strategy (RIS) programme dates and achieve a start on site by March 2020. Route Option F010 would require additional survey information leading to a 12 month delay relative to Route Options D061 and D062, and thus would achieve a later start on site date of approximately March 2021.

22.1.19 In conclusion, based on the more detailed WebTAG assessment and appraisal of the sifted best performing route options for Corridors D and F, and the fit with the scheme objectives, the following route options are proposed to be taken forward to Stage 2 for public consultation and further appraisal, with no significant characteristics differentiating the two options:

- Route Option D061: Approximately 2.9km length tunnel with route running north of Winterbourne Stoke, eastern tunnel portal located east of The Avenue and the western tunnel portal located west of Normanton Gorse to minimise visual impact to and from Stonehenge.
- Route Option D062: Approximately 2.9km length tunnel with route running south of Winterbourne Stoke, eastern tunnel portal located east of The Avenue and the western tunnel portal located west of Normanton Gorse to minimise visual impact to and from Stonehenge.

**APPENDIX 14 Report on the joint World Heritage Centre/ICOMOS
Advisory mission to Stonehenge, Avebury and
associated sites, 5-7 March 2018**



Final Report on the joint World Heritage Centre / ICOMOS Advisory mission to Stonehenge, Avebury and Associated Sites (c.373bis)

5 – 7 March 2018

Acknowledgements

The ICOMOS/UNESCO Advisory Mission is grateful to the State Party (The United Kingdom of Great Britain and Northern Ireland), and more specifically to the Department for Digital, Culture, Media and Sport (DCMS), the Department for Transport (DfT), Highways England (Highways) and Historic England (HE), as well as the National Trust (NT), English Heritage (EH), Wiltshire Council, and the Stonehenge and Avebury World Heritage Site Partnership Panel, and AECOM Mace WSP (AmW) for the excellent mission arrangements, including preparation of the detailed briefing pack, facilitation of site inspections (despite challenging weather and including visits to locations not originally part of the mission itinerary), informative presentations and access to all requested documentation.

Particular acknowledgement is made of the contributions of Enid Williams (DCMS), Stephen Fidler (DfT), Derek Parody, Terri Harrington, Martin McCrink, Sarah Walker, Esther Gordon-Smith and Andrew Weaver (Highways), Chris Moore and Neil Macnab (AmW), Henry Owen-John, Andrew Vines and Phil McMahan (HE), Nick Snashall, Phillip Morris and Ingrid Samuel (NT) Kate Davies and Heather Sebire, (EH), Melanie Pomeroy-Kellinger and Parvis Khansari (Wiltshire Council), Sarah Simmonds (World Heritage Site Co-ordination Unit), Alistair Sommerlad (Stonehenge and Avebury World Heritage Site Partnership Panel) and Professor Sir Barry Cunliffe (A303 Scientific Committee). These individuals (and others) greatly assisted with the efficient and effective conduct of the mission and were responsive and supportive of the many requests for clarification or information.

The Mission also acknowledges the contribution of institutions and individuals from civil society (as listed in the ensuing report) for the time, information and viewpoints that contributed to the Mission's understanding of the Stonehenge component of the 'Stonehenge, Avebury and Associated Sites', and the complex and numerous issues surrounding the current project.

Contents

Acknowledgements	2
Executive Summary and List of Recommendations.....	5
Findings	5
Recommendations	8
1. Background and Context for the Mission	10
1.1 Preamble and Justification of the Mission.....	10
1.2 Inscription History and Statement of Outstanding Universal Value	10
1.3 Terms of Reference.....	11
1.4 Mission Team	13
1.5 Mission Programme.....	13
2. Previous Mission Findings and World Heritage Committee Decision	14
2.1 First Mission – October 2015	14
2.2 Second Mission – January/February 2017	15
2.3 The World Heritage Committee	17
3. Selection Process for Proposed Scheme.....	18
3.1 Highways England Objectives.....	18
3.2 Public Consultation.....	18
3.3 Route Selection	19
3.4 Route F10 Consideration	20
3.5 Longer Tunnel Options	22
3.6 Next Steps.....	22
4. The Proposed Scheme	23
4.1 Alignment	24
4.2 Eastern Portal and Approaches	24
4.3 Western Portal and Approaches.....	26
4.4 The Tunnel.....	27
4.5 Landscape Impact	28
4.6 Archaeological Resources.....	28
4.7 Impact on Integrity and Authenticity.....	29
5. Heritage Management Processes	30
5.1 Managing Archaeological Resources	30
5.2 Heritage Monitoring Advisory Group (HMAG)	31
5.3 Scientific Committee	31
5.4 Economic Cost-Benefit Modelling.....	32
5.5 Legacy Benefits	32
5.6 Heritage Impact Assessment: Scoping Report.....	33
5.7 WHS Management Plan.....	33
5.8 Sustainable Tourism	34

6. Conclusions and Recommendations.....	35
6.1 Findings	35
6.2 Response to Terms of Reference	37
6.3 Recommendations.....	42
7. Annexures.....	44
A. Terms of Reference	
B. Statement of Outstanding Universal Value	
C. Mission Programme	
D. State Party Personnel	
E. Civil Society Meetings – personnel and documents provided	
F. Maps and Plans of World Heritage Site and Current Proposal for A303 Project	
G. Mission Briefing Pack February 2018 and Schedule of Documents Reviewed	
H. A303 Stonehenge Amesbury to Berwick Down Public Consultation Booklet	

Executive Summary and List of Recommendations

An ICOMOS/ UNESCO Advisory mission was undertaken from 5 to 7 March 2018 to the Stonehenge component of the ‘Stonehenge, Avebury and Associated Sites’ serial property (the WHS), which was inscribed on the World Heritage List in 1986. This Advisory mission, conducted at the invitation of the State Party (the United Kingdom of Great Britain and Northern Ireland) concerned the ‘Proposed Scheme’ for the proposed A303 Amesbury to Berwick Down Road Scheme, involving a 3.0km tunnel and more than 2km of dual carriageways within the WHS, and its potential impacts on the Stonehenge component of the WHS and its Outstanding Universal Value. This mission followed two previous Advisory missions in October 2015 and February 2017.

The A303 Amesbury to Berwick Down Road project, which proposes to upgrade the existing A303 road that transects the property, is part of a wider scheme for the A303/A358 route to turn it into a continuous dual carriageway between the south-east and the south-west of England. The main objectives of the project, as specified by the State Party (known as ‘client scheme requirements’), are:

- **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 sustain 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.

Findings

The Mission inspected the WHS, its setting and surrounding areas, in the company of representatives from the State Party, Highways England, and its consultants, Historic England, English Heritage, the National Trust and Wiltshire Council Archaeology Service, received detailed briefings from the project proponents, expert advisers and State Party authorities, met with representatives from civil society, and reviewed an extensive set of briefing documents, in light of the findings and recommendations of the previous Advisory missions and recent decisions of the World Heritage Committee.

The State Party and its agencies have responded to the recommendations of previous Advisory missions and Decisions of the World Heritage Committee (the recommendations from the first mission have been implemented, or are in progress of implementation).

The Stonehenge component of the ‘Stonehenge, Avebury and Associated Sites’ property (the WHS), consists of the main stone circle monument in the centre of an open archaeological landscape of visually-interlinked monuments. Currently, the A303 cuts across this landscape from east to west for approximately 5.4km, mostly as a two-lane surface highway, but with approximately 2.0km of dual carriageway surface highway. Removal of the surface highway A303 from this landscape would have a positive effect on the WHS, and could deliver a range of legacy benefits.

The ‘Proposed Scheme’ for the enhanced A303 and current design proposal comprises a 3.0km twin tunnel, a short covered section, plus more than 2km of dual carriageway in cuttings with

some land bridges. The tunnel 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.

A surface route, which re-routes the A303 completely around the Stonehenge component of the WHS, and enables the closure of the existing section of the A303 within the WHS, would provide the best option in relation to impact on the OUV of the WHS. The visual and physical impact on the landscape to the south of the property, a Special Area for Conservation (SAC) and a Site of Special Scientific Importance (SSSI), of the F10 scheme option proposed would have been high. However, other surface routes may still be feasible, depending on the relative weighting accorded to matters that inform the decision.

Having regard to the first mission advice that:

. . . a well-considered and designed tunnel scheme could become a model of good practice on the world stage . . .

and

. . . the project for the relocation of the existing road underground into a “tunnel of at least 2.9k” could readily adopt appropriate well-established construction methods and spatial planning approaches. Hence, with good design and construction controls, and respecting essential archaeological and heritage management measures, the tunnelled length of the road would be expected to have a beneficial impact on the attributes of Outstanding Universal Value (OUV). However, the siting and design of the tunnel portals, approach cuttings/embankments, entry/exit ramps, mitigation measures and the temporary construction works have the potential to adversely impact OUV. These latter aspects of the scheme, in particular, will require rigorous investigation, evaluation, iterative design and assessment if they are to protect the attributes of OUV within the World Heritage site and the surrounding Archaeological Priority Area . . .

the ‘rigorous investigation, evaluation, iterative design and assessment’ process has revealed that, if the tunnel solution is pursued, the proposed length of 3.0km would not be adequate to protect the integrity and conserve the OUV of the WHS.

Although the location of the western portal represents an improvement on previous options, it nevertheless involves an intrusive section of cut dual carriageway within the WHS. Therefore, if a tunnel solution is pursued, the western portal should be re-located outside the western boundary of the WHS to avoid dual carriageways within this part of the WHS.

The eastern portal has been positioned in the least impactful location available close to the WHS boundary, given the constraints imposed by the attributes of the WHS, other significant sites in the vicinity, and local topographic and environmental conditions. The location of the eastern portal to the east of The Avenue and its siting within a micro valley is an improvement on previous options. However, a tunnel portal much further to the east, completely outside the WHS, would protect the OUV of the property from the impact of associated dual carriageways.

The Mission recognises that the State Party and its agencies have been methodical and thorough in the approach to determining the ‘Proposed Scheme’ and have been careful to have regard to the myriad of complex issues and pressures that affect both corridor and route

selection and the assessment of potential benefits and costs. The Mission recognises 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, 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.

The OUV of the WHS should therefore be afforded at least equal priority to other environmental considerations, including impact on Areas of Outstanding Natural Beauty and Special Areas of Conservation, when either surface or tunnel options are being considered or assessed. In addition, the innovative economic modelling of the benefit-cost of the project should be refined to recognise that, insofar as the public is willing to support the construction of a tunnel, the public would presumably be willing to pay more to remove the pay to remove the A303 impact on the WHS completely through longer tunnel options or complete by-passing.

The Heritage Monitoring Advisory Group and Scientific Committee are now established, functioning and providing advice that can facilitate a ‘heritage-centred’ approach and contribute to a proposed legacy benefits programme, which is yet to be developed by Highways England. The independent website of the Scientific Committee is a welcome initiative and it is important that the Scientific Committee continues to be able to express publicly opinions on any aspect of the project.

The Scientific Committee needs to be able to provide unfettered advice on any matter, including alternative route or construction options, and archaeological methodologies to be used during the project. To give effect to its independent expert status, the Scientific Committee should be at liberty to report directly to the Heritage Monitoring Advisory Group and/or to the UK statutory heritage bodies. It is also important to ensure that the experience and skill set within the Scientific Committee itself should include all relevant expertise, including for example, experience in large-scale archaeological evaluation strategies for Neolithic and Bronze Age landscapes.

The methodology outlined in *Heritage Impact Assessment Scoping Report* (AECOM, Mace, February 2018) is appropriate. The Heritage Impact Assessment should have particular regard to the report "Stonehenge A303 improvements: outline assessment of the impacts on the Outstanding Universal Value of the World Heritage property of potential route options presented by Highways England for January 2017" carried out by N. Snashall & C. Young (Snashall & Young 2017), as well as their earlier 2014 report. The 2011 ICOMOS *Guidance on Heritage Impact Assessments for Cultural World Heritage Properties* should continue to guide Heritage Impact Assessment. This Guidance allows for positive impacts to be considered, but the relevant objective remains that there is no major adverse impact on OUV.

The archaeological investigations undertaken to date have accorded with the recommendations of previous missions, although analysis and reporting are yet to be completed. The *Archaeological Evaluation Strategy* (AECOM, Mace, WSP January 2018) and the *Overarching Written Scheme of Investigation for Archaeological Evaluation* (AECOM, Mace, WSP January 2018) provide a framework for question-driven archaeological evaluation, in the event that a tunnel option is pursued. However, all archaeological processes should also continue to follow the expert advice provided by the Scientific Committee.

The Development Control Order (DCO) process (the equivalent of planning permission for infrastructure projects) and its programme and timing can and should be aligned with the

World Heritage Committee timetable, as the State Party proposes to do. In the event that there are shifts in the project programme, these should not preclude the opportunity for World Heritage Committee Decisions to further influence the project and inform the consent authority decisions.

The mission findings and recommendations should be shared with the public and with all decision makers involved in the design and content of the project or the DCO process.

The third Advisory mission has been timely, and it would be appropriate for the process of Advisory missions to continue beyond the DCO application stage, as alternative plans are developed for this highly significant major project.

Specific responses to each of the items in the Terms of Reference for the Advisory mission are provided in the main body of the report.

Recommendations

1. Although the Proposed Scheme shows improvement compared with previous plans, and would also improve the current situation in the centre of the Stonehenge component of the WHS, it should not proceed in its current form.
2. Potential surface routes for the proposed dual carriageway sections of the A303 should be reconsidered outside the WHS, on the basis that Outstanding Universal Value (OUV) of the WHS should be afforded at least equal priority to other environmental considerations (including impact on Areas of Outstanding Natural Beauty and Special Areas of Conservation), and must include complete closure of the section of the A303 which runs through the WHS.
3. Economic modelling of route options, and particularly the ‘willingness to pay’ approach, should recognise that options which reduce impact on OUV (such as a longer tunnel or a complete by-pass of the WHS) may have greater community benefit than options which partially remove the surface road but have other adverse impacts on OUV.
4. If a longer tunnel is further considered, its design (as currently presented in the Proposed Scheme) must be substantially refined to ensure the OUV of the WHS is fully respected, and this refinement should take precedence over any predetermined project programme or deadline.
5. If a longer tunnel is further considered, the western portal should be relocated to the west of the western boundary of the WHS.
6. If a longer tunnel is further considered, the location of the eastern portal should be further considered with a view to relocating it well to the east of the Countess roundabout.
7. A sustainable tourism strategy should be prepared for the WHS in its entirety, including the Avebury component, addressing the implications of results from the previously-recommended studies on changes in visitor numbers and behaviour, and responding to the opportunities for new interpretation and visitor experience that would arise from the proposed scheme. This would also imply incorporating the WHS Avebury component presentation within the current exhibition at the Visitor Centre.

8. The Scientific Committee should be empowered to provide unfettered advice on any matter, including alternative route or construction options, the archaeological methodologies to be used during the project and its own membership, experience and skill set, and should be at liberty to report directly to the Heritage Monitoring Advisory Group and UK statutory heritage bodies, not only to Highways England.
9. The impact of any further proposed schemes on the OUV of the WHS should be evaluated using the methodology outlined in the Heritage Impact Assessment Scope (AECOM, Mace, WSP February 2018), the 2017 and 2014 preliminary heritage impact assessments by Snashall & Young, and the 2011 ICOMOS *Guidance on Heritage Impact Assessments for Cultural World Heritage Properties*.
10. If a longer tunnel is considered, the HIA/EIA/DCO processes and assessments should include relevant expertise and adequate investigations to address factors such as life expectancy, end-of-working-life remediation, vibration and noise, which are particular to the tunnel solution.
11. The section of the current A303 which runs through the WHS could become a non- or limited vehicular thoroughfare after an improvement scheme has been completed that removes the road from the WHS, but the proposed link between byways 11 and 12 should not be established.
12. A more broad-ranging community consultative process, which particularly includes the Avebury community, should be established to allow civil society to express their views, on an ongoing basis, about any aspect of the project, not only the legacy benefits being considered through the benefits and legacy forum process.
13. The legacy benefits package for the project should incorporate initiatives and programmes identified as desirable to conserve and/or interpret OUV in the Management Plan for the WHS.
14. The timing and programme for the Development Consent Order process should be managed to allow for consideration of the conclusions and recommendations of this Advisory mission, any recommendations of the World Heritage Committee, and the time needed to explore further options.
15. Consultation with UNESCO World Heritage Centre and ICOMOS should continue for the life of the project, including, where appropriate, further Advisory missions once alternative options have been explored.

1. Background and Context for the Mission

1.1 Preamble and Justification of the Mission

In December 2014, the UK Government announced that it would invest in a bored tunnel of at least 2.9km in length within the Stonehenge component of the World Heritage property ‘Stonehenge, Avebury and Associated Sites’ (WHS) to address the long-running traffic problems in a way that protects and provides benefits for the property. Highways England have developed a ‘Proposed Scheme’, which is being taken through a statutory public consultation process in the period February-April 2018.

In recognition of the need for any scheme proposal to protect the Outstanding Universal Value (OUV) of the WHS in addition to resolving the traffic issues, the project is being undertaken with the benefit of advice from the International Council on Monuments and Sites (ICOMOS) and the World Heritage Centre (WHC) through Advisory missions and through engaging closely with Historic England, the National Trust, English Heritage and Wiltshire Council Archaeology Service.

This third Advisory mission is intended to build on the advice and guidance provided by the WHC and ICOMOS in their technical reports arising from the initial Advisory mission of October 2015 and the follow up Advisory mission of February 2017. It is also intended to assist the State Party of the United Kingdom of Great Britain and Northern Ireland (State Party) in responding positively to World Heritage Committee Decisions.

It is important to note – in view notably of various comments and published statements made following the previous mission reports – that the Advisory mission's remit is not to approve or endorse any proposal, nor to speak authoritatively on behalf of ICOMOS/UNESCO, nor to pre-empt the official responses of these organisations, including the decisions of World Heritage Committee.

1.2 Inscription History and Statement of Outstanding Universal Value

The World Heritage property ‘Stonehenge, Avebury and Associated Sites’ was inscribed on the World Heritage List in 1986. It is amongst the earliest properties inscribed on the List and the site reflects the changing history of conservation and interpretation approaches as well as World Heritage criteria and procedures. The site spreads out over a very large area, mainly consisting of agricultural land, a vast hilly landscape punctuated with a few settlements, and a series of main roads, secondary roads and earth roads.

The complete Statement of Outstanding Universal Value of the property is provided in Annexure B. The summary section of the ‘brief synthesis’ reads:

The World Heritage property Stonehenge, Avebury and Associated Sites is internationally important for its complexes of outstanding prehistoric monuments. Stonehenge is the most architecturally sophisticated prehistoric stone circle in the world, while Avebury is the largest. Together with inter-related monuments, and their associated landscapes, they demonstrate Neolithic and Bronze Age ceremonial and mortuary practices resulting from around 2000 years of continuous use and monument building between circa 3700 and 1600 BC. As such they represent a unique embodiment of our collective heritage.

The World Heritage property comprises two areas of Chalkland in southern Britain within which complexes of Neolithic and Bronze Age ceremonial and funerary monuments and associated sites were built. Each area contains a focal stone circle and henge and many other major monuments. At Stonehenge these include the Avenue, the Cursuses, Durrington Walls, Woodhenge, and the densest concentration of burial mounds in Britain. At Avebury they include Windmill Hill, the West Kennet Long Barrow, the Sanctuary, Silbury Hill, the West Kennet and Beckhampton Avenues, the West Kennet Palisaded Enclosures, and important barrows.

Stonehenge is one of the most impressive prehistoric megalithic monuments in the world on account of the sheer size of its megaliths, the sophistication of its concentric plan and architectural design, the shaping of the stones - uniquely using both Wiltshire Sarsen sandstone and Pembroke Bluestone - and the precision with which it was built.

At Avebury, the massive Henge, containing the largest prehistoric stone circle in the world, and Silbury Hill, the largest prehistoric mound in Europe, demonstrate the outstanding engineering skills which were used to create masterpieces of earthen and megalithic architecture.

There is an exceptional survival of prehistoric monuments and sites within the World Heritage property including settlements, burial grounds, and large constructions of earth and stone. Today, together with their settings, they form landscapes without parallel. These complexes would have been of major significance to those who created them, as is apparent by the huge investment of time and effort they represent. They provide an insight into the mortuary and ceremonial practices of the period, and are evidence of prehistoric technology, architecture and astronomy. The careful siting of monuments in relation to the landscape helps us to further understand the Neolithic and Bronze Age.

1.3 Terms of Reference

The full Terms of Reference document for the mission is provided in Annexure A. This document indicated that the Mission will consider:

- Progress by the UK State Party, Highways England and heritage organisations on the implementation of the recommendations of the previous mission report, including responding to all points raised in those documents;
- Progress by the UK State Party towards the implementation of Decision 41 COM 7B.56 of the July 2017 World Heritage Committee;
- Details of the ‘Proposed Scheme’ including the results of archaeological assessment and field evaluation of key elements of the Proposed Scheme within the WHS, including portal sites and new surface road, as available at the time of the mission;
- The likely impacts upon the attributes of the OUV of the WHS of the Proposed Scheme as articulated in Heritage Impact Assessments (HIAs);
- The potential for the Proposed Scheme to deliver substantial benefits for the OUV of the WHS through the reunification of much of its landscape and for the future public enjoyment and appreciation of the WHS through the removal of the noise and visual intrusion of traffic caused by the current road.

The Mission will also consider and provide feedback on:

- The heritage-centred steering mechanism that has been set up to ensure quality control at all stages of decision making.
- The potential benefits to public knowledge and understanding of the OUV of the WHS made by any archaeological remains identified during archaeological assessment and evaluation of the Proposed Scheme within its boundary to wider research in the property on an ongoing basis;
- The nature of the Development Consent Order (DCO) process under which the detailed scheme proposal would be considered by the UK Planning Inspectorate, the statutory timescales for DCO, and the comprehensive nature of public consultation ahead of DCO submission. How this statutory DCO process will allow for and take into consideration the recommendations of the World Heritage Committee arising from its discussion of the proposals.

The Mission shall also provide advice on:

- The measures that the UK State Party, Highways England and heritage partner organisations have taken, or have in progress, to respond to and implement the recommendations of both previous Mission reports and the World Heritage Committee's Decision;
- The impact of the Proposed Scheme on the OUV of the WHS, based upon the information available at the time of the Mission in the design process, which comprises:
 - o The results of archaeological and other assessments and evaluation of potential tunnel portal sites and possible associated new surface road within the WHS in relation to the attributes of OUV;
 - o The alignment and emerging design of the Proposed Scheme within and adjacent to the WHS;
 - o Visualisations and modelling of aspects of potential new infrastructure, including tunnel portals, vertical alignment and landscape mitigation;
 - o Cultural Heritage Impact Assessment scoping reports and Heritage Impact Assessments (if available by time of mission);
 - o The proposed treatment of the redundant portions of the A303 and A360 roads;
 - o Relevant technical and engineering aspects of the scheme as available at this stage of development.
- Relevant technical and strategic planning aspects regarding the whole asset life design of the scheme within the WHS and road network development and longer term impact on the region;

- The need for additional expertise, consultation, desk review, heritage impact assessment, skills assessment, advisory mission, or technical assistance;
- How the Committee might consider any detailed proposals for the A303 including impact on the OUV of the WHS in light of the reporting process to the annual World Heritage Committee and statutory timescales of the Development Consent Order (DCO) application, as the plans to address the problems caused by the existing A303 trunk road traffic are further developed over the coming years;
- The appropriate approach to legacy planning and management for the WHS and its communities;
- Any other matters that may be relevant to avoiding, minimising or mitigating adverse impact on the OUV of the WHS.
- The potential benefits to the OUV of the WHS that the scheme could deliver: through the removal of much of the current, surface A303 and the noise & visual intrusion of its traffic; through the reunification of the currently-severed WHS to north and south of the current road; for the public enjoyment and appreciation of the WHS, including future opportunities to explore and visit currently inaccessible groups of sites and monuments.

1.4 Mission Team

The mission team comprised the following experts:

Dr Isabelle Anatole-Gabriel, Chief of the Europe and North America Unit at the UNESCO World Heritage Centre

Dr Isabelle Anatole-Gabriel is an archaeologist and museum curator by training. She later specialized in history of international heritage.

Prof Toshiyuki Kono, President of ICOMOS

Prof Kono teaches international law, which includes international heritage law at Kyushu University, Japan. He served as Vice-President of ICOMOS from 2014 until 2017 in charge of the World Heritage matters.

Prof Richard Mackay, AM, ICOMOS World Heritage Adviser

Prof Mackay is a Director of Mackay Strategic Pty Ltd, Adjunct Professor at La Trobe University Australia, and a former Chair of the Australian World Heritage Advisory Committee. His professional background is in archaeology, heritage management, cultural tourism and strategic planning for cultural heritage places.

A list of the personnel from the State Party who participated in the mission is provided in Annexure D.

A list of the members of civil society who met with the Mission (and the documents that they provided) is provided in Annexure E.

1.5 Mission Programme

The mission was undertaken between 5 and 7 March 2018. The mission team was provided with a comprehensive package of briefing documents on February 16 2018. The full mission programme is provided in Annexure C.

2. Previous Mission Findings and World Heritage Committee Decision

2.1 First Mission – October 2015

The first ICOMOS/UNESCO Advisory mission took place from 27 to 30 October 2015, at the request of the State Party, following the announcement by the UK Government in 2014. The mission report is available at <http://whc.unesco.org/en/list/373/documents>).

At the time of the first mission, no precise plans existed regarding roads or tunnel portals, and the scheme was presented as a tunnel "at least 2.9 km long". This notion was reached on the basis of potential portal placements suggested by English Heritage (now English Heritage and Historic England) and the National Trust. The Mission particularly advised regarding processes, and its report recommended further exploration of options.

The first Mission concluded that:

. . . a well-considered and designed tunnel scheme could become a model of good practice on the world stage . . .

and

. . . the project for the relocation of the existing road underground into a "tunnel of at least 2.9k" could readily adopt appropriate well-established construction methods and spatial planning approaches. Hence, with good design and construction controls, and respecting essential archaeological and heritage management measures, the tunnelled length of the road would be expected to have a beneficial impact on the attributes of Outstanding Universal Value (OUV). However, the siting and design of the tunnel portals, approach cuttings/embankments, entry/exit ramps, mitigation measures and the temporary construction works have the potential to adversely impact OUV. These latter aspects of the scheme, in particular, will require rigorous investigation, evaluation, iterative design and assessment if they are to protect the attributes of OUV within the World Heritage site.

The above text has been quoted often in the period since, particularly following the Decision of the World Heritage Committee (41 COM 7B.56) which requested that the State Party reconsider the F10 option which would divert the A303 around the WHS. The first Mission did not endorse any particular tunnel solution and both the Mission and the State Party at the time consistently note that any tunnel would be 'at least' – not 'only' – 2.9 km long and that resolution of any tunnel design (including alignment, design detail and length) was always to be subject to substantial further work.

The first Mission made a range of recommendations, which were summarised in the second mission report as follows:

1. *Establish a heritage-centred steering mechanism between the Heritage bodies and including scientific experts, dealing with monitoring and MOU.*
2. *Set up a role for further joint UNESCO/ICOMOS missions to advise on OUV protection and enhancement.*
3. *Provide organogram of the SP actors involved.*
4. *Include of best practices in technology for BIM and virtual visualisation.*
5. *Ensure the involvement of Landscape architect.*

6. *Align Heritage Impact Assessment (HIA) with the Development Consent Order (DCO) process.*
7. *Undertake studies on visitor changes in numbers and behaviour.*
8. *Review and implement international best practice for highway and tunnel design.*
9. *Address issues of temporary construction and efficiency in logistics.*
10. *Clarify and formalise relations between heritage bodies, as well as interactions between the developer and archaeological management. Ensure that heritage bodies are as vigorous and proactive as possible in defending heritage ad OUV, including in the context of commercial archaeology.*
11. *Review elements of communication strategy.*

The current Mission has reviewed and concurs with the recommendations of the first Mission.

Nearly all of the above recommendations (and the more detailed sets of ‘priority’, ‘critical’ and ‘important’ recommendation from the first mission report) either have now been, or are in the process of being, implemented by the State Party and its agencies. Some matters, such as studies on visitor numbers and behaviours are still work-in-progress. The DCO and HIA alignment remains as a critical activity.

2.2 Second Mission – January/February 2017

The second ICOMOS/UNESCO Advisory mission took place between 31 January and 3 February 2017 and was also conducted at the invitation of the State Party. This mission had a more-focused remit and was particularly concerned with the proposed A303 Amesbury to Berwick Down Road Scheme and its potential impacts on the World Heritage property and its OUV:

The position along which the tunnelling will restore the visual integrity of one part of the Stonehenge WH property should be considered along with the consequential loss of physical integrity of the archaeological layers of the property which will be caused by the tunnel approach roads, as well as the loss by the public of direct visual access to Stonehenge, which might be perceived as a value for sharing this heritage, although not overtly part of its OUV. These are the issues that need to be assessed by HIAs, prepared in accordance with the applicable ICOMOS Guidance, and based on the best possible knowledge of the overall property in relation to its OUV, so that any impact on OUV can be clearly understood and assessed before any decisions are taken.

The second Mission advised that the SP and its organisations have been responsive to most recommendations of the first Mission. The current Mission concurs with that assessment.

The second Mission considered archaeological assessments, carried out at the corner of A303 / A360, as well as on the A303 in the area of the ‘Avenue’ and their influence on design decisions regarding possible placement of the western portal, should a tunnel option proceed, noting that results of research by Historic England were available to inform their archaeological strategy, but that questions remain on the calibration of the two inter-related research streams and that there were some problems with access to parts of the site.

The second Mission concluded that the evaluations and assessments considered through the mission process identified that an alternative route (the F10) would have a lesser impact on the OUV of the World Heritage property than the tunnel options then under consideration, and that the currently-proposed placement (option D061-62) would cause considerable damage to the OUV of the WHS, through adverse effects on the archaeological remains, on their landscape attributes, and on setting and visibility. The second Mission concluded that the western portal

should be outside the WHS if a tunnel solution is pursued. The second Mission also recognised that the re-positioning of the eastern tunnel portal to the east of the 'Avenue', on-line on the current path of the A303 road but still within the WHS, would bring some benefits to the Stonehenge landscape, but concluded that that further refinements were needed.

The second Mission noted that the governance and decision making processes were sophisticated, but concluded that the manner in which the criteria are being applied do not give enough weight to the heritage priority required for a World Heritage property, and specifically the preservation of its OUV, as required by the obligations of the State Party under the World Heritage Convention. The Mission took note of the creation of the Heritage Monitoring Advisory Group (HMAG), but expressed concern that the Scientific Committee recommended by the first Mission had not been appointed.

The second Mission made a range of recommendations, which were summarised in the second mission report as follows:

1. *The Mission recommends that the F10 option be further explored as an alternative for further studies as it would have a significantly lesser impact on the OUV of the WH property than the tunnel options currently under consideration.*
2. *The Mission recommends that if the D061/D062 were still to be pursued as an option:*
 - a) *an extension of the tunnel should be considered so that the Western portal would be located outside the WH property to avoid its negative impacts on the OUV of the property, its landscape, monuments and archaeological richness, and the Western portal and associated approach road are located so that they would not pose any threat to the property or its setting;*
 - b) *if a longer tunnel is considered, the SP should undertake a comprehensive Heritage Impact Assessment, which addresses all attributes of OUV, including archaeological and landscape integrity, visibility and noise factors, and incorporating a landscape impact study focusing on the inter-visibility and visual envelopes (viewshed) of the Western portal and highway locations to determine the necessary length of the tunnel that will not harm the OUV of the property and its setting.*
 - c) *the location of the Eastern portal which is to be repositioned, on-line on the current path of the A303 road but to the east of the important prehistoric feature known as the 'Avenue', linking the Stonehenge monument to the river Avon, be further refined in order to ensure that potential impacts on OUV are avoided. A location closer to the Countess roundabout should be considered, especially with regards to approach routes and infrastructure during construction, (bearing in mind other archaeological features in the vicinity, including the Mesolithic Blick Mead and the Iron Age Vespasian's Camp).*
3. *The Mission recommends that the already constituted Heritage Monitoring Advisory Group, be immediately completed and strengthened with a fully operational "Scientific Committee".*
4. *The Mission recommends that a sustainable tourism strategy of presentation and promotion of the WH property be developed as soon as possible with the view 1) to frame the mitigation measures, such as the loss of direct visual access of Stonehenge Monument, into a wider context; 2) to ensure that the economic benefits related to the WH property are spread to the community and the wider county and 3) to ensure the lasting conservation of the site.*
5. *The Mission recommends that the SP and bodies involved agree to set up an open forum, gathering stakeholders, local communities, civil society representatives, citizens and all interested parties, as a place to engage into a constructive dialogue driven by*

the overarching strategy of the Management Plan, i.e. “achieving the correct balance between conservation, access, the interest of the local community and the sustainable use of the Site”.

6. *The Mission recommends that the project programme and the expectations of all major participants should be adjusted to align with the World Heritage Committee timeframe and process, through careful attention to the ‘triggers’ which instigate statutory timeframes and deadlines.*

The current Mission has reviewed and concurs with the recommendations of the second Mission.

A number of the recommendations of the second Mission report have been or are in the process of being implemented. However, the following recommendations still remain to be realised or to be taken into account:

- The western portal has not been located outside the western boundary of the WHS;
- Although alternatives for the siting of the eastern portal have been ‘considered’, its proposed location has not moved substantively;
- The tourism strategy (which related to the first Mission’s recommendations regarding studies on visitor numbers and behaviour) has not been completed;
- There has been increased public engagement and consultation, but there are further opportunities to implement a more broad-ranging community consultative process, which particularly includes the Avebury community;
- It is important that, as the DCO process proceeds, the timing and programme for the Development Consent Order process should be managed to allow for consideration of the conclusions and recommendations of the current Mission, any future missions and recommendations of the World Heritage Committee.

2.3 The World Heritage Committee

Decision 41 COM 7B.56, adopted by the World Heritage Committee at its 41st Session (Krakow, 2017), included, among other matters, the following items:

2. *Takes note with satisfaction of the management achievements, and progress with implementation of previous Committee Decisions, to address protection and management issues identified in the Statement of Outstanding Universal Value (OUV) for the property;*
3. *Commends the State Party for having invited two Advisory missions to advise on the process for determining and evaluating options for the proposed upgrading of the main A303 road across the property, as part of a wide major infrastructure project;*
4. *Expresses concern that the 2.9km Stonehenge tunnel options and their associated 2.2km of dual carriageway approach roads within the property that are under consideration, would impact adversely the OUV of the property;*
5. *Urges the State Party to explore further options with a view to avoiding impacts on the OUV of the property, including:*
 - a) *The F10 non-tunnel by-pass option to the south of the property,*
 - b) *Longer tunnel options to remove dual carriageway cuttings from the property and further detailed investigations regarding tunnel alignment and both east and west portal locations;*
6. *Encourages the State Party to address the findings and implement the recommendations of both Advisory missions and to invite further World Heritage Centre/ICOMOS Advisory missions to the property, to be financed by the State Party, in order to continue to facilitate progress towards an optimal solution for the widening of the A303 to ensure no adverse impact on the OUV of the property;*

7. *Requests the State Party to manage the timing of the consent and other statutory processes for the A303 trunk road project to ensure that the World Heritage Centre, ICOMOS and the World Heritage Committee can continue to contribute to the evaluation and decision-making processes at appropriate stages.*

The current Mission considers that the State Party and its agencies have responded to the recommendations of the World Heritage Committee, although not all of the recommendations of previous Advisory missions have been implemented (as noted above) and the by-pass options and longer tunnel options have been considered but not pursued.

The Development Control Order (DCO) process and its programme and timing can and should be aligned with the World Heritage Committee timetable, as the State Party proposes to do. In the event that there are shifts in the project programme these shifts should not preclude the opportunity for World Heritage Committee Decisions to further influence the project and inform the consent authority decisions.

3. Selection Process for Proposed Scheme

During the mission, representatives from the State Party and its agencies provided a thorough briefing in the history of the project. This section of the mission report does not purport to cover the entirety of that process, but rather to highlight matters relevant to the mission's Terms of Reference.

3.1 Highways England Objectives

The A303 Amesbury to Berwick Down Road project, which proposes to upgrade the existing A303 road that transects the property, is part of a wider scheme for the A303/A358 route to turn it into a continuous dual carriageway between the south-east and the south-west of England. The main objectives of the project, as specified by the State Party (known as 'client scheme requirements'), are:

- **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 sustain 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.

3.2 Public Consultation

A programme of non-statutory public consultation about the project occurred in January 2017. There was wide publicity, including international coverage and direct contact with nearly 500 organisations. More than 2,500 people attended exhibitions and more than 9,000 responded. The majority of responses (77%) objected to the proposal for a variety of reasons. The majority of objections were pro forma responses from organised groups. Of the individual submissions 51% supported the proposal and 43% were opposed. Matters pertaining to World Heritage raised during this process included:

- effects on the Outstanding Universal Value (OUV) attributes of the WHS, arising from impacts on the integrity and authenticity of the Neolithic and Bronze Age funerary landscape;
- impact on the winter solstice alignment viewed from Stonehenge, as the single most important sightline in the WHS;
- damage to undiscovered buried archaeology;
- impact on the RSPB reserve at Normanton Down; and
- effects arising from possible junction locations with the A360 adjacent to the WHS.

Other public feedback expressed concerns about a range of issues, including:

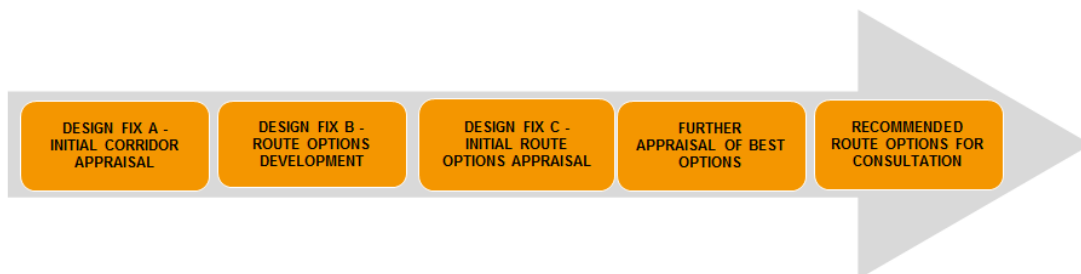
- impacts on the local communities of Winterbourne Stoke and Berwick St James, including the effects of traffic noise;
- environmental impacts on protected sites, including the River Till SAC & SSSI, Parsonage Down National Nature Reserve/SAC/SSSI and the scheduled Barrow Groups north of Winterbourne Stoke;
- landscape considerations, in terms of integrating the new road into the local topography, including minimising the visual and physical intrusion of the viaduct crossing of the Till; and
- ease of road access to and from Winterbourne Stoke and Berwick St James via the A360, avoiding the possibility of generating rat-running traffic using the B3083 from Shrewton.

(The above public consultation information was provided by Highways England).

A period of consultation about the ‘Pr Scheme’ (but not alternative options) is currently in progress, as part of the obligatory statutory DCO process, between February and late April 2018.

3.3 Route Selection

Studies and consultation regarding options to improve the A303 have been underway since the early 1990s. In 1996, a 4km tunnel from King Barrow Ridge to Airman’s Corner was chosen by the Planning Conference, but was considered unaffordable and dropped in 1996. In the early 2000s, both cut and cover and bored tunnel options were considered, with a bored option new dual carriageway, along with a 2.1km-long bored tunnel, preferred, but ultimately cancelled. The current project had its genesis in 2014 and has been through a staged process in which identification of general corridors has been a precursor to specific route development and appraisal as summarised in the following diagram:



Route ‘corridors’ were considered in relation to the above Client Scheme Requirements, the environmental criteria of the UK National Policy Statement for National Networks and the ‘Assessment using Early Assessment and Sifting Tool’. Based on this process it was concluded by the State Party authorities that:

- surface routes within the WHS did not meet cultural heritage or environmental objectives;
- tunnel routes within the WHS met the objectives of the scheme;
- surface routes outside the WHS to the north did not meet heritage, environment and community objectives; and
- surface routes outside the WHS to the south performed less well for transport and economy, environment and communities, but could have substantial benefits for the WHS.

Routes within the corridors were then evaluated according to their ability to meet engineering requirements and address environmental and community considerations. The specific route options were assessed according to:

- Strategic Fit (CSRs – as above and National and Regional Policy);
- Value for Money (traffic, economics and environment):
 - Traffic and economics, including: Travel Time Benefits, Vehicle Operating Cost Benefits;
 - Economics: Scheme costs, Benefit Cost ratio, Travel time, Delays, Reduction in Rat Running;
 - Environment: Noise, Air Quality, Greenhouse Gases, Landscape, Townscape, Historic Environment, Biodiversity, Water Environment and the WHS;
- Financial Case (affordability);
- Delivery Case (stakeholder acceptability and constructability); and
- Commercial Case.

The Mission recognises that the State Party and its agencies have been methodical and thorough in the approach to determining the “Proposed Scheme” and have been careful to have regard to the myriad of complex issues and pressures that affect both corridor and route selection and the assessment of potential benefits and costs. The Mission recognises 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, 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.

3.4 Route F10 Consideration

As noted above, Decision 41 COM 7B.56 adopted by the World Heritage Committee specifically requested that the State Party explore further options with a view to avoiding impacts on the OUV of the property, including the F10 non-tunnel by-pass option to the south of the property.

The Mission was provided with a briefing from Highways England on the process involved in this consideration, and a Highways England report entitled *A303 Stonehenge Summary of the Detailed Assessment of F10 (the southern surface route)*. The Mission also inspected the F10 route. A relevant consideration that became apparent during the mission is that, if the F10 route were to be constructed, the relevant UK ‘Inspector’ may not give permission for the complete closure of the A303 which runs through the WHS, owing to the impact of the closure on road access for local communities. This suggests that the F10 option may not achieve one of the fundamental project objectives to close the A303 as a major road (although it could be downgraded to a minor road). Additionally, the visual and physical impact on the landscape immediately adjacent to the property, a Special Area for Conservation (SAC) and a Site of

Special Scientific Importance (SSSI), of the F10 scheme option proposed would have been extremely high.

The abovementioned report provides the following succinct summary of reasons why the F10 southern surface route was discounted in favour of a tunnelled route:

Cultural Heritage

- *The surface route is fully outside of the current boundary of the WHS.*
- *However, as described above, the surface route is expected to result in additional traffic in the local villages and increased journey times for residents. Consequently, it is likely there would be pressure to retain the existing A303 which would retain both the severance of the WHS and also traffic within the sight and sound of the historic monuments.*
- *Unlike the preferred route, the surface route has not been assessed for archaeology. Indications from recent discoveries outside of the WHS suggest that the route could impact unknown heritage features.*

Environment and Community

- *The surface route has a significantly greater impact on sensitive and important landscapes, designated environments and communities.*
- *It creates a brand-new route through pristine countryside, affecting Special Areas of Conservation, Sites of Special Scientific Interest and at least one Special Landscape Area.*
- *The surface route creates severance of a number of villages and impacts upon well used facilities for non-motorised users.*
- *It also has a far higher noise impact as it is in the proximity of more villages and communities than the preferred route.*

Transport

- *The surface route is approx. 4km longer than the preferred route leading to a predicted additional 4 serious accidents or deaths per year.*
- *The surface route is further from the existing direct route between Amesbury and Winterbourne Stoke. Traffic modelling shows it attracts less traffic on to the route, particularly from the north, as it is longer in length and detours materially to the south.*
- *As a result, and assuming the existing A303 is closed through the WHS, there would be much greater traffic using the unsuitable local roads. This will cause significant congestion, noise, disturbance and a deterioration in traffic and pedestrian safety.*
- *The situation on the local roads is expected to be exacerbated by expected traffic growth because of development at Larkhill and Boscombe Down.*

Economic Growth

- *Although the cost of the surface route is c£400m less than the preferred route, the benefits associated with this route are also significantly less, primarily because of the increased length of the route and also a reduction in accessibility and connectivity benefits. Overall, the value for money of this surface route is lower than the preferred route.*

The Mission acknowledges that the State Party has determined that the F10 route will not proceed as it cannot deliver a key project objective. However, a surface route, which re-routes an improved A303 road completely around the WHS, and enables the closure (or even downgrading) of the existing section of the A303 within the WHS, remains the best option in

relation to impact on the OUV of the WHS. Therefore it would be appropriate for potential surface routes for the proposed dual carriageway sections of the A303 to be reconsidered, on the basis that the OUV of the WHS should be given greater weight in the evaluation process and that any surface route must include closure of the section of the A303 which runs through the WHS.

3.5 Longer Tunnel Options

Decision 41 COM 7B.56 adopted by the World Heritage Committee also specifically requested that the State Party explore longer tunnel options to remove dual carriageway cuttings from the property and hold further detailed investigations regarding tunnel alignment and both east and west portal locations.

The Mission was provided with a briefing from Highways England on the process involved in this consideration, and a Highways England report entitled *A303 Stonehenge Technical Note on Tunnel Length*. The Mission also visited areas within the WHS and its setting to understand the parameters within which the possibility of a longer tunnel could be considered.

The report concluded that:

- *The only technically viable option to extend the tunnel to the east and outside of the WHS boundary requires a tunnel extension of an additional 4km. This would cost an additional £1.2 billion plus increased ongoing operational and maintenance expenditure. This is an increase of 75% above the current scheme budget of £1.6 billion which would be unaffordable.*
- *At the western end, a 1.8km extension that would place the western portal outside of the WHS could be constructed at an additional cost of £540 million plus increased ongoing operational and maintenance expenditure. It would require an increase of 34% above the current scheme budget and would similarly be unaffordable. In addition, this option would deliver less well against the key scheme objectives of reducing rat-running, improving the lives of local communities and improving road safety.*
- *The locations of the eastern and western portals in the proposed scheme represent the optimum locations when all technical and economic considerations are taken into account. There is no evidence that extending the tunnel length and the additional investment required delivers meaningful additional benefits to the WHS that would justify the additional cost.*

The Mission acknowledges that technical constraints appear to suggest that it is not currently financially viable to extend the tunnel to the east and outside of the WHS boundary and that the choice for the decision maker would be not to approve the project if the impact on OUV of the eastern portal and associated dual carriageways is considered unacceptable.

The Mission does not agree that the western portal (with its associated dual carriageways) is optimal, nor that improvements are unaffordable. Although the location of the western portal represents an improvement on previous options, it nevertheless involves an intrusive section of cut dual carriageway within the WHS. Therefore, if a tunnel solution is pursued, the western portal should be re-located outside the western boundary of the WHS to avoid dual carriageways within this part of the WHS.

3.6 Next Steps

The State Party has indicated the following intended process for consideration of the Development Consent Order (DCO) application for the currently proposed project:

- The period of statutory consultation as part of the DCO process will run from 8 February to 23 April 2018.
- The target date for submission of the DCO application is autumn 2018 – which allows time for the State Party to consider any Decisions made by the World Heritage Committee at its 42nd session (24 June – 4 July 2018 in Manama, Bahrain).
- If the current project proceeds, under UK law the Planning Inspectorate then has 28 days to consider whether or not the application documents are satisfactory for examination. If the documents proceed to examination, it would be possible for the Planning Inspectorate to appoint Inspector(s) in early 2019 at which point stakeholders can register as interested party.
- The formal ‘examination’ takes a statutory six months during which time the Examining Authority may seek clarification, stakeholders can submit written representations, and there are open floor and issue-specific hearings and a site inspection.
- The Examining Authority has a period of three months to write a report with a recommendation to the Secretary of State, who then has three months in which to make a decision. The decision is open to challenge in the High Court for a statutory period of six weeks.
- Therefore, the earliest likely date by which a binding DCO can be in place would be March 2020.
- If modifications are made to the current project, the whole timetable would need to be revised.

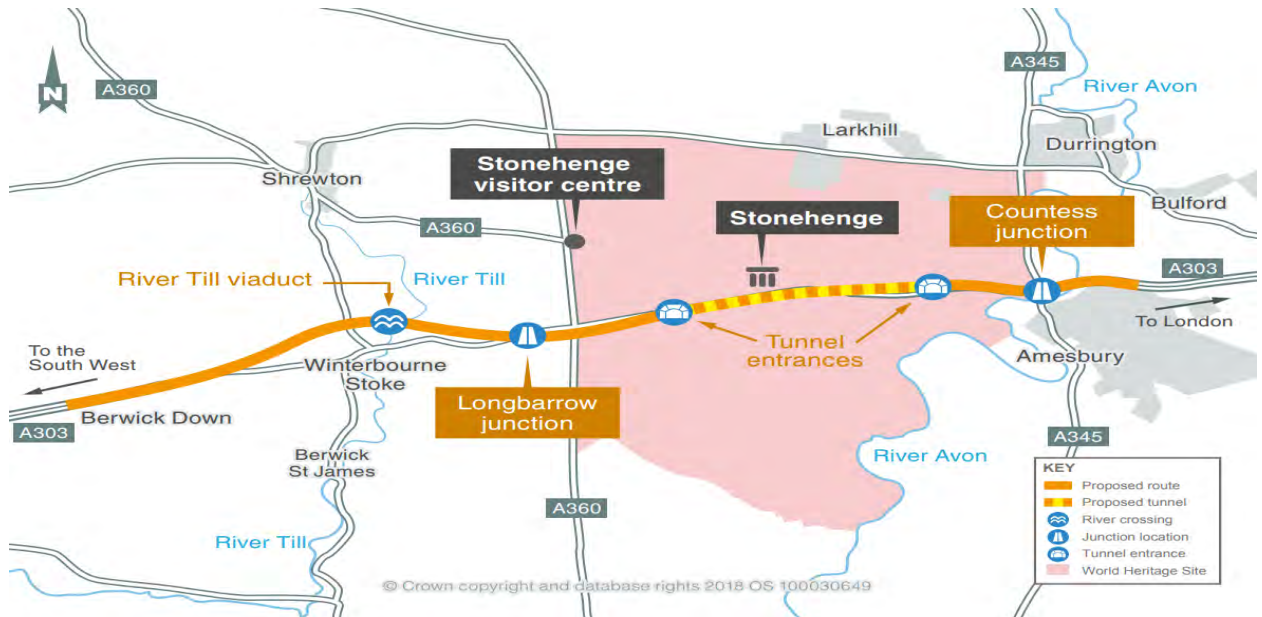
4. The Proposed Scheme

The proposed scheme for the A303 Amesbury to Berwick Down is succinctly outlined in the *Public Consultation Booklet – February 2018*, which includes descriptive material, sophisticated visualisations, and a summary of the economic, transport, cultural heritage, community and environment implications of the scheme. For convenience, this booklet is reproduced as Annexure H. The booklet describes the proposed scheme as comprising a new dual, two-lane carriageway between Amesbury and Berwick Down with the following key features:

- *a bypass to the north of Winterbourne Stoke with a viaduct over the River Till valley;*
- *grassland habitat creation that would allow extension of the Parsonage Down National Nature Reserve;*
- *a new junction with the A360 to the west of and outside the World Heritage Site (WHS), with the A303 passing under the junction;*
- *a section through the WHS with a twin-bore tunnel past Stonehenge at least 1.8 miles (2.9 kilometres) long;*

- a new junction with the A345 at the existing Countess roundabout to the north of Amesbury, with the A303 passing over the junction;
- the conversion of the existing A303 through the WHS into a route for walking, cycling and horse riding;
- new 'green bridges' to connect existing habitats and allow the movement of wildlife, maintain existing agricultural access and provide crossings for existing and new bridleways and public footpaths.

The following image summarises the key elements of the "Proposed Scheme".



A303 Stonehenge Amesbury to Berwick Down (Image provided by the State Party).

4.1 Alignment

The alignment of the "Proposed Scheme" varies from previous tunnel options. The proposed tunnel now closely follows the line of the existing A303, with the result that the western portal has been moved to the north-west, away from the Normanton Barrows and out of potential conflict with the Stonehenge solstice alignment. However, the western portal is now closer to the Winterborne Stoke and Diamond monument groups. The position of the eastern portal is not substantively changed. The new alignment enables the proposed Longbarrow Junction to be positioned outside the WHS on the alignment of the existing A303, facilitating crossing of the River Till valley and by-passing of Winterbourne Stoke to the north.

The Mission supports the revised alignment, insofar as it reduces potential conflict with Normanton Barrows and out of potential conflict with the Stonehenge solstice alignment, but has serious concerns with the proposed western portal and associated dual carriageway within the WHS (as outlined below).

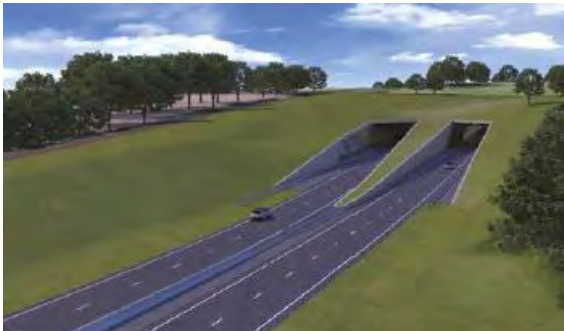
4.2 Eastern Portal and Approaches

The "Proposed Scheme" involves major re-configuration of the Countess Roundabout, with flyover sections of carriageway across the roundabout itself, then continuing westward into the WHS, within and matching the existing road reservation, before diverting to the north-northwest into the proposed eastern portal. The distance between the eastern edge of the WHS and the eastern portal would be 1.3km (points 'B' and 'A' respectively on the plan below). The

eastern portal would be located downhill, to the east of The Avenue. The eastern portal location sits within a micro valley (see images below), thereby minimising visibility from within the WHS. The use of the existing road reservation reduces the additional road footprint within the WHS. Approximately two-thirds of the new road construction in this area would take place within the existing highway boundaries, as shown on the plan below, with the balance of the existing highway area becoming chalk grassland. This location and alignment also enables both Blick Mead and Vespasian’s Camp to be avoided. However, placing the portal in this location would require retention of much of the existing road reservation, plus new flyovers, cutting, portal and tunnel infrastructure and construction of 1.3km of new dual carriageway within the WHS (much of it coincident with existing highway).



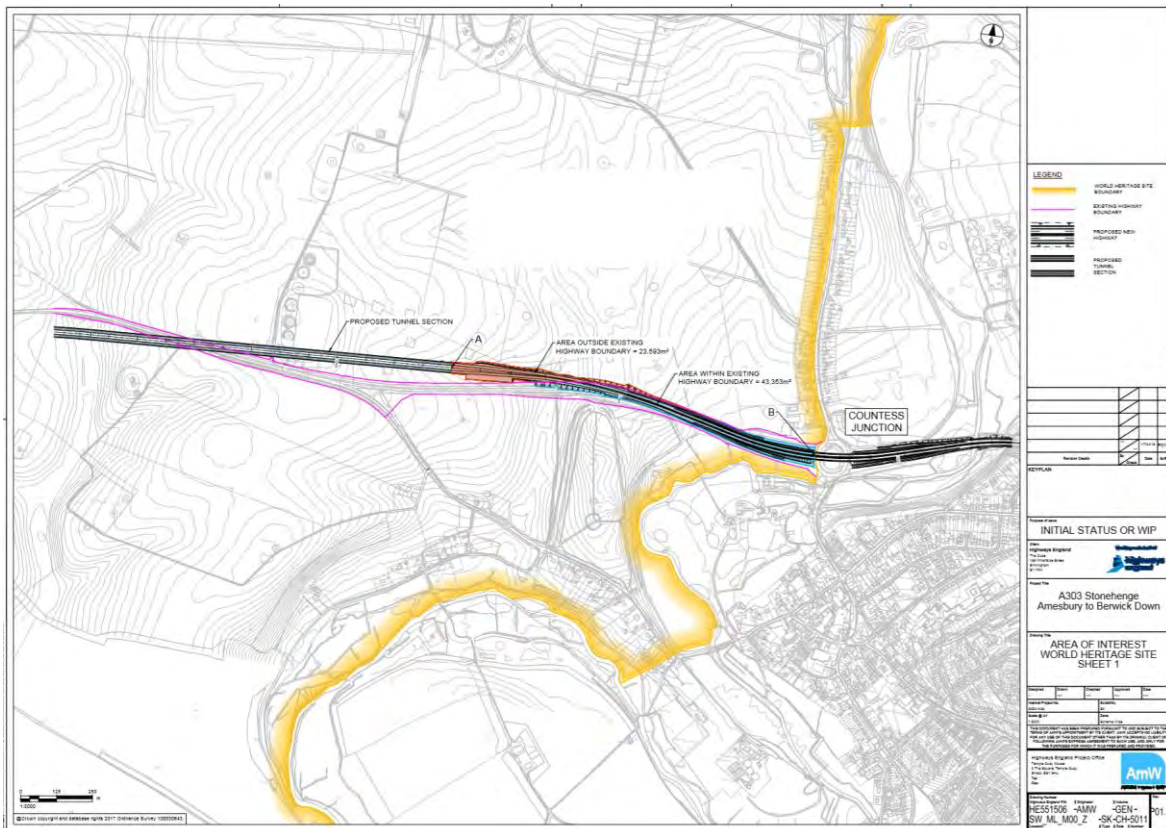
Proposed eastern portal site, looking east. Vespasian’s Camp is the wooded ridge. The existing A303 is visible to the right. The arrow shows the approximate portal location. (Photo: Richard Mackay 2018).



Eastern tunnel entrance – oblique aerial view (Image provided by the State Party).



Driver’s view of eastern tunnel entrance – entering from east (Image provided by the State Party).



Plan of the proposed eastern portal location, approaches from the east and Countess Junction, under the 'Proposed Scheme', supplied by the State Party. The red shaded area shows the proposed new surface construction footprint within the WHS; blue is new surface construction within the existing highway boundaries and the pink outline shows the existing highway boundaries.

The Mission notes that if a tunnel option is pursued, locating the eastern portal would be challenging and that moving it further to the east could mean approximately 4km of additional tunnel extending well to the east of the eastern boundary of the WHS (with associated major cost implications). The reason that a location further to the east requires such a distance arises from the environmental sensitivity and geotechnical conditions of the Avon River valley and the topography – noting that the tunnel portal has to be dug 'into' a hillside.

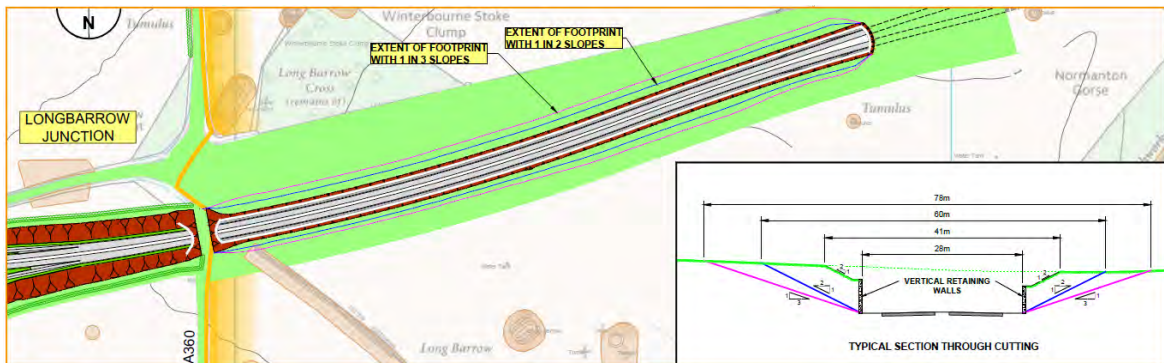
The Mission therefore considers that eastern portal has been positioned in the least impactful location available and close to the WHS boundary, given the constraints imposed by the attributes of the WHS, other significant sites in the vicinity (including Vespasian's Camp and Blick Mead) and local topographic and environmental conditions. The location of the eastern portal slightly to the east of The Avenue and its siting within a micro valley is an improvement on previous options, although the proposed dual carriageway would still be visible from, and therefore adversely affect, the visual setting of The Avenue.

A tunnel portal much further to the east, completely outside the WHS, would be needed to comprehensively protect the OUV of the property from the impact of associated dual carriageways.

4.3 Western Portal and Approaches

The western portal is proposed to be positioned close to the alignment of the existing A303, approximately to the east of the current Longbarrow Junction. Between the portal and the new Longbarrow Junction (to the west of the WHS), the new dual carriageway would run through a deep cutting (c8m). The proposed scheme offers options to use either vertical or grassed slopes

on either side of the dual carriageway road. There would also be c300m sections of grassed canopy (with or without ventilation outlets above) and some land bridges – at least one at the A360 and possibly others. The general footprint of the western portal option on the WHS is shown in the illustration below.



Land take footprints for the options for the approach to the western portal, showing extent of dual carriageway impact on the WHS. (Image provided by the State Party).

The Mission considers that moving the western portal away from the previously proposed location (to the south-east) is an improvement and that the use of land bridges and grassed canopy would lessen the potential visual impact. However this portal location would require total removal of archaeological resources, cutting, portal and tunnel infrastructure, and construction of more than a kilometre of new dual carriageway within the WHS. As noted in previous Heritage Impact Assessment reports by Snashall & Young (2014 and 2017), (which evaluated a previous scheme), this location and alignment would give rise to negative heritage impacts on the Winterbourne Stoke and Diamond monument groups. Therefore, although the location of the western portal represents an improvement on previous options, it nevertheless involves an intrusive section of cut dual carriageway within the WHS. If a tunnel solution is pursued, the western portal should be re-located outside the western boundary of the WHS to avoid dual carriageways within this part of the WHS.

4.4 The Tunnel

If the proposed scheme (ie: a tunnel, whatever the length) proceeds, there will be a major new piece of infrastructure installed within the WHS, including both surface and underground components. This gives rise to some significant issues, which will need to be addressed through the HIA, Environmental Impact Assessment (EIA) and DCO processes, including:

- the life expectancy of the tunnel itself and options for remediation, or other action at the end of its life;
- the nature of the tunnel structure and the fact that, unlike surface elements, it is unlikely to be able to be removed; and
- factors arising during tunnel operations, including management and effects of vehicle emissions, vibration and noise and the possibility of physical and other effects on the WHS and the experience of visitors.

The Mission considers that the HIA/EIA/DCO processes and assessments should include relevant expertise and adequate investigations to address these factors and their potential impact on the OUV of the WHS and on other relevant matters such as visitor experiences and local amenity.

4.5 Landscape Impact

The Stonehenge component of the “Stonehenge, Avebury and Associated Sites” World Heritage property (the WHS) consists of the main stone circle monument in the centre of an open archaeological landscape of visually-interlinked monuments. Currently, the A303 cuts across this landscape from east to west for approximately 5.4km, mostly as a two-lane surface highway, but with approximately 2.0km of dual carriageway surface highway. Removal of the surface highway A303 from this landscape would have a positive effect on the WHS, and could deliver a range of legacy benefits.

The “Proposed Scheme” has been thoughtfully developed, based on detailed investigations and consultation with relevant experts, authorities and the community. While it is disappointing that the Scientific Committee recommended in the first Advisory mission was not convened earlier, the Scientific Committee is now part of an advisory framework that provides a ‘heritage-centred’ approach to the project. An outcome of this process is that the proposed scheme not only includes the removal of a major physical and visual intrusion within the central part of the WHS, but also the siting and design of new infrastructure in a manner that seeks to minimise visual impact of portals and cuttings and their visibility from the major monuments within the WHS. The Mission acknowledges these efforts and that the current scheme is an improvement on previous proposals, but is nevertheless concerned by the extent to which the new sections of dual carriageway intrude upon the Stonehenge landscape and their unacceptable impact upon the integrity and authenticity of the WHS (as below).

It was brought to the attention of the Mission that the existing section of the A303 which bisects the property is likely to remain as a public thoroughfare, such as a byway, if the roadway is re-located. This could provide significant public benefit and facilitate greater community access to the property as a ‘landscape’, but should not occur in a manner that encourages extensive vehicular traffic. A link between byways 11 and 12 to the south, for example, could result in inappropriate intensification of the byway use. The Mission therefore considers that the section of the current A303 which runs through the WHS could become a limited or non-vehicular thoroughfare after the improvement scheme has been completed, but the proposed link between byways 11 and 12 should not be established.

4.6 Archaeological Resources

The State Party and its agencies have undertaken thorough and systematic investigations (including on-site sampling and excavations), which have informed the evolving design of the “Proposed Scheme”. There have been some constraints to this process arising from limitations on the ability of the State Party and its agents to secure access to privately-owned lands. While full analysis and reporting of this work is yet to occur, it appears to have been undertaken to high professional standards and to have helped realise some of the research potential of the WHS and avoid impact on otherwise unknown or lesser-known monuments.

The Mission considers that the identification and investigation of archaeological remains within the WHS during archaeological assessment and evaluation of the Proposed Scheme, and subsequently during construction, offers potential benefits to public knowledge and understanding of the OUV of the WHS and to wider research themes. However, any destruction of sites in areas impacted by the proposed dual carriageways would have an irreversible impact.

4.7 Impact on Integrity and Authenticity

The “Proposed Scheme” for the enhanced A303 and current design proposal comprises a 3.0km twin bored tunnel, a short covered section, plus nearly 2km of dual carriageway in cuttings, with some land bridges. The tunnel would remove the road from the central part of the component site 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 OUV of the WHS, particularly through disrupting the spatial and visual links between monuments, and as a result of its overall visual impact.

The rigorous investigation, evaluation, iterative design and assessment process has revealed that, if the tunnel solution is pursued, the proposed length of 3.0km would not be adequate to protect the integrity and conserve the OUV of the WHS. Therefore, notwithstanding that the preferred scheme shows improvement compared with previous plans and would also improve the current situation in the centre of the WHS; it should not proceed in its current form.

A surface route, which re-routes the A303 completely around the Stonehenge component of the WHS, and enables the closure of the existing section of the A303 within the WHS, would be the best option in relation to impact on the OUV of the WHS. A longer tunnel which avoids or significantly reduces the proposed length of dual carriageway is necessary to reduce the impact on the integrity, authenticity and OUV of the WHS.

5. Heritage Management Processes

5.1 Managing Archaeological Resources

Two Scheme-wide documents have been produced with some input from the Scientific Committee and agreed with Heritage Monitoring Advisory Group (HMAG):

- *Archaeological Evaluation Strategy* (AECOM, Mace, WSP January 2018); and
- *Overarching Written Scheme of Investigation for Archaeological Evaluation* (AECOM, Mace, WSP January 2018).

Together, these documents provide a framework for the development of Site-Specific Written Schemes of Investigation for each evaluation area.

The *Archaeological Evaluation Strategy* sets the strategic direction of archaeological evaluation and sets out the overarching scope, guiding principles and the methods to be used in relation to each part of the Scheme, to inform the development of design and the archaeological mitigation strategy. It also provides the archaeological approach which will feed into the EIA, HIA and DCO documentation.

The *Overarching Written Scheme of Investigation for Archaeological Evaluation* describes the specific methods and techniques that will be employed during archaeological field evaluations and archaeology programmes, covering matters such as:

- monitoring and progress reporting procedures;
- report writing and publication timescales;
- archive preparation and deposition commitments;
- programme and resourcing requirements;
- artefact sampling and surface artefact collection;
- geophysical surveys using gradiometer survey, ground penetrating radar survey and resistivity;

- trial trench methodologies; and
- environmental and geoarchaeological sampling and assessment.

The Mission considers that the archaeological investigations undertaken to date have accorded with the recommendations of previous Missions, although analysis and reporting is yet to be completed. The *Archaeological Evaluation Strategy* and the *Overarching Written Scheme of Investigation for Archaeological Evaluation* provide a framework for question-driven archaeological evaluation, in the event that a tunnel option is pursued. The Mission considers that the proposed detection and sampling strategies appear adequate, noting that there are a range of matters still to be resolved, including, for example:

- change of operators / personnel / preferred route (with regard to potential loss of the 'memory' of previous works and studies);
- the role of the Scientific Committee – including its ability to provide unfettered advice and extend its own range of experience and skills;
- access to land – which should not influence either route alignment or archaeological investigation decisions; and
- archiving and artefact curation and storage.

Ongoing specialist input to all archaeological processes should continue to be provided by the Scientific Committee.

5.2 Heritage Monitoring Advisory Group (HMAG)

The Heritage Monitoring Advisory Group (HMAG) was convened, in accordance with a recommendation from the first Advisory mission, to advise Highways England. It comprises representatives from:

- Historic England (UK Government's statutory heritage advisor);
- Wiltshire Council Archaeology Service (WCAS – statutory heritage advisor on behalf of the local planning authority);
- English Heritage Trust – manager of the Stonehenge site and operator of the Visitor Centre; and
- The National Trust for England and Wales – public membership body owner and manager of extensive estate in the WHS.

HMAG will provide pro-active heritage advice throughout the development of the project, by engaging directly with the designers to influence design decisions, and by setting and monitoring archaeological requirements and standards of work within the WHS. HMAG will also advise on the Heritage Impact Assessments undertaken to inform route selection and mitigation measures. HMAG should provide its advice both on request and of its own volition, where appropriate.

The Mission considers that the Heritage Monitoring Advisory Group, in combination with the recently-convened Scientific Committee (see below), now provides an appropriate heritage-centred steering mechanism for future stages of decision making and project implementation. HMAG does not include representation of broader interests, such as the Stonehenge and Avebury World Heritage Site Partnership Panel or the Avebury and Stonehenge Archaeological and Historical Research Group, which means that it is also important that there is also a more broad-ranging community consultative process, which particularly includes the Avebury community, to allow civil society to express their views, on an ongoing basis, about any aspect of the project.

5.3 Scientific Committee

The Scientific Committee was established in late 2017, in a welcome, albeit belated, response to recommendations of the first and second Advisory missions. The Scientific Committee is to provide advice through regular meetings (held at least quarterly) and through technical papers authored by members. It will review and comment on archaeological proposals related to both the design and implementation of the proposed scheme. The Scientific Committee has met three times and its meeting minutes are publicly available through its dedicated website at: <http://a303scientificcommittee.org.uk/>

The Scientific Committee is chaired by Professor Sir Barry Cunliffe and includes members of HMAG, plus other leading, independent experts, covering disciplines such as the archaeology of the WHS, relevant archaeological periods, archaeological science, archaeoastronomy, geoarchaeology, palaeoenvironmental archaeology, landscape archaeology, geophysical survey and remote sensing, and archaeology in major infrastructure projects.

As noted above, the Mission considers that the Scientific Committee has now become part of the heritage-centred steering mechanism for future stages of decision making and project implementation. In this regard, it is vital that the Scientific Committee be empowered to continue to provide unfettered advice on any matter, including alternative route or construction options and the archaeological methodologies to be used in implementing the Archaeological Evaluation Strategy and the *Overarching Written Scheme of Investigation for Archaeological Evaluation*. To give effect to its independent expert status, the Scientific Committee should be at liberty to report directly to the Heritage Monitoring Advisory Group and/or to the UK statutory heritage bodies.

It is also important to ensure that the experience and skill set within the Scientific Committee itself should include all relevant expertise, including for example, experience in large-scale archaeological evaluation strategies for Neolithic and Bronze Age landscapes – a matter about which the Scientific Committee itself should provide advice.

5.4 Economic Cost-Benefit Modelling

Highways England have included innovative economic modelling of ‘willingness to pay’, based on actual survey data from visitors, road users and the general population as part of the commercial case for the proposed scheme. The approach seeks to capture the value individuals place on reducing the impact of the A303 on the WHS. Without this ‘value’, the project would not meet necessary benefit/cost metrics for the UK Government.

The Mission acknowledges the ground-breaking nature of this modelling, which has considerable potential application for other World Heritage properties. However, the Mission notes that the question put to survey respondents addressed only the removal of the surface A303 road through the WHS, not the difference in impact between different tunnel options, nor a complete by-pass. The Mission considers that the innovative economic modelling of the benefit-cost of the project should be refined to recognise that, insofar as the public is willing to support the construction of a tunnel, the public would presumably be willing to pay more to remove the pay to remove the A303 impact on the WHS completely through longer tunnel options or complete by-passing.

5.5 Legacy Benefits

Through Highways England, the State Party is seeking to ensure that the proposed scheme will deliver a range of ‘legacy’ benefits that extend beyond the construction of the dual carriageway

and removal of the surface road through the centre of the WHS. The benefits package, which is under development, broadly includes:

- **Heritage:** Reconnecting the World Heritage Site, helping to protect and enhance its unique value and improving understanding of our ancient heritage.
- **Environment:** Caring for, protecting and enhancing the environment and helping people connect with nature.
- **Community:** Listening, engaging and being an active part of community, seeking ways to maximise the benefits of the scheme.
- **Economy:** Boosting the economy of the South West and creating new opportunities for tourism, both locally and further afield.
- **Transport:** Providing a safe and efficient link between the South East and South West, making local and long-distance journeys quicker, more reliable and less stressful.

One of the mechanisms being used to determine the precise content of the legacy benefits package is a proposed 'Benefits and Legacy Forum'. This would be a strategic body, including widely-drawn representation to facilitate collaboration, discussion and partnerships, and create opportunities to deliver the schemes wider benefits and legacy. The intention is that this forum will receive suggestions for potential legacy schemes and will decide which to pursue to maximise the positive outcome of the scheme. The forum would also identify mechanisms for delivery and funding to make the ideas come to 'life'.

The Mission considers that the approach to legacy planning and management for the WHS and its communities, including the proposed establishment of a 'benefits and legacy forum' is a commendable initiative. However, in relation to determination of 'legacy' elements the endorsed Management Plan for the WHS (see below) should be the core document.

5.6 Heritage Impact Assessment: Scoping Report

The mission briefing documentation included a *Heritage Impact Assessment Scoping Report* (AECOM, Mace, February 2018). This document, prepared in response to previous mission recommendations regarding the HIA process provides a specification for the HIA which will inform the EIS and DCO processes for the proposed scheme. The HIA Scoping Report sets out the OUV of the WHS and the attributes of the WHS which contribute to OUV, the scheme history and related studies, and the intended HIA methodology, in accordance with the 2011 ICOMOS *Guidance on Heritage Impact Assessments for Cultural World Heritage Properties*. The HIA Scoping Report incorporates provision for in-built design measures, mitigation measures and design changes, where appropriate, to remove or reduce heritage impacts. The State Party advises that a full HIA will be prepared, in accordance with this Scoping Report, following public consultation, this Advisory mission and the finalisation of the outline design for the DCO application.

The Mission considers that the methodology outlined in the *Heritage Impact Assessment Scoping Report* (AECOM, Mace, February 2018) is appropriate. However, it is important to carry forward previous Heritage Impact Assessment work, by having particular regard to the "Stonehenge A303 improvements: outline assessment of the impacts on the Outstanding Universal Value of the World Heritage property of potential route options presented by Highways England for January 2017", carried out by N. Snashall & C. Young (Snashall & Young 2017), as well as their earlier 2014 report. The 2011 ICOMOS *Guidance on Heritage Impact Assessments for Cultural World Heritage Properties* should continue to guide Heritage

Impact Assessment. This Guidance allows for positive impacts to be considered, but the relevant objective remains that there is no major adverse impact on OUV.

5.7 WHS Management Plan

The Mission received briefings on the *Stonehenge and Avebury World Heritage Site Management Plan 2015* and on opportunities for enhancing the visitor experience arising from the proposed scheme from Stonehenge and Avebury World Heritage Site Partnership, English Heritage and The National Trust.

During these presentations it was noted that any major scheme within the WHS and/or its setting should fulfil the obligation to protect the WHS and maintain its OUV, as well as to present and transmit the WHS to future generations. At the same time, the scheme should seek to achieve the correct balance between this primary aim of protecting OUV and other values such as access and recreation, local community, farming, tourism, education, research and nature conservation. It was noted that the most appropriate and meaningful legacy would be through invigorated delivery of the Vision and Aims of the WHS Management Plan; the framework endorsed by all WHS partners for the protection and enhancement of the World Heritage Site and its attributes of OUV. It was further noted that implementation of the proposed scheme would re-unite parts of the WHS, creating potential for greater public access and additional opportunities for interpretation and visitor activities.

The Mission concurs that the protection of the WHS and its OUV, as well as transmission to future generations, are fundamental objectives – objectives which are already embodied within the *Stonehenge and Avebury World Heritage Site Management Plan*. The Mission therefore considers that greater attention should be given to incorporation of initiatives and projects that have already been identified in the endorsed Management Plan for the WHS, including through direct and regular dialogue with site managers. This will allow a holistic approach for the conservation and the promotion of all components of the property, mainly Stonehenge and Avebury, in line with the recommendations of the previous missions.

5.8 Sustainable Tourism

The first Advisory mission recommended that studies be undertaken of visitor changes in numbers and behaviour. The second Advisory mission focused in greater detail on tourism, noting that, in line with the priorities of the 2015-2021 Management Plan, a sustainable tourism strategy of presentation and promotion of the World Heritage property should be developed as soon as possible with the view to 1) frame the mitigation measures, such as the loss of direct visual access of Stonehenge monument, into a wider context; 2) ensure that the economic benefits related to the WHS are spread to the community and the wider county and 3) ensure the lasting conservation of the site. The Mission further recommended that, in the same spirit, stakeholders meetings and public consultation about the Stonehenge scheme should be extended to Avebury and north of Wiltshire areas.

The Mission considers that a sustainable tourism strategy should be prepared for the WHS, addressing the implications of results from the previously-recommended studies on changes in visitor numbers and behaviour and responding to the opportunities for new interpretation and visitor experience that would arise from the proposed scheme. The Mission also recommends a more broad-ranging community consultative process, which particularly includes the Avebury community.

6. Conclusions and Recommendations

6.1 Findings

The State Party and its agencies have responded to the recommendations of previous Advisory missions and Decisions of the World Heritage Committee (although some recommendations from the first mission and some requests of the Committee have not been implemented).

The Stonehenge component of the ‘Stonehenge, Avebury and Associated Sites’ property (the WHS), consists of the main stone circle monument in the centre of an open archaeological landscape of visually-interlinked monuments. Currently, the A303 cuts across this landscape from east to west for approximately 5.4km, mostly as a two-lane surface highway, but with approximately 2.0km of dual carriageway surface highway. Removal of the surface highway A303 from this landscape would have a positive effect on the WHS, and could deliver a range of legacy benefits.

The ‘Proposed Scheme’ for the enhanced A303 and current design proposal comprises a 3.0km twin tunnel, a short covered section, plus more than 2km of dual carriageway in cuttings with some land bridges. The tunnel 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 OUV of the WHS, particularly through disrupting the spatial and visual links between monuments, and as a result of its overall visual impact.

A surface route, which re-routes the A303 completely around the Stonehenge component of the WHS, and enables the closure of the existing section of the A303 within the WHS, would provide the best option in relation to impact on the OUV of the WHS. The visual and physical impact on the landscape to the south of the property, a Special Area for Conservation (SAC) and a Site of Special Scientific Importance (SSSI), of the F10 scheme option proposed would have been high. However, other surface routes may still be feasible, depending on the relative weighting accorded to matters that inform the decision.

Having regard to the First Mission advice that:

. . . a well-considered and designed tunnel scheme could become a model of good practice on the world stage . . .

and

. . . the project for the relocation of the existing road underground into a “tunnel of at least 2.9k” could readily adopt appropriate well-established construction methods and spatial planning approaches. Hence, with good design and construction controls, and respecting essential archaeological and heritage management measures, the tunnelled length of the road would be expected to have a beneficial impact on the attributes of Outstanding Universal Value (OUV). However, the siting and design of the tunnel portals, approach cuttings/embankments, entry/exit ramps, mitigation measures and the temporary construction works have the potential to adversely impact OUV. These latter aspects of the scheme, in particular, will require rigorous investigation, evaluation, iterative design and assessment if they are to protect the attributes of OUV within the World Heritage site and the surrounding Archaeological Priority Area . . .

the ‘rigorous investigation, evaluation, iterative design and assessment’ process has revealed that, if the tunnel solution is pursued, the proposed length of 3.0km would not be adequate to protect the integrity and conserve the OUV of the WHS.

Although the location of the western portal represents an improvement on previous options, it nevertheless involves an intrusive section of cut dual carriageway within the WHS. Therefore, if a tunnel solution is pursued, the western portal should be re-located outside the western boundary of the WHS to avoid dual carriageways within this part of the WHS.

The eastern portal has been positioned in the least impactful location available close to the WHS boundary, given the constraints imposed by the attributes of the WHS, other significant sites in the vicinity, and local topographic and environmental conditions. The location of the eastern portal to the east of The Avenue and its siting within a micro valley is an improvement on previous options. However, a tunnel portal much further to the east, completely outside the WHS, would protect the OUV of the property from the impact of associated dual carriageways.

The Mission recognises that the State Party and its agencies have been methodical and thorough in the approach to determining the ‘Proposed Scheme’ and have been careful to have regard to the myriad of complex issues and pressures that affect both corridor and route selection and the assessment of potential benefits and costs. The Mission recognises 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, 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.

The OUV of the WHS should therefore be afforded at least equal priority to other environmental considerations, including impact on Areas of Outstanding Natural Beauty and Special Areas of Conservation, when either surface or tunnel options are being considered or assessed. In addition, the innovative economic modelling of the benefit-cost of the project should be refined to recognise that, insofar as the public is willing to support the construction of a tunnel, the public would presumably be willing to pay more to remove the pay to remove the A303 impact on the WHS completely through longer tunnel options or complete by-passing.

The Heritage Monitoring Advisory Group and Scientific Committee are now established, functioning and providing advice that can facilitate a ‘heritage-centred’ approach and contribute to a proposed legacy benefits programme, which is yet to be developed by Highways England. The independent website of the Scientific Committee is a welcome initiative and it is important that the Scientific Committee continues to be able to express publicly opinions on any aspect of the project.

The Scientific Committee needs to continue to be able to provide unfettered advice on any matter, including alternative route or construction options and archaeological methodologies to be used during the project. To give effect to its independent expert status, the Scientific Committee should be at liberty to report directly to the Heritage Monitoring Advisory Group and/or to the UK statutory heritage bodies. It is also important to ensure that the experience and skill set within the Scientific Committee itself should include all relevant expertise, including for example, experience in large-scale archaeological evaluation strategies for Neolithic and Bronze Age landscapes.

The methodology outlined in the *Heritage Impact Assessment Scoping Report* (AECOM, Mace, February 2018) is appropriate. The Heritage Impact Assessment should have particular regard to the "Stonehenge A303 improvements: outline assessment of the impacts on the Outstanding Universal Value of the World Heritage property of potential route options presented by Highways England for January 2017" carried out by N. Snashall & C. Young (Snashall & Young 2017), as well as their earlier 2014 report. The 2011 ICOMOS *Guidance on Heritage Impact Assessments for Cultural World Heritage Properties* should continue to guide Heritage Impact Assessment. This Guidance allows for positive impacts to be considered, but the relevant objective remains that there is no major adverse impact on OUV.

The archaeological investigations undertaken to date have accorded with the recommendations of previous missions, although analysis and reporting are yet to be completed. The *Archaeological Evaluation Strategy* (AECOM, Mace, WSP January 2018) and the *Overarching Written Scheme of Investigation for Archaeological Evaluation* (AECOM, Mace, WSP January 2018) provide a framework for question-driven archaeological evaluation, in the event that a tunnel option is pursued. However, all archaeological processes should also continue to follow the expert advice provided by the Scientific Committee.

The Development Control Order (DCO) process (the equivalent of planning permission for infrastructure projects) and its programme and timing can and should be aligned with the World Heritage Committee timetable, as the State Party proposes to do. In the event that there are shifts in the project programme, these should not preclude the opportunity for World Heritage Committee Decisions to further influence the project and inform the consent authority decisions.

The mission findings and recommendations should be shared with the public and with all decision makers involved in the design and content of the project or the DCO process.

The third Advisory mission has been timely and it would be appropriate for the process of Advisory missions to continue beyond the DCO application stage, as alternative plans are developed for this highly significant major project.

6.2 Response to Terms of Reference

In addition to the 'Key Findings' above, the Mission also presents the following specific responses to the mission's Terms of Reference (TOR). Owing to the manner in which the TOR are structured, there is necessarily some repetition and overlap between the individual responses to each term.

Progress by the UK State Party, Highways England and heritage organisations on the implementation of the recommendations of the previous mission report, including responding to all points raised in those documents

The State Party, Highways England and heritage organisations are pro-actively implementing the recommendations of the second mission report and have provided a detailed report on progress to date.

Progress by the UK State Party towards the implementation of Decision 41 COM 7B.56 of the July 2017 World Heritage Committee

The State Party has made progress towards the implementation of Decision 41 COM 7B.56 adopted by the World Heritage Committee (July 2017), but should do more to consider longer

tunnel options in order to remove dual carriageway cuttings from the WHS and undertake further detailed investigations regarding the portal locations (Decision 41 COM 7B.56 6 (b)).

Details of the ‘Proposed Scheme’ including the results of archaeological assessment and field evaluation of key elements of the Proposed Scheme within the WHS, including portal sites and new surface road, as available at the time of the mission

The Mission inspected the WHS, its setting and surrounding areas, in the company of representatives from the State Party, Highways England and its consultants, Historic England, English Heritage, the National Trust and Wiltshire Council Archaeology Service, received detailed briefings from the project proponents, expert advisers and State Party authorities, met with representatives from civil society, and reviewed an extensive set of briefing documents, in light of the findings and recommendations of the previous Advisory missions and recent decisions of the World Heritage Committee.

The likely impacts upon the attributes of the OUV of the WHS of the Proposed Scheme as articulated in HIAs

Attributes which would be enhanced include the evolution of monument construction and of the continual use and shaping of the landscape (Criterion ii), and the design, position and interrelationship of the monuments and sites. The retention of The Avenue is particularly positive (Criterion iii). But at the same time, these attributes will also be adversely impacted. The interrelationship of the monuments and sites and the overall coherence of the archaeological landscape, which are seen in the Statement of Outstanding Universal Value as an *‘exceptional survival of prehistoric monuments and sites . . . including settlements, burial grounds, and large constructions of earth and stone . . . [which] together with their settings, they form landscapes without parallel’*, would also be adversely and irreversibly affected by new cuts, portals and construction of new dual carriageway sections.

The potential for the Proposed Scheme to deliver substantial benefits for the OUV of the WHS through the reunification of much of its landscape and for the future public enjoyment and appreciation of the WHS through the removal of the noise and visual intrusion of traffic caused by the current road

Based upon the information available at the time of the mission, elements of the Proposed Scheme, incorporating the Proposed Scheme, would deliver substantial benefits for parts of the WHS through the reunification of much of its landscape and would enhance future public enjoyment and appreciation of the WHS through the removal of the noise and visual intrusion of traffic caused by the current road. Specifically, the ‘Proposed Scheme’ would improve the current situation, through:

- removal of a large section of the existing A303 surface road in the centre of the WHS and consequent reconnection of northern and southern parts of the WHS;
- additional opportunities for experiencing and interpreting the landscape of the WHS; and
- realisation of archaeological potential of those parts of the site which are to be physically affected through comprehensive archaeological investigation.

However, again based upon the information available at the time of the mission, the Proposed Scheme, incorporating the Proposed Scheme, will also adversely affect the integrity and authenticity, and therefore the OUV of the WHS, through:

- construction of more than 2km of new double dual carriageway within the WHS;
- permanent removal of parts of the site, including archaeological features, artefacts and deposits, for the creation of dual carriageways, leading to a severance of the inter-relationship between the archaeological monuments and the loss of archaeological resource;
- visual impact of the portals and cuttings from some parts of the WHS;
- introduction of a new ‘flyover’ section of the A303 between the Countess Roundabout and the proposed eastern portal; and
- introduction of substantial sub-surface infrastructure, with a life expectancy of hundreds of years, in a manner that is not designed to be reversible.

The heritage-centred steering mechanism that has been set up to ensure quality control at all stages of decision making

The Heritage Monitoring Advisory Group and Scientific Committee set up now provides a heritage-centred steering mechanism for future stages of decision making and project implementation. However, decision making during the selection of the Proposed Scheme appears not to have been so heritage centred, by affording priority to avoiding Areas of Outstanding Natural Beauty and Special Areas of Conservation, which has militated against some surface options outside the WHS (particularly option F10), but apparently not having afforded the same perceived priority to the OUV of the WHS.

The potential benefits to public knowledge and understanding of the OUV of the WHS made by any archaeological remains identified during archaeological assessment and evaluation of the Proposed Scheme within its boundary to wider research in the property on an ongoing basis

The identification and investigation of archaeological remains within the WHS, during archaeological assessment and evaluation of the Proposed Scheme, and subsequently during construction, offers potential benefits to public knowledge and understanding of the OUV of the WHS and to wider research themes. However, the potential destruction of (any yet undiscovered) sites in areas impacted by the proposed dual carriageways would have an irreversible impact.

The nature of the Development Consent Order (DCO) process under which the detailed scheme proposal would be considered by the UK Planning Inspectorate, the statutory timescales for DCO, and the comprehensive nature of public consultation ahead of DCO submission. How this statutory DCO process will allow for and take into consideration the recommendations of the World Heritage Committee arising from its discussion of the proposals?

The Development Consent Order (DCO) process and statutory timescales, under which the detailed scheme proposal is to be considered, should allow for consideration of the conclusions and recommendations of this Advisory mission and any recommendations of the 42nd Session of the World Heritage Committee (24 June – 4 July 2018 in Manama, Bahrain).

The measures that the UK State Party, Highways England and heritage partner organisations have taken, or have in progress, to respond to and implement the recommendations of both previous Mission reports and the World Heritage Committee’s Decision

As noted above, the State Party, Highways England and heritage organisations are pro-actively implementing the recommendations of the second mission report and have provided a detailed report on progress to date.

The State Party has made progress towards the implementation of Decision 41 COM 7B.56 adopted by the World Heritage Committee (July 2017), but should do more to consider longer tunnel options in order to remove dual carriageway cuttings from the WHS and undertake further detailed investigations regarding the portal locations (Decision 41 COM 7B.56 6 (b)).

The impact of the Proposed Scheme on the OUV of the WHS, based upon the information available at the time of the Mission in the design process, which comprises:

- o The results of archaeological and other assessments and evaluation of potential tunnel portal sites and possible associated new surface road within the WHS in relation to the attributes of OUV;**
- o The alignment and emerging design of the Proposed Scheme within and adjacent to the WHS;**
- o Visualisations and modelling of aspects of potential new infrastructure, including tunnel portals, vertical alignment and landscape mitigation;**
- o Cultural Heritage Impact Assessment scoping reports and Heritage Impact Assessments (if available by time of mission);**
- o The proposed treatment of the redundant portions of the A303 and A360 roads;**
- o Relevant technical and engineering aspects of the scheme as available at this stage of development.**

As noted above, the Stonehenge component of ‘Stonehenge, Avebury and Associated Sites’ (the WHS) consists of the main stone circle monument in the centre of an open archaeological landscape of visually-interlinked monuments. Currently, the A303 cuts across this landscape from east to west for approximately 5.4km, mostly as a two-lane surface highway, but with approximately 2.0km of dual carriageway surface highway. Removal of the surface highway A303 from this landscape would have a positive effect on the WHS, and could deliver a range of legacy benefits.

The “Proposed Scheme” for the enhanced A303 and current design proposal comprises a 3.0km twin tunnel, a short covered section, plus more than 2km of dual carriageway in cuttings with some land bridges. The tunnel would remove the road from the central part of the component site 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 OUV of the WHS, particularly through disrupting the spatial and visual links between monuments, and as a result of its overall visual impact. Therefore, notwithstanding that the preferred scheme shows improvement compared with previous plans and would also improve the current situation in the centre of the WHS; it should not proceed in its current form.

Relevant technical and strategic planning aspects regarding the whole asset life design of the scheme within the WHS and road network development and longer term impact on the region

As noted above, the Mission inspected the WHS, its setting and surrounding areas, in the company of representatives from the State Party, Highways England and its consultants, Historic England, English Heritage, the National Trust and Wiltshire Council Archaeology Service, received detailed briefings from the project proponents, expert advisers and State Party authorities, met with representatives from civil society, and reviewed an extensive set of briefing documents. The Mission gained a thorough understanding of technical and strategic aspects of the project and issues related to the surrounding landscape and communities, including environmental issues and local traffic impacts, as well as the long term impact on the regional road network.

The need for additional expertise, consultation, desk review, heritage impact assessment, skills assessment, advisory mission, or technical assistance

The Heritage Monitoring Advisory Group and Scientific Committee are now established, functioning and providing advice that can facilitate a 'heritage-centred' approach and contribute to a proposed legacy benefits programme, which is yet to be developed by Highways England. It is important that the Scientific Committee remain unfettered in its ability to express opinions on any aspect of the project and that the experience and skill set within the Scientific Committee itself should include all relevant expertise, including for example, experience in large-scale archaeological evaluation strategies for Neolithic and Bronze Age landscapes.

The HIA/EIA/DCO processes and assessments should include relevant expertise and adequate investigations to address factors such as life expectancy, end-of-working-life remediation, vibration and noise that are particular to the tunnel solution, and their potential impact on the OUV of the WHS and on other relevant matters such as visitor experiences and local amenity.

How the Committee might consider any detailed proposals for the A303 including impact on the OUV of the WHS in light of the reporting process to the annual World Heritage Committee and statutory timescales of the Development Consent Order (DCO) application, as the plans to address the problems caused by the existing A303 trunk road traffic are further developed over the coming years

As noted above, the Development Consent Order (DCO) process and statutory timescales, under which the detailed scheme proposal is to be considered, should allow for consideration of the conclusions and recommendations of this Advisory mission and any recommendations of the 42nd Session of the World Heritage Committee (June/July 2018). The Advisory mission process has influenced the development of detailed proposals for the A303 and understanding of potential impact on the OUV of the WHS but the scheme is not yet at a stage where it should proceed. Noting the Terms of Reference of the Heritage Monitoring Advisory Group and Scientific Committee, and the State of Conservation, the reporting process to World Heritage Committee, it would be productive to continue the ICOMOS/UNESCO process beyond the DCO application, as revised plans are developed over the coming years and there is a need for ongoing advice and assistance.

The appropriate approach to legacy planning and management for the WHS and its communities

The Highways England approach to legacy planning and management for the WHS and its communities, including the establishment of a 'benefits and legacy forum' is yet to be implemented, but is a commendable initiative. However, in relation to legacy planning, greater

attention should be given to incorporation of initiatives and projects that have already been identified in the endorsed Management Plan for the WHS, including through direct dialogue with site managers. This will allow a holistic approach for the conservation and the promotion of all components of the property, mainly Stonehenge and Avebury, in line with the recommendations of the previous missions.

Any other matters that may be relevant to avoiding, minimising or mitigating adverse impact on the OUV of the WHS

The current public consultation process, ahead of the proposed DCO submission, is thorough and inclusive, but has been confined only to the Proposed Scheme.

The potential benefits to the OUV of the WHS that the scheme could deliver: though the removal of much of the current, surface A303 and the noise & visual intrusion of its traffic; through the reunification of the currently-severed WHS to north and south of the current road; for the public enjoyment and appreciation of the WHS, including future opportunities to explore and visit currently inaccessible groups of sites and monuments

The Proposed Scheme would deliver substantial benefits for parts of the WHS through the reunification of large parts of its landscape, and would enhance future public enjoyment and appreciation of the WHS through the removal of the noise and visual intrusion of traffic caused by the current road in parts of the site, but would cause irreversible damage in other parts of the site, and overall would impact adversely on OUV.

6.3 Recommendations

1. Although the Proposed Scheme shows improvement compared with previous plans and would also improve the current situation in the centre of the Stonehenge component of the WHS, it should not proceed in its current form.
2. Potential surface routes for the proposed dual carriageway sections of the A303 should be reconsidered outside the WHS, on the basis that Outstanding Universal Value (OUV) of the WHS should be afforded at least equal priority to other environmental considerations (including impact on Areas of Outstanding Natural Beauty and Special Areas of Conservation), and must include complete closure of the section of the A303 which runs through the WHS.
3. Economic modelling of route options and particularly the ‘willingness to pay’ approach should recognise that options which reduce impact on OUV (such as a longer tunnel or a complete by-pass of the WHS) may have greater community benefit than options which partially remove the surface road but have other adverse impacts on OUV.
4. If a longer tunnel is further considered, its design (as currently presented in the Proposed Scheme) must be substantially refined to ensure the OUV of the WHS is fully respected, and this refinement should take precedence over any predetermined project programme or deadline.
5. If a longer tunnel is further considered, the western portal should be relocated to the west of the western boundary of the WHS.

6. If a longer tunnel is further considered, the location of the eastern portal should be further considered with a view to relocating it well to the east of the Countess roundabout.
7. A sustainable tourism strategy should be prepared for the WHS in its entirety, including the Avebury component, addressing the implications of results from the previously-recommended studies on changes in visitor numbers and behaviour, and responding to the opportunities for new interpretation and visitor experience that would arise from the proposed scheme. This would also imply incorporating the WHS Avebury component presentation within the current exhibition at the Visitor Centre.
8. The Scientific Committee should continue to be empowered to provide unfettered advice on any matter, including alternative route or construction options, the archaeological methodologies to be used during the project and its own membership, experience and skill set, and should be at liberty to report directly to the Heritage Monitoring Advisory Group and UK statutory heritage bodies, not only to Highways England.
9. The impact of any further proposed schemes on the OUV of the WHS should be evaluated using the methodology outlined in the Heritage Impact Assessment Scope (AECOM, Mace, WSP February 2018), the 2017 and 2014 preliminary Heritage Impact Assessments by Snashall & Young, and the 2011 ICOMOS *Guidance on Heritage Impact Assessments for Cultural World Heritage Properties*.
10. If a longer tunnel is considered, the HIA/EIA/DCO processes and assessments should include relevant expertise and adequate investigations to address factors such as life expectancy, end-of-working-life remediation, vibration and noise, which are particular to the tunnel solution.
11. The section of the current A303 which runs through the WHS could become a non- or limited vehicular thoroughfare after an improvement scheme has been completed that removes the road from the WHS, but the proposed link between byways 11 and 12 should not be established.
12. A more broad-ranging community consultative process, which particularly includes the Avebury community, should be established to allow civil society to express their views, on an ongoing basis, about any aspect of the project, not only the legacy benefits being considered through the benefits and legacy forum process.
13. The legacy benefits package for the project should incorporate initiatives and programmes identified as desirable to conserve and/or interpret OUV in the Management Plan for the WHS.
14. The timing and programme for the Development Consent Order process should be managed to allow for consideration of the conclusions and recommendations of this Advisory mission, any recommendations of the World Heritage Committee, and the time needed to explore further options.
15. Consultation with UNESCO World Heritage Centre and ICOMOS should continue for the life of the project, including, where appropriate, further Advisory missions once alternative options have been explored.

7. Annexures

A. Terms of Reference

B. Statement of Outstanding Universal Value

C. Mission Programme

D. State Party Personnel

E. Civil Society Meetings – personnel and documents provided

F. Maps and Plans of World Heritage Site and Proposed Scheme for A303 Project

G. Mission Briefing Pack February 2018, including Schedule of Documents Reviewed

H. A303 Stonehenge Amesbury to Berwick Down Public Consultation Booklet – February 2018

Annexure A: Terms of Reference

UNESCO AND ICOMOS - third Advisory Mission to the Stonehenge Component of the Stonehenge, Avebury and Associated Sites World Heritage Site

Consideration of WHS landscape and OUV issues in relation to Highways England's Proposed Scheme for improving the A303 trunk road running through the Stonehenge, Avebury and Associated Sites World Heritage Site (WHS) in the light of the World Heritage Committee's Decision 41 COM.7B 56 made in July 2017.

Context

The removal of the damaging surface A303 from the WHS has been a long-held ambition of the UK Government due to the chronic traffic congestion and serious harm the current road is causing to its Outstanding Universal Value (OUV). This harm is not only due to the noise, pollution and visual intrusion of heavy traffic, but also due to the effective severance of the bulk of the WH Property to the south of the current A303 from the northern part of the WHS containing Stonehenge and other major ceremonial sites and monuments.

In December 2014 the UK Government announced that it would invest in a bored tunnel of at least 2.9km in length within the WH Property "to solve the long-running traffic problems in a way that protects and provides benefits for the WHS".

In recognition of the need for any scheme proposal to protect the Outstanding Universal Value of the WHS in addition to resolving the traffic issues, the project is being undertaken with the benefit of advice from both ICOMOS International (hereafter ICOMOS) and the World Heritage Centre (WHC) through Advisory Missions and through engaging closely with Historic England, the National Trust, English Heritage and Wiltshire Council Archaeology Service. The overarching aim of this engagement is to protect the OUV of the WHS and satisfy stakeholders that the best result for the WHS has been secured.

This third advisory mission is intended to build on the advice and guidance provided by the WHC and ICOMOS in their technical reports arising from the initial advisory mission of October 2015 and the follow up advisory mission of February 2017. It is also intended to assist the State Party in responding positively to World Heritage Committee Decision 41 COM 7B.56 taken in Krakow in July 2017.

Following the feedback received from both the February 2017 advisory mission and the UK heritage sector during the January-February non-statutory public consultation, Highways England have subsequently revised the previously proposed route of the tunnel/road improvement and developed a 'Proposed Scheme', which is being taken through a statutory public consultation process in the period February-April 2018.

Purpose of the Proposed Advisory Mission for the State Party

The timing of the Advisory Mission provides the opportunity to advise on the detailed design development of the Proposed Scheme before Highways England submits its application for a Development Consent Order.

The third proposed Advisory Mission will allow the State Party:

- To provide feedback to the WHC and ICOMOS on the measures taken, planned, or in progress, to implement the recommendations of both the previous advisory mission reports and of Decision 41 COM 7B.56;
- To set out in detail the reasons for the decision not to proceed further with a southern route or a longer tunnel and for the choice of alignment and portal locations of the Proposed Scheme;
- To seek the advice of the WHC and ICOMOS on the Proposed Scheme within and adjacent to the WHS, based on work undertaken to inform its potential heritage impacts, including upon its OUV and on any measures which can be taken to avoid or reduce adverse impacts on the OUV of the WHS generally;
- To set out the range of benefits the scheme could unlock to substantially improve the public appreciation and enjoyment of the WHS: through the removal of much of the present, surface A303 and its traffic; through the reunification of the parts of the Stonehenge WHS currently severed by the surface road; and through the ability of future visitors to walk around the WHS between groups of sites and monuments that are presently inaccessible due to the A303.
- To update the mission on the nature, timetable and phasing of the UK statutory planning process for nationally significant infrastructure projects and specifically the Development Consent Order (DCO) process under which the Proposed Scheme is being put out for statutory consultation and considered by the UK Planning Inspectorate; to brief the mission on how this statutory timescale will accommodate the meetings cycle of the UNESCO World Heritage Committee, and allow the Committee to fully consider the Proposed Scheme and for its advice to be able to influence the design of the scheme;
- To examine the measures put in place to ensure that heritage-centred quality control steers all stages of decision making in developing the Proposed Scheme;
- To provide the mission team with the opportunity to meet a range of stakeholders and representatives of civil society in order to understand the wide range of views on the Proposed Scheme.

Terms of Reference for the Advisory Mission

On the basis of briefings on the following, the complete package of which will be made available to the WHC and ICOMOS by February 16th at the latest, the mission will consider:

- Progress by the UK State Party, Highways England and heritage organisations on the implementation of the recommendations of the previous mission report, including responding to all points raised in those documents;
- Progress by the UK State Party towards the implementation of Decision 41 COM 7B.56 of the July 2017 World Heritage Committee;

- Details of the 'Proposed Scheme' including the results of archaeological assessment and field evaluation of key elements of the Proposed Scheme within the WHS, including portal sites and new surface road, as available at the time of the mission;
- The likely impacts upon the attributes of the OUV of the WHS of the Proposed Scheme as articulated in HIAs;
- The potential for the Proposed Scheme to deliver substantial benefits for the OUV of the WHS through the reunification of much of its landscape and for the future public enjoyment and appreciation of the WHS through the removal of the noise and visual intrusion of traffic caused by the current road.

The mission will also consider and provide feedback on:

- The heritage-centred steering mechanism that has been set up to ensure quality control at all stages of decision making.
- The potential benefits to public knowledge and understanding of the OUV of the WHS made by any archaeological remains identified during archaeological assessment and evaluation of the Proposed Scheme within its boundary to wider research in the property on an ongoing basis;
- The nature of the Development Consent Order (DCO) process under which the detailed scheme proposal would be considered by the UK Planning Inspectorate, the statutory timescales for DCO, and the comprehensive nature of public consultation ahead of DCO submission. How this statutory DCO process will allow for and take into consideration the recommendations of the World Heritage Committee arising from its discussion of the proposals.

The UK State Party and its advisor and UNESCO/ICOMOS staff/representatives will work to agree how best the WHC and ICOMOS can offer advice on the protection of the OUV of the WHS as part of the statutory process. As the plans to address the problems caused by the existing A303 trunk road traffic continue to be developed, Highways England as scheme developer will continue to work with heritage bodies to facilitate this process. This should allow provision for additional expertise, consultation, desk review, heritage impact assessment, skills assessment, advisory mission, technical assistance if needed.

The Mission shall provide advice on:

- The measures that the UK State Party, Highways England and heritage partner organisations have taken, or have in progress, to respond to and implement the recommendations of both previous Mission reports and the World Heritage Committee's Decision;
- The impact of the Proposed Scheme on the OUV of the WHS, based upon the information available at the time of the Mission in the design process, which comprises:

- The results of archaeological and other assessments and evaluation of potential tunnel portal sites and possible associated new surface road within the WHS in relation to the attributes of OUV;
 - The alignment and emerging design of the Proposed Scheme within and adjacent to the WHS;
 - Visualisations and modelling of aspects of potential new infrastructure, including tunnel portals, vertical alignment and landscape mitigation;
 - Cultural Heritage Impact Assessment scoping reports and Heritage Impact Assessments (if available by time of mission);
 - The proposed treatment of the redundant portions of the A303 and A360 roads;
 - Relevant technical and engineering aspects of the scheme as available at this stage of development.
- Relevant technical and strategic planning aspects regarding the whole asset life design of the scheme within the WHS and road network development and longer term impact on the region;
 - The need for additional expertise, consultation, desk review, heritage impact assessment, skills assessment, advisory mission, or technical assistance;
 - How the Committee might consider any detailed proposals for the A303 including impact on the OUV of the WHS in light of the reporting process to the annual World Heritage Committee and statutory timescales of the Development Consent Order (DCO) application, as the plans to address the problems caused by the existing A303 trunk road traffic are further developed over the coming years;
 - The appropriate approach to legacy planning and management for the WHS and its communities;
 - Any other matters that may be relevant to avoiding, minimising or mitigating adverse impact on the OUV of the WHS.
 - The potential benefits to the OUV of the WHS that the scheme could deliver: though the removal of much of the current, surface A303 and the noise & visual intrusion of its traffic; through the reunification of the currently-severed WHS to north and south of the current road; for the public enjoyment and appreciation of the WHS, including future opportunities to explore and visit currently inaccessible groups of sites and monuments.

Mission Report

During the Mission, Highways England will present the current Proposed Scheme. Following this visit, the Mission will be invited to consider the information provided by Highways England and begin to formulate their feedback on the Proposed Scheme.

It is requested that ICOMOS submit their report by the end of April 2018 so that the Advisory Mission advice can be considered by the State Party in advance of the forthcoming 2018 session of the World Heritage Committee.

The forthcoming Decision of the World Heritage Committee at its 42nd Session in 2018 will also be considered by the State Party ahead of the DCO submission, currently scheduled for September 2018.

Contractual note – the report of the Advisory Mission should be delivered by the WHC to the Department for Digital, Culture, Media & Sport, acting as the UK State Party to the World Heritage Convention, who may choose to share it with the UK Permanent Delegation.

Information to be provided by the State Party in advance of the Advisory Mission – to be made available to the WHC and ICOMOS by February 16th 2018 at the latest

- Briefing pack on the Proposed Scheme going to statutory public consultation in the period February-April 2018, with all the accompanying details, including plans showing the proposals within and adjacent to the WH Property.
- Details as available on construction methodology and temporary works, to include haul roads, construction compounds, etc.
- A briefing report setting out the measures taken, planned, or in progress, to implement and respond to the recommendations of the previous two mission reports. This will be a detailed report which will respond to each of the recommendations made in that document, including papers explaining the reasons for not proceeding with a southern route or longer tunnel.
- Archaeological assessment and evaluation reports from fieldwork undertaken at potential tunnel portal sites and associated new surface road, including geophysical survey reports, and archaeological field evaluation.
- Archaeological Evaluation Strategy document governing the scope of exploratory archaeological fieldwork and an Overarching Written Scheme of Investigation document identifying methods and techniques for scoping individual fieldwork proposals.
- Details of geotechnical and ground investigations undertaken to enable understanding of relevant non-heritage related engineering technical constraints or opportunities
- Cultural Heritage Impact Assessment Scoping Report and (if available by the time of the mission) assessments of the impact of the Proposed Scheme on the attributes of OUV.
- Relevant technical and planning aspects regarding the whole asset life design of the scheme within the WHS and road network development and longer term impact on the region.
- Feedback on what kind of heritage-centred steering mechanism has been set up to ensure quality control at all stages of decision making. Briefing on the establishment, Terms of Reference, composition and work of the Scientific Committee of subject matter experts.
- An updated briefing pack on the Development Consent Order (DCO) process, setting out aspects of the application process, the comprehensive nature of public consultation, the examination process and timescales/key milestones in the programme for A303 Stonehenge – this will also set out how the statutory DCO timetable will accommodate the cycle of the World Heritage Committee and its recommendations in relation to the scheme

Annexure B: Statement of Outstanding Universal Value

Brief synthesis

The World Heritage property Stonehenge, Avebury and Associated Sites is internationally important for its complexes of outstanding prehistoric monuments. Stonehenge is the most architecturally sophisticated prehistoric stone circle in the world, while Avebury is the largest. Together with inter-related monuments, and their associated landscapes, they demonstrate Neolithic and Bronze Age ceremonial and mortuary practices resulting from around 2000 years of continuous use and monument building between circa 3700 and 1600 BC. As such they represent a unique embodiment of our collective heritage.

The World Heritage property comprises two areas of chalk land in southern Britain within which complexes of Neolithic and Bronze Age ceremonial and funerary monuments and associated sites were built. Each area contains a focal stone circle and henge and many other major monuments. At Stonehenge these include the Avenue, the Cursus, Durrington Walls, Woodhenge, and the densest concentration of burial mounds in Britain. At Avebury they include Windmill Hill, the West Kennet Long Barrow, the Sanctuary, Silbury Hill, the West Kennet and Beckhampton Avenues, the West Kennet Palisaded Enclosures, and important barrows.

Stonehenge is one of the most impressive prehistoric megalithic monuments in the world on account of the sheer size of its megaliths, the sophistication of its concentric plan and architectural design, the shaping of the stones - uniquely using both Wiltshire Sarsen sandstone and Pembroke Bluestone - and the precision with which it was built.

At Avebury, the massive Henge, containing the largest prehistoric stone circle in the world, and Silbury Hill, the largest prehistoric mound in Europe, demonstrate the outstanding engineering skills which were used to create masterpieces of earthen and megalithic architecture.

There is an exceptional survival of prehistoric monuments and sites within the World Heritage property including settlements, burial grounds, and large constructions of earth and stone. Today, together with their settings, they form landscapes without parallel. These complexes would have been of major significance to those who created them, as is apparent by the huge investment of time and effort they represent. They provide an insight into the mortuary and ceremonial practices of the period, and are evidence of prehistoric technology, architecture and astronomy. The careful siting of monuments in relation to the landscape helps us to further understand the Neolithic and Bronze Age.

Criterion (i): The monuments of the Stonehenge, Avebury and Associated Sites demonstrate outstanding creative and technological achievements in prehistoric times.

Stonehenge is the most architecturally sophisticated prehistoric stone circle in the world. It is unrivalled in its design and unique engineering, featuring huge horizontal stone lintels capping the outer circle and the trilithons, locked together by carefully shaped joints. It is distinguished by the unique use of two different kinds of stones (Bluestones and Sarsens), their size (the largest weighing over 40 t) and the distance they were transported (up to 240 km). The sheer scale of some of the surrounding monuments is also remarkable: the

Stonehenge Cursus and the Avenue are both about 3 km long, while Durrington Walls is the largest known henge in Britain, around 500 m in diameter, demonstrating the ability of prehistoric peoples to conceive, design and construct features of great size and complexity.

Avebury prehistoric stone circle is the largest in the world. The encircling henge consists of a huge bank and ditch 1.3 km in circumference, within which 180 local, unshaped standing stones formed the large outer and two smaller inner circles. Leading from two of its four entrances, the West Kennet and Beckhampton Avenues of parallel standing stones still connect it with other monuments in the landscape. Another outstanding monument, Silbury Hill, is the largest prehistoric mound in Europe. Built around 2400 BC, it stands 39.5 m high and comprises half a million tonnes of chalk. The purpose of this imposing, skilfully engineered monument remains obscure.

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.

The megalithic and earthen monuments of the World Heritage property demonstrate the shaping of the landscape through monument building for around 2000 years from circa 3700 BC, reflecting the importance and wide influence of both areas.

Since the 12th century when Stonehenge was considered one of the wonders of the world by the chroniclers Henry de Huntington and Geoffrey de Monmouth, the Stonehenge and Avebury Sites have excited curiosity and been the subject of study and speculation. Since early investigations by John Aubrey (1626-1697), Inigo Jones (1573-1652), and William Stukeley (1687-1765), they have had an unwavering influence on architects, archaeologists, artists and historians. The two parts of the World Heritage property provide an excellent opportunity for further research.

Today, the property has spiritual associations for some.

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.

The design, position and interrelationship of the monuments and sites are evidence of a wealthy and highly organised prehistoric society able to impose its concepts on the environment. An outstanding example is the alignment of the Stonehenge Avenue (probably a processional route) and Stonehenge stone circle on the axis of the midsummer sunrise and midwinter sunset, indicating their ceremonial and astronomical character. At Avebury the length and size of some of the features such as the West Kennet Avenue, which connects the Henge to the Sanctuary over 2 km away, are further evidence of this.

A profound insight into the changing mortuary culture of the periods is provided by the use of Stonehenge as a cremation cemetery, by the West Kennet Long Barrow, the largest known Neolithic stone-chambered collective tomb in southern England, and by the hundreds of other burial sites illustrating evolving funerary rites.

Integrity

The boundaries of the property capture the attributes that together convey Outstanding Universal Value at Stonehenge and Avebury. They contain the major Neolithic and Bronze Age monuments that exemplify the creative genius and technological skills for which the property is inscribed. The Avebury and Stonehenge landscapes are extensive, both being around 25 square kilometres, and capture the relationship between the monuments as well as their landscape setting.

At Avebury the boundary was extended in 2008 to include East Kennet Long Barrow and Fyfield Down with its extensive Bronze Age field system and naturally occurring Sarsen Stones. At Stonehenge the boundary will be reviewed to consider the possible inclusion of related, significant monuments nearby such as Robin Hood's Ball, a Neolithic causewayed enclosure.

The setting of some key monuments extends beyond the boundary. 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.

The survival of the Neolithic and Bronze Age monuments at both Stonehenge and Avebury is exceptional and remarkable given their age – they were built and used between around 3700 and 1600 BC. Stone and earth monuments retain their original design and materials. The timber structures have disappeared but postholes indicate their location. Monuments have been regularly maintained and repaired as necessary.

The presence of busy main roads going through the World Heritage property impacts adversely on its integrity. The roads sever the relationship between Stonehenge and its surrounding monuments, notably the A344 which separates the Stone Circle from the Avenue. At Avebury, roads cut through some key monuments including the Henge and the West Kennet Avenue. The A4 separates the Sanctuary from its barrow group at Overton Hill. Roads and vehicles also cause damage to the fabric of some monuments while traffic noise and visual intrusion have a negative impact on their settings. The incremental impact of highway-related clutter needs to be carefully managed.

Development pressures are present and require careful management. Impacts from existing intrusive development should be mitigated where possible.

Authenticity

Interventions have been limited mainly to excavations and the re-erection of some fallen or buried stones to their known positions in the early and mid-twentieth century in order to improve understanding. Ploughing, burrowing animals and early excavation have resulted in some losses but what remains is remarkable in its completeness and concentration. The materials and substance of the archaeology supported by the archaeological archives continue to provide an authentic testimony to prehistoric technological and creative achievement.

This survival and the huge potential of buried archaeology make the property an extremely important resource for archaeological research, which continues to uncover new evidence

and expand our understanding of prehistory. Present day research has enormously improved our understanding of the property.

The known principal monuments largely remain in situ and many are still dominant features in the rural landscape. Their form and design are well-preserved and visitors are easily able to appreciate their location, setting and interrelationships which in combination represent landscapes without parallel.

At Stonehenge several monuments have retained their alignment on the Solstice sunrise and sunset, including the Stone Circle, the Avenue, Woodhenge, and the Durrington Walls Southern Circle and its Avenue.

Although the original ceremonial use of the monuments is not known, they retain spiritual significance for some people, and many still gather at both stone circles to celebrate the Solstice and other observations. Stonehenge is known and valued by many more as the most famous prehistoric monument in the world.

There is a need to strengthen understanding of the overall relationship between remains, both buried and standing, at Stonehenge and at Avebury.

Protection and management requirements

The UK Government protects World Heritage properties in England in two ways: firstly, individual buildings, monuments and landscapes are designated under the Planning (Listed Buildings and Conservation Areas) Act 1990 and the 1979 Ancient Monuments and Archaeological Areas Act, and secondly through the UK Spatial Planning system under the provisions of the Town and Country Planning Acts. The individual sites within the property are protected through the Government's designation of individual buildings, monuments, gardens and landscapes.

Government guidance on protecting the Historic Environment and World Heritage is set out in National Planning Policy Framework and Circular 07/09. Policies to protect, promote, conserve and enhance World Heritage properties, their settings and buffer zones are also found in statutory planning documents. The protection of the property and its setting from inappropriate development could be further strengthened through the adoption of a specific Supplementary Planning Document.

At a local level, the property is protected by the legal designation of all its principal monuments. There is a specific policy in the Local Development Framework to protect the Outstanding Universal Value of the property from inappropriate development, along with adequate references in relevant strategies and plans at all levels. The Wiltshire Core Strategy includes a specific World Heritage Property policy. This policy states that additional planning guidance will be produced to ensure its effective implementation and thereby the protection of the World Heritage property from inappropriate development. The policy also recognises the need to produce a setting study to enable this. Once the review of the Stonehenge boundary is completed, work on the setting study shall begin.

The Local Planning Authority is responsible for continued protection through policy development and its effective implementation in deciding planning applications with the management plans for Stonehenge and Avebury as a key material consideration. These

plans also take into account the range of other values relevant to the site in addition to Outstanding Universal Value. Avebury lies within the North Wessex Downs Area of Outstanding Natural Beauty, a national statutory designation to ensure the conservation and enhancement of the natural beauty of the landscape.

About a third of the property at both Stonehenge and Avebury is owned and managed by conservation bodies: English Heritage, a non-departmental government body, and the National Trust and the Royal Society for the Protection of Birds which are both charities. Agri-environment schemes, an example of partnership working between private landowners and Natural England (a non-departmental government body), are very important for protecting and enhancing the setting of prehistoric monuments through measures such as grass restoration and scrub control. Much of the property can be accessed through public rights of way as well as permissive paths and open access provided by some agri-environment schemes. Managed open access is provided at Solstice. There are a significant number of private households within the property and local residents therefore have an important role in its stewardship

The property has effective management plans, coordinators and steering groups at both Stonehenge and Avebury. There is a need for an overall integrated management system for the property which will be addressed by the establishment of a coordinating Stonehenge and Avebury Partnership Panel whilst retaining the Stonehenge and Avebury steering groups to enable specific local issues to be addressed and to maintain the meaningful engagement of the community. A single property management plan will replace the two separate management plans.

An overall visitor management and interpretation strategy, together with a landscape strategy needs to be put in place to optimise access to and understanding of the property. This should include improved interpretation for visitors and the local community both on site and in local museums, holding collections excavated from the property as well as through publications and the web. These objectives are being addressed at Stonehenge through the development of a visitor centre and the Interpretation, Learning and Participation Strategy. The updated Management Plan will include a similar strategy for Avebury. Visitor management and sustainable tourism challenges and opportunities are addressed by specific objectives in both the Stonehenge and Avebury Management Plans.

An understanding of the overall relationship between buried and standing remains continues to be developed through research projects such as the “Between the Monuments” project and extensive geophysical surveys. Research Frameworks have been published for the Site and are regularly reviewed. These encourage further relevant research. The Woodland Strategy, an example of a landscape level management project, once complete, can be built on to include other elements of landscape scale planning.

It is important to maintain and enhance the improvements to monuments achieved through grass restoration and to avoid erosion of earthen monuments and buried archaeology through visitor pressure and burrowing animals.

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. At Avebury, a World Heritage Site Traffic Strategy will be developed to establish guidance and identify a holistic set of actions to address the negative impacts that the dominance of roads, traffic and related clutter has on integrity, the condition and setting of monuments and the ease and confidence with which visitors and the local community are able to explore the wider property.

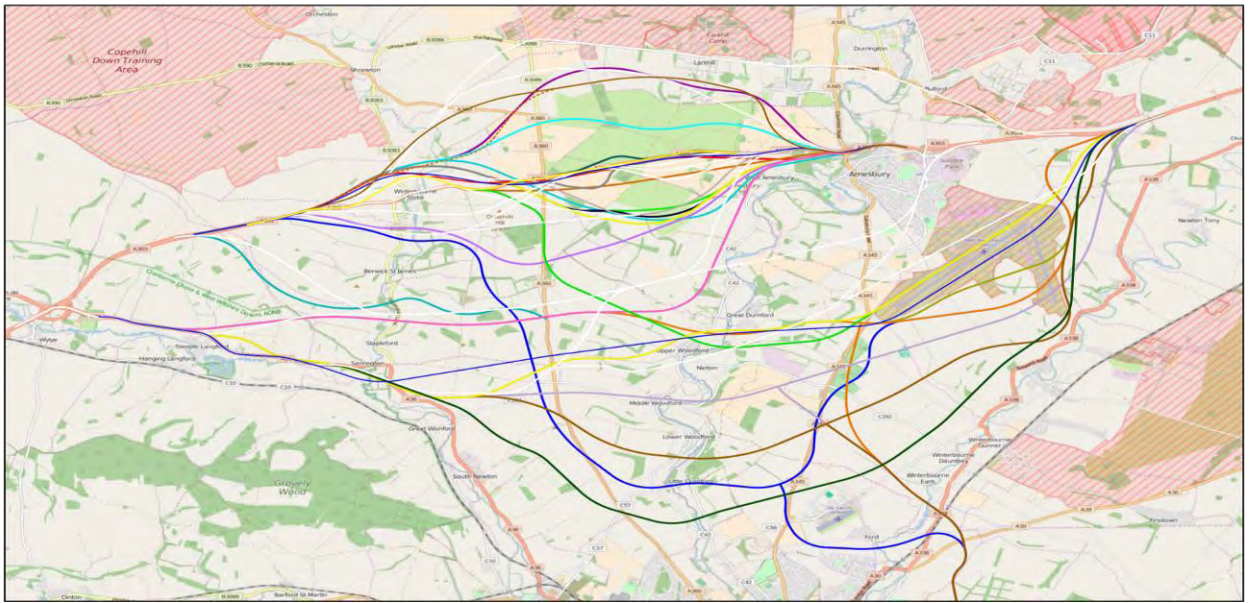
Annexure F: Maps and Plans of the World Heritage Site and Proposed Scheme for A303 Project



A303 corridor: the A303 Amesbury Downs scheme is in the north-eastern (top right) corner of this plan. (Image supplied by Highways England).



Amesbury to Berwick Down section of the A303. (Image supplied by Highways England).



Route corridors and options analysed as part of the evaluation process. (Image supplied by Highways England).

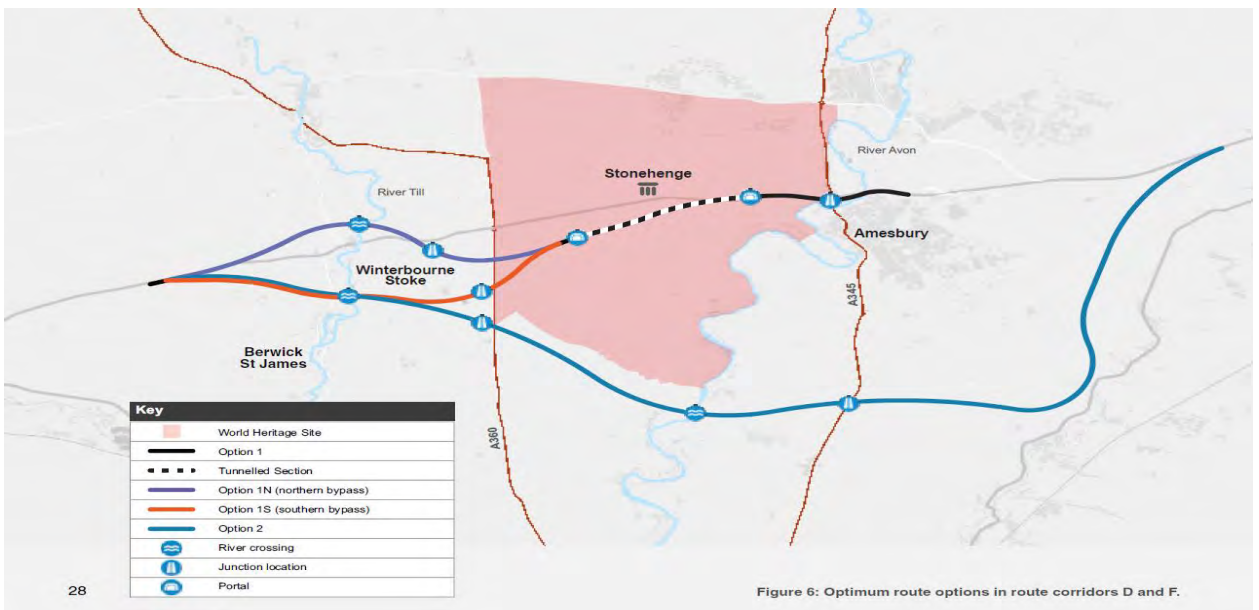
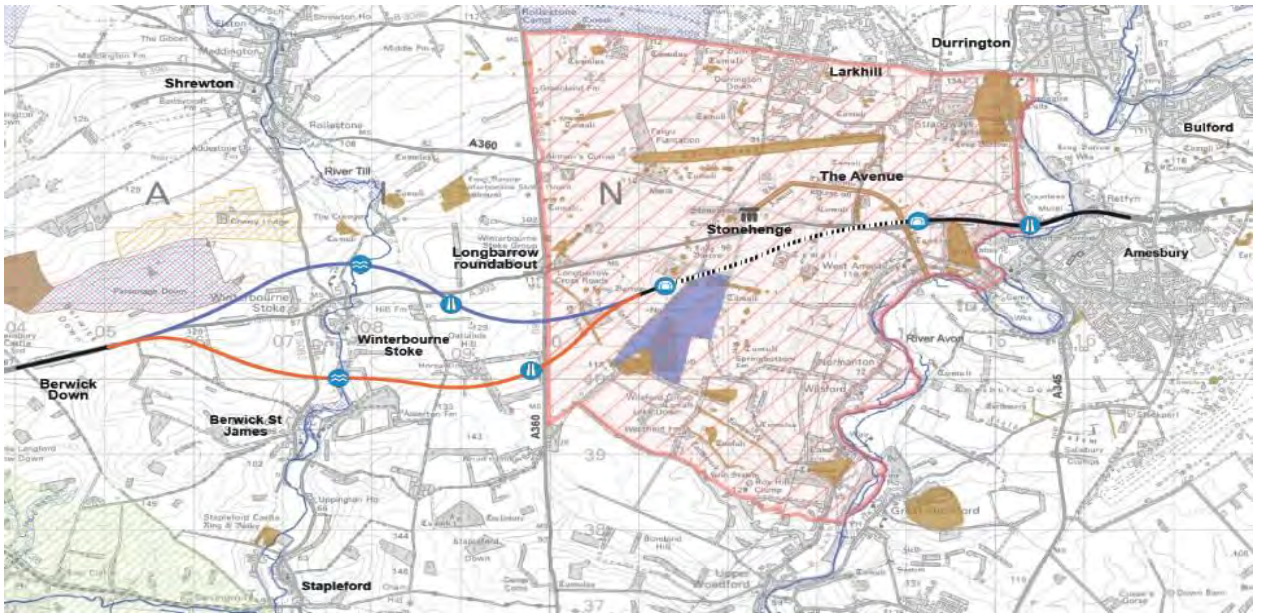
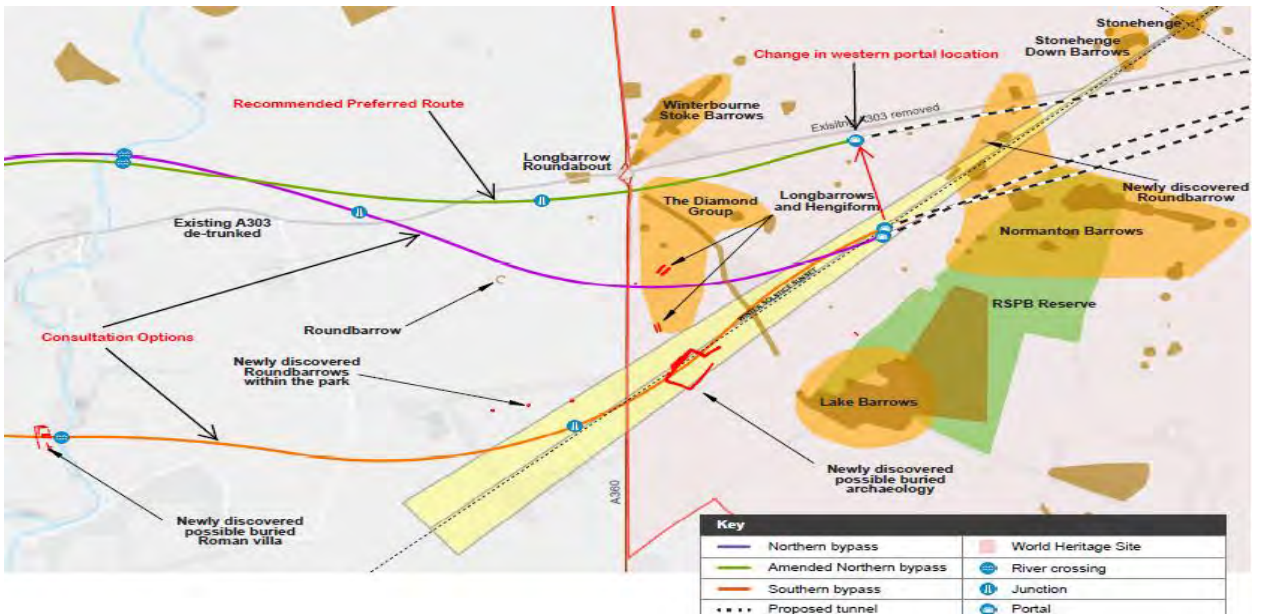


Figure 6: Optimum route options in route corridors D and F.

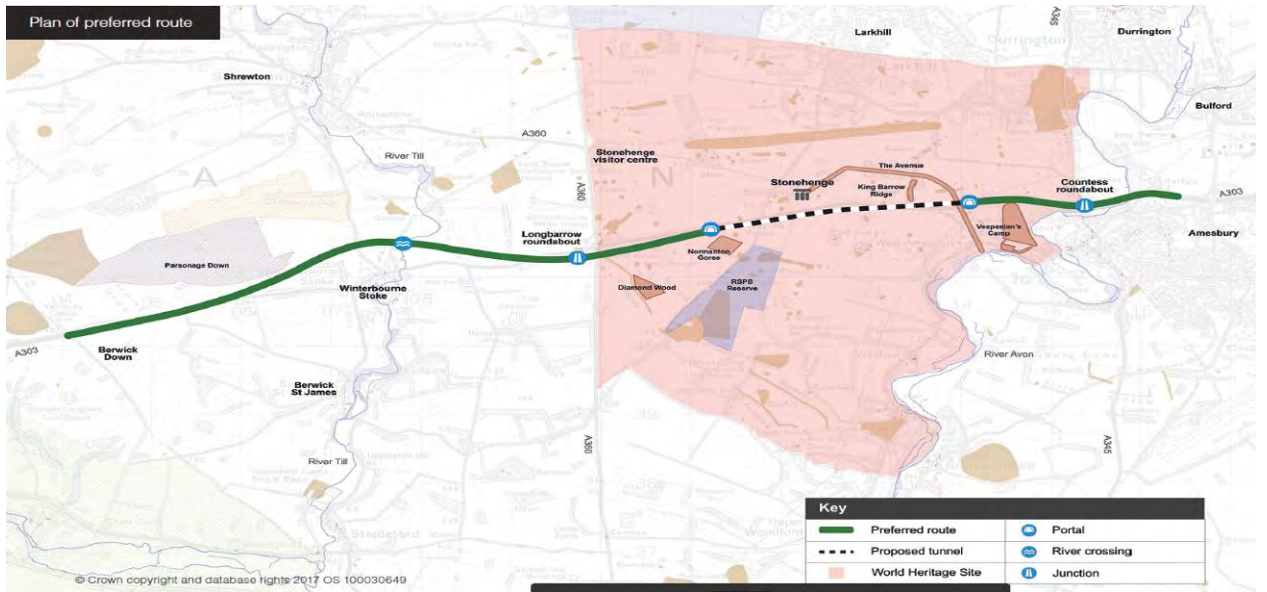
Routes considered in 2017: D01 / D03 and F10. (Image supplied by Highways England).



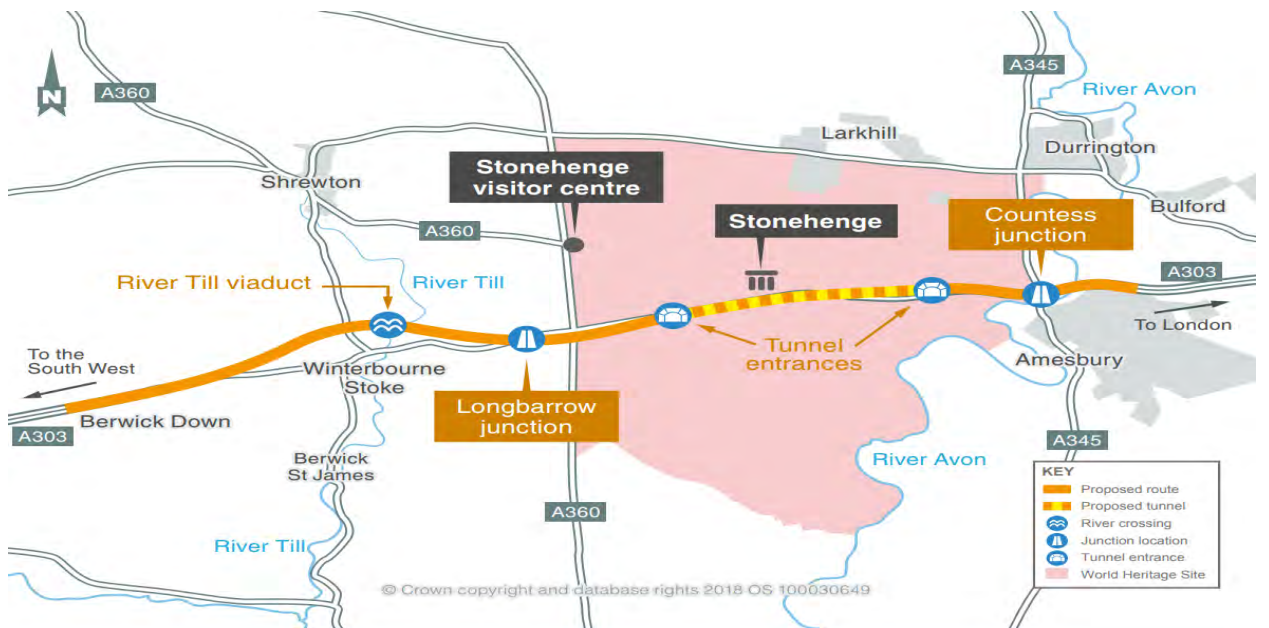
Proposed options for public consultation January 2017. (Image supplied by Highways England).



Features affecting the choice of route. (Image supplied by Highways England).



The preferred route – September 2017. (Image supplied by Highways England).



Statutory consultation plan – February - April 2018. (Image supplied by Highways England)

Annexure G: Mission Briefing Pack February 2018
including Schedule of Documents Reviewed

Annexure H: A303 Stonehenge Amesbury to Berwick Down
Public Consultation Booklet – February 2018

APPENDIX 15 State of Conservation Report, 2017

STONEHENGE, AVEBURY AND ASSOCIATED SITES (UNITED KINGDOM) (C373bis)

1. Executive summary of the report

The UK State Party has prepared a State of Conservation Report at the request of the World Heritage Centre. The report updates the World Heritage Committee on the significant achievements in the positive management of Stonehenge, Avebury and Associated Sites World Heritage Property since the Committee last considered its state of conservation in 2011.

These achievements include the closure of the A344 and the consequential reinstatement of the crucial link between Stonehenge and the Avenue, and the establishment of a new visitor centre. Improvements have also been made to the governance of the WHS, while the Statement of Outstanding Universal Value agreed by the Committee in 2013 is being used effectively in the protection and management of the property. An integrated management plan for the Stonehenge and Avebury components of the WHS was published in 2015 and includes a clear definition of the attributes of OUV which are proving valuable in assessing the potential impacts of development proposals on OUV in line with ICOMOS HIA Guidance. Other achievements are also described in the report.

These achievements provide the context for the consideration of the emerging proposals for the improvement of the A303 at Stonehenge, which currently impacts adversely on the OUV of the WHS. The proposals are described together with the planning process which will be followed, and an account is given of the engagement of the World Heritage Centre and ICOMOS through the medium of, to date, two advisory missions invited by the UK State Party. The opportunities for the Committee to provide advice to the State Party on the protection and management of OUV in the light of the emerging proposals for improvements to the A303 are identified.

2. Update from the State Party since the World Heritage Committee's most recent consideration of the State of Conservation of the Property in 2011.

There have been a number of important beneficial achievements since the Committee last considered the state of conservation of the property in 2011. There are also ongoing challenges in areas that have been identified in the Protection and Management Requirements section of the Statement of OUV and in the most recent cycle of Periodic Reporting for Europe in 2013. The achievements are summarised below as well as the ongoing challenges including the emerging proposals for the improvement of the A303 road.

Retrospective Statement of Outstanding Universal Value

The SOUV was agreed by the Committee in 2013 and since then has underpinned the management of the WHS as a whole. It has proved invaluable in determining planning applications and shaping future projects and schemes across the WHS and has formed the basis of the first joint Stonehenge and Avebury WHS Management Plan.

Integrated governance structure and single joint Stonehenge and Avebury WHS Management Plan

The Stonehenge and Avebury WHS governance review of 2012 has resulted in greater integration of the management of the two parts of the Stonehenge and Avebury WHS. A coordinating Stonehenge and Avebury Partnership Panel with an independent chair was established in 2013 and deals with strategic matters affecting the entire property. The Stonehenge and Avebury steering groups have been retained in order to enable specific local issues to be addressed and to maintain the meaningful engagement of the community. This development, together with the establishment of the WHS Coordination Unit jointly funded by Wiltshire Council and Historic England, has strengthened the ability of the stakeholders to implement the actions of the 2015 WHS Management Plan.

In 2015 a single joint property management plan replaced the two separate plans for Stonehenge and Avebury. The new Plan is underpinned by the Statement of OUV for the entire site and the definition of seven key attributes. It reflects the very similar challenges faced by both Stonehenge and Avebury. It also recognises and addresses their different characteristics and specific management requirements. The new Management Plan provides a comprehensive framework and single reference document for managers, residents, students and the wider national and international community.

Awareness, understanding and engagement with Stonehenge and Avebury as a single WH property has been further enhanced by the creation of a website in 2012 with related social media accounts in addition to the annual WHS newsletter *Megalith* that is distributed widely among the local community and available electronically online.

Stonehenge Environmental Improvements Scheme: Closure of the A344 and provision of a world-class visitor centre

Following due process, an 879m length of the A344 from its junction with the A303 and a 263m stretch of the B3086 from its junction with the A344 was closed in 2013, with the

section at Stonehenge returned to grassland, fulfilling a long standing commitment to the World Heritage Committee to reunite Stonehenge with its Avenue. The reunification of Stonehenge with its Avenue has delivered substantial benefits to the integrity of the WHS and has vastly improved the setting of the monuments allowing visitors to experience it without the immediate visual and noise intrusion presented by the traffic.

The Stonehenge Visitor Centre opened to the public in December 2013. Stonehenge now has visitor facilities appropriate to the transmission of the OUV of the property to c. 1,300,000 visitors per annum. The Visitor Centre, and the work to restore Stonehenge to a more appropriate, dignified setting while enhancing the integrity of the WHS, was recognised by a Europa Nostra prize for conservation in 2015 and meets the 2011 concern of the Committee to convert administrative procedure into physical progress. The collaborative *Stonehenge WHS Interpretation, Learning and Participation Strategy* (2011) was an essential part of the development of a new interpretation scheme not just for the Visitor Centre but for the wider World Heritage Site, including off-site developments at the Wiltshire (2013) and Salisbury Museums (2014). A new education room provides facilities for many of the more than 45,000 educational visitors to Stonehenge each year.

A new joint Research Framework for the Stonehenge, Avebury and Associated Sites World Heritage Site

Building on the success of the earlier Avebury Research Agenda (2001) and Stonehenge Research Framework (2005) and in line with greater integration across the two parts of the WHS, the first joint Research Framework was published in 2016 with support from Historic England. The Framework is the result of committed and effective partnership working and is a true collaboration. Individual researchers, university academics, national and local authority staff, museum curators, private sector heritage professionals all worked together on its production. The wider community had the opportunity to shape the Framework through public engagement in the process. This Framework will assist in encouraging sustainable research of the highest quality in the WHS. Resulting improvements in understanding of the archaeological, historic and environmental value of the WHS will help to ensure its continued appropriate management.

Advances in archaeological research

The WHS has seen a significant amount of archaeological research since 2011, including excavations, non-intrusive surveys and desk-based studies. Results of this research is transforming and deepening the understanding of the wider WHS landscape including the overall relationship between buried and standing remains as well as the identification of possible new monuments and features that contribute to the OUV of the WHS. There have been a number of notable projects at Stonehenge in this period. The international Stonehenge Hidden Landscape Project involved an extensive non-intrusive survey of the landscape. Initial results appear to be extremely significant and large amounts of data are still in analysis. A laser survey and petrological analysis of the standing remains at Stonehenge has also yielded significant results and added to our understanding of the monument and its origins. At Avebury the monograph on the Silbury Hill Conservation Project published in 2013 revealed important information on the complex multiphase archaeology within the hill as well as radio carbon dates for its construction. The

Negotiating Avebury project, now completed, and the succeeding Between the Monuments project continues to expand our understanding the Neolithic and Bronze Age landscape and the way it was used and evolved.

Response to issues identified in the Protection and Management Section of the Statement of OUV

Planning and Policy: Robust Local Development Framework Policy

There is a specific and robust policy in the Local Development Framework to protect the Outstanding Universal Value of the property from inappropriate development, along with full references in relevant strategies and plans at all levels. The Wiltshire Core Strategy, formally adopted on 20th January 2015, includes a specific World Heritage Property policy. Policy 59 requires that precedence should be given to the protection of the WHS and its OUV. This policy also advises that additional planning guidance be produced to ensure its effective implementation. The setting study proposed as part of this guidance is already at the scoping stage of development. Desk based reviews to inform the Stonehenge boundary review have taken place in consultation with the Avebury and Stonehenge Archaeological and Historical Research Group. Further studies to support the development of the setting study will provide additional evidence to inform a boundary review.

The national and local policies alongside the Management Plan and strong working relationships between all parties have resulted in generally positive outcomes for the WHS in planning decisions to the extent that it is only the major proposals for the A303 that have required notification to the World Heritage Centre. A recent example is the Ministry of Defence's planned development north of Stonehenge at Larkhill Garrison, which is part of the Rebasing 2020 project. The final location and design of this scheme has demonstrated sensitivity to the protection of the WHS and its setting.

3. Other current conservation issues identified by the State Party.

Conservation: Cultivation and burrowing animals

The first joint Stonehenge and Avebury WHS Condition Survey was produced in 2012. The summary of this joint Condition Survey noted a positive change to the overall condition of monuments. This analysis was confirmed by the broad stability of monuments in good and fair condition. These positive findings result from a great deal of positive management of the attributes of OUV by the partners engaged in both parts of the WHS including national organisations and local landowners and farmers.

The results of the Condition Survey show that the two most significant threats to the physical remains that contribute to the OUV continue to be cultivation and burrowing animals. There has been a significant increase in the presence of the latter over the decade since the preceding condition surveys. Work to protect vulnerable monuments from damage by cultivation and from badgers and other burrowing animals are therefore two of the key priorities of the WHS Management Plan (2015).

Agri-environment schemes remain the most effective response to protecting sensitive archaeology from damage through cultivation. These schemes are extremely important for protecting the physical remains and enhancing the setting of prehistoric monuments through measures such as grassland restoration and scrub control. At Stonehenge around 40% of the WHS landscape is in environmental stewardship helping to protect and/or enhance the setting of c. 500 historic features. At Avebury too around 40% of the WHS is in these schemes which benefit c. 300 historic features. The State Party is currently exploring how best to ensure that these benefits can be sustained following the UK's anticipated withdrawal from the European Union.

Roads and Traffic

Despite the very substantial progress delivered by the closure of the A344 the impact of roads and traffic remains a major challenge in both parts of the World Heritage property. The dominance of roads, traffic and related clutter continues to have a harmful impact on integrity, the condition and setting of monuments and the ease and confidence with which visitors and the local community are able to explore the wider property. At Stonehenge the A303 is a particular problem. The current Highways England scheme and its ability to address these issues are discussed below.

At Avebury, a strategy has been developed to identify a set of actions to address road and traffic related challenges, which include the impact of A4 on the setting of Silbury Hill and other attributes of OUV, and the erosion to some areas of the West Kennet Avenue where a minor road passes over and alongside the monument. This Avebury WHS Transport Strategy (2015) <http://www.stonehengeandaveburywhs.org/assets/Avebury-WHS-Transport-Strategy-2015.pdf> takes a holistic approach to road and traffic issues within the WHS. It has established an approach and recommended schemes agreed by delivery partners, curators, managers and representatives of the local community to balance the concerns of all parties and safeguard the WHS while retaining a viable transport network. It includes a set of design principles and specific outline schemes.

4. In conformity with paragraph 172 of the Operational Guidelines, please describe any major restorations, alterations and/or new constructions(s) envisaged within the protected area and its buffer zone and/or corridors:

- **A303 Road Improvements**

It is accepted by the State Party that the current alignment of the A303 has a significant adverse impact on the OUV of the property. There is, however, an exceptionally complex set of economic, environmental and social factors that have resulted, despite repeated and strenuous efforts since the property was inscribed on the World Heritage List in 1986, in a failure to identify and deliver a viable scheme that removes the adverse impact. The State Party remains committed to resolving this problem and since 2014 has been working closely with key stakeholders, including the World Heritage Centre and ICOMOS, to find a deliverable solution which protects and enhances the OUV of the property.

Impact of the current A303

The current A303 has a major adverse impact on the OUV of the WHS and the setting of numerous scheduled monuments, including Stonehenge itself and the Stonehenge Avenue, in addition to several barrow cemeteries which are key components of the WHS. These include some of the largest and best preserved prehistoric burial mounds in the UK.

The current road effectively divides the northern and southern parts of the Stonehenge WHS landscape. Access from Stonehenge itself to the part of the WHS south of the road is both difficult and dangerous. Few visitors venture south of the A303 yet it is here that some of the most impressive views and best-preserved monuments in the WHS can be found. The exceptionally busy road is a jarring intervention within this “landscape without parallel”. Its visual intrusion is compounded by the loss of tranquillity due to the heavy traffic, road noise and exhaust fumes.

Previous A303 road improvement plans

There have been multiple, failed attempts to improve the A303 through the WHS. These culminated in 2004 with a scheme for a 2.1km twin-bored tunnel whose route followed the present A303 road alignment. This scheme was recommended for approval following extensive examination at Public Inquiry. However, the scheme was reviewed in 2006 and finally shelved in 2007 against a background of rising costs and a worsening global financial situation. On learning that the 2.1km tunnel scheme had been dropped, the 31st session of the World Heritage Committee, in July 2007, noted in Decision 31 COM 7B.104 that it “*Regrets that there has been no progress made in the implementation of the ‘A303 Stonehenge Improvement’ scheme, and urges the State Party to find an appropriate solution compatible with the outstanding universal value of the property...*”

2014 Department for Transport (DfT) Feasibility Study

In 2014, the DfT commissioned a feasibility study for the A303/A358/A30 Route Corridor which once more sought to identify the scope for improving this strategic route from London to the south west of England. The route corridor is largely dual carriageway from London to the M5 connection at Taunton, however a small number of single carriageway sections remain. These sections cause chronic congestion. The A303 single carriageway section through the Stonehenge WHS is one of the worst performing sections and was identified as a priority for improvement.

Early engagement of heritage bodies

At an early stage in the feasibility study DfT convened a Technical Working Group (TWG) involving the then English Heritage (from April 2015 devolved into Historic England and English Heritage Trust), the National Trust and Wiltshire Council, the local planning authority, to advise them on the heritage issues around any scheme within this highly sensitive landscape. Historic England is the State Party’s historic environment adviser; English Heritage manages Stonehenge itself and the Visitor Centre on behalf of the Secretary of State; the National Trust is a conservation charity that owns a significant part of the Stonehenge and Avebury landscapes; and Wiltshire Council which takes the

majority of planning decisions that affect the WHS and its setting, provides an expert archaeology service and the Co-ordination Unit for the WHS.

DfT initially consulted TWG on three route options that had been previously considered for earlier, failed, road improvement attempts:

- Northern surface re-routing within the WHS
- Southern surface re-routing within the WHS
- 2.1km on-line twin bored tunnel (the Published Scheme subject to Public Inquiry in 2004)

The heritage bodies concluded that the two surface options would cause significant harm to the WHS, whilst the 2.1km tunnel scheme would no longer be acceptable given the significant changes in national planning policy and clearer understanding of the WHS as expressed in the SOUV since that scheme was approved.

Preliminary Outline OUV Assessment

Given the likely unacceptability of all three options presented by DfT, English Heritage (as was) and the National Trust commissioned an outline, preliminary assessment of the potential OUV impacts of a range of potential tunnel options, including the 2.1km Published Scheme. It also looked at three other tunnel scenarios within the WHS. The concept was to engage constructively with the feasibility study on potentially acceptable solutions and to take an active part in the process.

The assessment (attached as Appendix 1) focused on the best locations for the tunnel portals and any new surface road rather than merely on the length of the tunnel, and was undertaken in accordance with the ICOMOS 2011 Guidance on Heritage Impact Assessment for Cultural World Heritage Sites.

In relation to OUV, the best performing of the scenarios examined in the Preliminary Outline Assessment involved a southern re-routing of the A303 into a tunnel of 2.9km. The results of the Preliminary Outline OUV Assessment informed English Heritage and National Trust's joint response to the feasibility study in August 2014, alongside advice provided by Wiltshire Council as part of the TWG. The assessment report was transmitted to the World Heritage Centre in October 2014 and passed on to ICOMOS for consideration.

Investment Announcement

The results of the feasibility study informed the UK Government announcement of 1st December 2014 that it would invest in upgrading the road to four lanes and in a tunnel of "at least 2.9km" to improve the A303 through the WHS. Based on the highest performing heritage option in the Preliminary Outline OUV Assessment, this involved a potential road improvement to the south of the existing A303 centred on a tunnel of at least 2.9km in length.

The announcement confirmed that the A303 Stonehenge section (officially known as A303 Amesbury to Berwick Down) was to be included in phase one of the Roads Investment Strategy (RIS), with funding dependent on a scheme being approved and commencing before the end of the RIS in April 2020.

State Party view on the principle of a road improvement based around a tunnel of at least 2.9km in length

It is the view of the State Party that a road improvement scheme based around a sensitively designed and located, twin-bored tunnel of at least 2.9km has the potential to maximise the enormous benefits of removing the surface road from the WHS, whilst minimising the harmful impacts of any tunnel scheme whose portals lie within the WHS boundary.

In considering any such potential scheme, we will give great weight to the conservation of the OUV of the WHS as expressed in the 2013 Statement of OUV. This includes but is not exclusive to: the physical impacts upon sites & monuments relevant to OUV; the relationships between groups of sites and monuments within the landscape as well as the relationships between those sites & monuments and Stonehenge; the potential effects of any scheme upon significant astronomical alignments relevant to OUV; the visual intrusion of new infrastructure within this “landscape without parallel”. We will also consider any proposals in terms of their potential impact upon significant archaeology of periods earlier or later than the Neolithic and Early Bronze Age, both within and without the WHS, given the very rich archaeological potential for all periods.

Implementation

In February 2015, DfT tasked the Highways Agency (as of 1st April 2015 renamed Highways England) with the delivery of the A303 Stonehenge improvement. Highways England established a Heritage Working Group to enable the continuation of the upstream advice provided by the heritage bodies and Wiltshire Council during the feasibility study. From April 2015 onwards this advice has been provided by English Heritage Trust, Historic England, the National Trust and Wiltshire Council.

Early engagement with the World Heritage Centre (WHC) and ICOMOS

Highways England was advised in the spring of 2015 that early engagement with the WHC and ICOMOS to secure their ongoing advice should be central to the development of an acceptable scheme for the WHS. As a result of this the State party invited an initial UNESCO/ICOMOS Advisory Mission which took place in October 2015.

This initial mission was designed to allow the WHC and ICOMOS to familiarise themselves with the WHS and its landscape, to consider the capacity of the WHS to accommodate a road improvement scheme based around a tunnel of at least 2.9km, and to meet a wide range of local and national stakeholders, including community representatives. Given the early stage of the potential road improvement, no plans were available to inform the Advisory Mission, which focussed on the corridor within which a scheme might be located. The ICOMOS technical report for the Mission was issued in

early April 2016 (Appendix 2).

The April 2016 ICOMOS report has been very influential in Highways England's development of route options within the WHS. Soon after the report publication, Highways England formed a World Heritage Centre and ICOMOS Mission Working Group to focus on how best to implement and absorb the recommendations made in the April 2016 report. The Working Group also advises on how best to maintain an ongoing dialogue to secure the iterative advice of the Centre and ICOMOS throughout the life of the project. The Working Group comprises representatives of Highways England, their consultants Arup Atkins Joint Venture, Historic England, English Heritage, the National Trust, Wiltshire Council and DCMS.

Highways England is committed to continuing engagement with the Centre and ICOMOS throughout the life of the potential road improvement. A second Advisory Mission to consider the emerging route option proposals took place in February 2017 – the ICOMOS Technical Report is expected by the end of March 2017 and it is understood will be made available for consideration by the World Heritage Committee at its 2017 session.

Planning Process and Statutory Consents

Under the Planning Act 2008, the proposed road improvement is classed a Nationally Significant Infrastructure Project (NSIP) and will be considered by the English Planning Inspectorate under the Development Consent Order (DCO) process rather than as a planning application determined by the local planning authority, Wiltshire Council.

The DCO regime works to a statutory time-frame and is heavily geared towards pre-application engagement and consultation with stakeholders. At the time of writing, Highways England has just completed an initial, non-statutory round of public consultation on the emerging route options. This first round of public consultation is not a legal requirement but reflects Highways England's commitment to good practice in developing a consent application. The February 2017 World Heritage Centre and ICOMOS Advisory Mission was scheduled to coincide with this initial round of public consultation. There have been a wide range of responses to the public consultation which range from outright opposition to the scheme to support for it.

A further, statutory round of pre-application consultation on the emerging scheme will take place in the autumn of 2017, with the intended submission of a DCO application in the summer of 2018. The consideration of the potential road improvement by the World Heritage Committee in July 2017 is therefore well timed to enable the Committee's advice to be taken into account by Highways England ahead of the second round of pre-application public consultation.

The submission of the DCO application in summer 2018 triggers a fixed, statutory time-frame for the consideration and determination of the scheme. A six month phase of pre-examination consultation is followed by an examination in public (an inquisitorial process led by the Planning Inspectorate) in early 2019. This stage can take up to six months,

leading to a recommendation to grant or refuse consent in autumn 2019. The ultimate decision is made by the Secretary of State in late 2019 and there is then a fixed window of six weeks for any Judicial Review of the decision by appellants. This overall timescale allows for implementation to commence before the end of the RIS period upon which funding is contingent.

Public Consultation on route options, January-February 2017

As described above, this initial phase of public consultation was non-statutory. It focused on two options, both of which were based around a twin-bored tunnel of at least 2.9km, whose course ran beneath the landscape to the south of the present A303 road. The two options taken to consultation were labelled D061 and D062. D061 involves a north bypass of the village of Winterbourne Stoke to the west of the WHS, whilst D062 would provide a southern bypass of this settlement. A plan showing the two options taken to public consultation in January 2017 is attached as Appendix 3. These options formed the basis of the recent Advisory Mission by the Centre and ICOMOS. The key characteristics of the two options are:

Common to both options:

- An eastern portal location to the east of the Stonehenge Avenue, as recommended in the April 2016 ICOMOS report. This allows the line of the Avenue, currently bisected by the A303 to be reinstated.
- A fully twin-bored tunnel of at least 2.9km, re-routed to the south of the current A303
- A western portal to the south of Normanton Gorse woodland
- Complete removal of the current A303 road from the eastern portal location across to the west boundary of the WHS at Longbarrow roundabout
- Removal of Longbarrow roundabout and a new A303/A360 junction to be located outside the WHS

Specific to D061

- Within the WHS, west of the western portal, the proposed new surface road bisects the area of woodland known as The Diamond and exits the WHS approximately 600m south of the current Longbarrow roundabout
- Outside of the WHS, the new road swings north to provide a northern bypass for Winterbourne Stoke before joining the existing A303 dual carriageway at Berwick Down

Specific to D062

- Within the WHS, west of the western portal, the proposed new surface road runs south-west through the southern part of The Diamond and follows a low contour to exit the WHS approximately 1.2km south of Longbarrow roundabout
- Outside of the WHS, the new road continues westwards to provide a southern bypass for Winterbourne Stoke before joining the existing A303 dual carriageway at Berwick Down

Historic England's position on the options taken to public consultation

Historic England (the State Party's historic environment advisor) submitted a formal response to the public consultation to Highways England on 3rd March 2017. A copy is included as Appendix 4. To inform their response to the proposals, Historic England, together with the National Trust, jointly commissioned a further Outline OUV Assessment of the options D061 and D062. This used the same assessment criteria as the 2014 *Preliminary Outline OUV Assessment* and a copy of this document is also attached as Appendix 5.

Historic England's response to the proposals can be summarised as:

For both options:

The tunnel of at least 2.9km

The tunnel would remove the majority of the damaging and intrusive surface A303 from the Stonehenge World Heritage Site, enabling people to explore it better. As recognised in the 2015 Stonehenge and Avebury WHS Management Plan, the WHS landscape is split in two by the current A303 with tens of thousands of vehicles travelling past Stonehenge every day. The heavy traffic and constant noise from the road compromises people's enjoyment and understanding of the monument. The road cuts Stonehenge off from much of the surrounding ancient landscape and many other prehistoric monuments.

Removing the A303 with a twin-bored tunnel of at least 2.9km would enable the public to walk from the northern part of the World Heritage Site and explore the many monuments and extensive ancient landscape lying to the south of the A303.

Historic England believes the removal of the damaging surface road and its diversion into a tunnel of at least 2.9km would deliver significant benefits for the OUV of the WHS, including its protection and transmission.

Eastern Portal

The tunnel's eastern portal would allow for the reinstatement of the line of the Stonehenge Avenue. This is considered to be a major improvement on the present

surface road, because it would allow the line of the Stonehenge Avenue to be reinstated where it is currently severed by the busy A303. This would have a major positive impact upon OUV and would significantly enhance this area of the WHS. While this is a big step forward, it is critical that the infrastructure is designed and located sensitively if this improvement is to be properly realised.

Western Portal

The proposed western portal for the tunnel needs significant improvement. This is because its location as currently shown is in relatively close proximity to and impacts adversely on the Normanton Down barrow group – one of the key groups of ceremonial and funerary monuments within the World heritage property. In addition the location of the portal on the shoulder of Normanton Down will cause a major adverse effect on OUV because of its impact on the inter-visibility between key monument groups, such as the Normanton Down, Lake and Winterbourne Stoke Crossroads barrow groups. Inter-visibility of monuments and their relationship to each other is one of the seven attributes of OUV

For D061:

The new surface road west of the western portal would sever the group of newly identified long barrows and hengiform monument to the west of The Diamond woodland. Together with previously-known Neolithic and Bronze Age sites and monuments these have now been allocated a new monument group – the Diamond Group. The impact of the new surface road in severing the members of the Diamond Group would lead to a significant adverse impact upon OUV.

For D062:

The new surface road west of the western portal lies close to the midwinter solstice sunset alignment as viewed from Stonehenge, and the new A303/A360 junction proposed within The Park to the west of the WHS boundary also appears to be close to this alignment. Careful assessment will be required to understand the nature of these impacts upon OUV, and if they are identified as adverse, the scheme must be revised to avoid causing harm to the WHS

State Party Conclusion

The State Party retains its published commitment for the UK to set a global standard in the management of its world heritage properties. We believe that a well-designed and carefully-situated road scheme could have a transformational impact on the landscape of the WHS, reuniting the ancient landscape and enhancing the OUV of the site. The Nationally Significant Infrastructure Project planning process and the positive approach to heritage adopted by Highways England offers an opportunity to achieve these aims and allows for the constructive engagement of the Committee and ICOMOS in providing advice on the protection and enhancement of OUV. The NSIP procedure also allows the advice of national and local heritage agencies and the views of civil society to be taken

into account in the planning process. The latter point is particularly important, in light of the diverse range of views about the most appropriate way of resolving the currently unsatisfactory situation. The clear expression of these views will in due course inform the recommendation of the Planning Inspectorate and the decision of the Secretary of State on the improvements to the A303.

5. Public access to the state of conservation report

The State Party is content for the full report to be uploaded to the World Heritage Centre's State of Conservation Information System.

6. Signature of the Authority

Ms Hannah Jones

Senior Heritage Policy Advisor (World Heritage and Underwater Cultural Heritage)

APPENDIX 16 State of Conservation Report, 2018

STONEHENGE, AVEBURY AND ASSOCIATED SITES (UNITED KINGDOM) C373bis

1. Executive Summary of the report

In accordance with Decision 41 COM 7B.56, the United Kingdom State Party has produced a State of Conservation Report (SOCR) for the Stonehenge, Avebury and Associated Sites World Heritage Site.

This SOCR updates the Committee on changes made to the evolving A303 trunk road proposals in response to the 2017 WH Committee decision and the technical advice of the June 2017 Advisory Mission report. This updates the report which was submitted to the World Heritage Centre on March 30 2017.

Specifically, in response to the Committee's decision, this report provides updated information on the proposed A303 improvement within the WH property, including changes made to protect and transmit the OUV of the property through the scheme design and associated mechanisms. It provides information on road scheme options to which the Committee recommended further consideration should be given and reports on progress made in implementing the recommendations of the 2015 and 2017 Advisory missions.

The report is structured according to the format provided by the World Heritage Centre. The clauses of the World Heritage Committee decisions are given in italics and indented. The response of the State Party is not indented and does not use italics.

2. Response from the State Party to the World Heritage Committee's Decision, paragraph by paragraph.

The World Heritage Committee,

1. *Having examined Document WHC/17/41.COM/7B.Add,*
2. *Recalling Decision **35 COM.7B.116**, adopted at its 35th session (UNESCO, 2011),*
3. *Takes note with satisfaction of the management achievements, and progress with implementation of previous Committee Decisions, to address protection and management issues identified in the Statement of Outstanding Universal Value (OUV) for the property.*
4. *Commends the State Party for having invited two Advisory missions to advise on the process for determining and evaluating options for the proposed upgrading of the main A303 road across the property, as part of a wide major infrastructure project;*

Since the 2017 meeting of the World Heritage Committee, a third Advisory mission was invited by the State Party and took place from 5th to 7th March 2018. The purpose of the Advisory mission was to enable the State Party to receive the views of the World Heritage Centre and ICOMOS on the scheme for the proposed A303 road improvement which is the subject of public consultation at the time of writing.

5. *Expresses concern that the 2.9km Stonehenge tunnel options and their associated 2.2km of dual carriageway approach roads within the property that are under consideration, would impact adversely the OUV of the property;*

In response to World Heritage Committee Decision 41 COM 7B.56, the feedback from UK heritage bodies and from the wider UK heritage sector and from civil society, concerning the potential negative impact upon the OUV of the WH property of the 2.9km tunnel options consulted upon in January-February 2017, Highways England significantly modified the proposed scheme.

The new scheme proposal has been pulled back from the SW quadrant of the property to take a new alignment close to the south side of the present A303 surface road. This resolves the previous scheme impacts on the winter sunset solstitial alignment as viewed from Stonehenge – the revised scheme infrastructure has no interaction with this key astronomical alignment, with the proposed western tunnel portal and new surface approach road situated well to the north-west of the previous scheme. By pulling the route alignment back to closely follow the current surface A303, the new road avoids impacting adversely upon the setting of the two new long barrows identified during archaeological field evaluation in 2016.

The new alignment also means that the length of new road within the western part of the property is reduced to c.1km. The route now proposed also has a significantly reduced impact upon the setting of the property by avoiding:

- the need for a large cutting through the crest of Oatlands Hill, which forms the backdrop to the property in its SW quadrant (i.e. to the south and west of the current surface A303), or
- a new junction just outside the SW corner of the property at The Park, where geophysical survey has identified a previously-unknown Bronze Age round barrow cemetery.

The revised scheme proposal removes an adverse impact on the setting of the Normanton Down barrow cemetery by positioning the western portal in a less obtrusive location to the north-west of the barrow group.

The length of bored tunnel would be c. 3 km and has been extended westwards by a further c. 200 metres of cut-and-cover tunnel which serves two purposes:

- it positions the point where traffic emerges from underground to a location near the head of a shallow dry valley, which minimises the visual intrusion as viewed from Normanton Down; and
- it allows the post-construction reinstatement of the land-form above the cut-and-cover section to match the existing ground surface thus helping to protect the setting of the Normanton Down barrow group.

The new route from the western tunnel portal to the western edge of the property has been designed to be in a c. 8m deep cutting, with vertical sides and rounded grassed shoulders. This option would minimise the land-take for the new road within the WHS, while the depth of cutting will remove the visual intrusion of the moving traffic, particularly heavy goods vehicles, from the sightlines between many of the groups of sites and monuments that convey the OUV of the property.

At the western boundary of the property, where the current surface A303 has a junction (Longbarrow Roundabout) with the current surface A360 road, the new scheme proposal will completely remove the present, highly intrusive roundabout. A replacement junction will be positioned some 600m beyond the western boundary of the World Heritage property. This will also remove c.600m of the A360 to both the north and south of the present Longbarrow Roundabout (a total of c.1.2km) and reposition it away from the property to connect with the new junction. This will have a positive impact upon the OUV of the property, with a substantial improvement on the setting of the Winterbourne Stoke barrow group and the

recently identified Diamond group of sites and monuments that convey the OUV of the property.

The new junction 600m beyond the western boundary of the World Heritage property and the new A303 road within the property will all be free of lighting (although the interior of the tunnel itself will need to be lit), thus having a positive impact upon dark skies and the appreciation of astronomy compared with the current surface road and Longbarrow Roundabout.

The site of the current Longbarrow Roundabout and the redundant sections of the current A303 both within and without the property, plus the redundant sections of the A360 north and south of Longbarrow Roundabout, will be removed of all current infrastructure and returned to traditional Wiltshire chalk-land byways for walkers, cyclists, and horse riders.

At the eastern end of the bored tunnel within the World Heritage property, a second extension to the tunnel of c.100 metres has been designed to achieve a location for the eastern portal with the minimum level of visual intrusion which optimises the beneficial effects of removing the current surface road within this part of the WHS. The revised location offers a greater degree of landscape mitigation for the eastern portal, which will only be visible from close-up viewpoints.

Whilst some impacts may occur on the setting of heritage assets beyond the scope of WHS inscription, such as an Iron Age hillfort and an 18th century Registered Park and Garden which lie farther to the east of the eastern portal location, the proposed location of the eastern portal will avoid any negative setting/visual impacts to sites and monuments that convey the OUV of the property. The relocation of the portal some 100 metres east of the 2017 location further protects the Stonehenge Avenue, which is now located c.150 metres west of the portal site (and whose previous location in the 2017 consultation was based on the recommendation of the 2015 Advisory mission).

It will also completely remove the intrusive impact of the current surface road and its heavy traffic when viewed from Woodhenge and Durrington Walls henge. From the eastern portal to the eastern boundary of the World Heritage property, the new scheme proposal lies almost entirely within the existing highway boundary and will largely re-use the existing highway infrastructure.

6. *Urges the State Party to explore further options with a view to avoiding impacts on the OUV of the property, including:*

1. *The F10 non-tunnel by-pass option to the south of the property,*
2. *Longer tunnel options to remove dual carriageway cuttings from the property and further detailed investigations regarding tunnel alignment and both east and west portal locations;*

Following Committee Decision 41 COM 7B.56 the State Party gave further consideration to both F10 and longer tunnel options before the preferred route was announced. This consideration was based on the evidence provided by Highways England as part of the development of the route options which were discussed during the 2017 Advisory mission. The State Party concluded that neither F10 nor the longer tunnel options were viable but acknowledges that although the evidence that had been submitted to the 2017 Advisory mission was extensive, the reasons why these particular routes were not deliverable had not been clearly articulated. Further work has been undertaken by Highways England to better collate the evidence and set out more clearly the reasons why neither the F10 southern

bypass nor the longer tunnel option are deliverable. This information was presented by Highways England to the 2018 Advisory mission and is summarised below.

F10 non-tunnel bypass.

In cultural heritage terms, although the bypass around the southern edge of the property could result in a lower impact upon the property from new infrastructure development, there would still be impacts upon the setting of the property given the proximity of the F10 route alignment to the south of it. The landscape to the south of the WHS property is itself a very rich archaeological landscape which contains a high potential, as revealed by archaeological investigations not associated with the proposed road improvement, to contain extensive sites and monuments relevant to the period of OUV for which the property is inscribed. In response to a question about the F10 route from a member of the March 2018 World Heritage Centre/ICOMOS Advisory Mission, Professor Sir Barry Cunliffe, said that, given the high archaeological potential of the land to the south of the property route F10 would likely impact more heavily on significant archaeology of the Neolithic and Bronze Age periods, compared to the known, low potential for significant archaeology relevant to the period of OUV within the footprint of the currently proposed scheme within the WH property. He also referred to the boundary having been established over thirty years ago and that it would be the subject of review.

There is a further critical disadvantage of F10 for the WH property as a result of its poor performance in dealing with traffic flows. Because the F10 route would involve a total diversion from the current A303 of 22km and because its principal junctions would be located significant distances away from their current locations, it would not resolve the chronic traffic issues which blight the local road network within and beyond the Stonehenge component of the WH property. In these circumstances it is almost inevitable that the current surface A303 through the WHS would need to remain open to traffic to provide the required connectivity between local communities and to alleviate pressure on the local roads around the boundaries of the property.

The retention of the current surface A303 would negate the strategic benefit for the property that would be delivered by the proposed scheme, of removing much of the existing, intrusive surface road so that the two halves of the property to the north and south of the current road, can be reunited over a distance of c. 3.3km and the full potential of the WHS realised in terms of both its condition and the public appreciation of its full range of sites and monuments.

In natural environment terms, route F10 would have an impact upon the Rivers Avon and Till Special Area of Conservation (SAC). The SAC is protected by the European Union Nature Directive and benefits from the highest level of statutory protection. The State Party understands that an EU level designation does not equate to the same level of significance as a WHS but nevertheless the UK government is under a statutory duty to protect sites subject to an EU wide Directive. Route F10 would involve two substantial viaducts and embankments crossing the two river valleys where they are deeply incised and where the special qualities of the SAC inscription are most strongly expressed.

Given its protection by EU Directive, its poor fit with the local road network, and the overall extent of adverse environmental impact that would be caused by 22 km of new dual carriageway through currently undisturbed high value countryside, route F10 is not a viable option. It is not an option that can be supported by the State Party

Longer tunnel options – Highways England’s work to look at longer tunnel options has shown why a longer tunnel option scheme is not deliverable.

At the western end of the WH property, the rising ground to the west of the property, known as Oatlands Hill, dictates that a tunnel continuing beyond the property boundary would need to traverse the width of the hill before it could emerge where the ground begins to descend into the Till valley, east of Winterbourne Stoke. This would extend the tunnel westwards at least 1.8 km, at an additional cost of c. £540m. The extension would be impractical in terms of accommodating a safe new junction connection with the A360 which would have to remain on its existing alignment at the western boundary of the WHS property. As well as reducing the benefit for the Winterbourne Stoke Barrow Group by the retention of the A360 in its current alignment, the location of the new junction so far west of its optimum location would mean that local communities would still suffer from rat-running traffic. The substantial additional cost entailed in this would make it unlikely ever to be achieved, particularly when assessed in relation to what the State Party sees as the limited additional heritage benefits that would be delivered by this option above those offered by the current scheme.

At the eastern end of the proposed scheme the presence of the River Avon makes it impossible to create a tunnel portal just beyond the WH boundary without the construction having an unacceptable impact on the Rivers Avon’s international status as a Special Area of Conservation (SAC). To the east of the Avon, the proximity of the Solstice Park junction and the rising ground means that the tunnel would have to be extended at least 4 km eastwards, at an additional cost of c. £1.2 billion, before it could emerge at a suitable location. The extension would remove the existing A303 junctions with the A345 at Countess Roundabout and at Solstice Park, wholly disrupting the operation of the road network both locally and more widely, with consequent adverse impacts on nearby communities. As with the western extension, while the eastern extension of the tunnel could secure some degree of heritage benefit, the stated disadvantages and additional cost mean that this would be an extremely poor value for money option. It is not an option that could be supported by the State Party.

A longer tunnel with the eastern portal further east than that shown in the proposed scheme but still within the WH property would cause greater impacts on nationally-important designated sites such as Vespasian’s Camp Iron Age Hillfort and the Grade II* Registered Park & Garden (RPaG) at Amesbury Abbey. In addition it would impact negatively on the nationally-important Mesolithic site recently discovered at Blick Mead, just east of Vespasian’s Camp and within the RPaG. Most significantly, but not related to heritage, a tunnel portal further east within the WH property would harmfully impact the groundwater flow to the River Avon SAC and would not secure planning consent.

7. *Encourages the State Party to address the findings and implement the recommendations of both Advisory missions and to invite further World Heritage Centre/ICOMOS Advisory missions to the property, to be financed by the State Party, in order to continue to facilitate progress towards an optimal solution for the widening of the A303 to ensure no adverse impact on the OUV of the property;*

Substantial, positive progress has been made in implementing the recommendations of both mission reports. Notable achievements, beyond those mission recommendations covered elsewhere within this SOCR include:

- The establishment of the independent Scientific Committee of eminent archaeologists who are subject-matter experts in the heritage of the WHS. Chaired by Professor Sir Barry Cunliffe, the Committee plays an active part in advising on the scope and standards of archaeological assessment, evaluation and (ultimately) mitigation to be applied to the proposed scheme. The Committee also considers and

provides advice on matters relating to the OUV of the property. The Committee also includes representatives of the Heritage Management and Advisory Group (HMAG) who are members on behalf of their respective organisations: Historic England; English Heritage Trust; National Trust and Wiltshire Council.

- The implementation of studies into future visitor behaviour after the removal of the existing A303, including sustainable tourism management and 'masterplanning' for the future interpretation of the WHS and transmission of its OUV have been commissioned and a landscape-wide strategy is currently being developed.
- A legacy for the WH property, based on the vision enshrined in the 2015 WHS Management Plan is being developed in partnership with the WHS Coordination Unit and stakeholders. This is designed to produce proposals to achieve significant benefits for the WH property which will be considered for inclusion with the future scheme consent application.
- A wider consultative engagement with stakeholders and civil society has been achieved through the establishment of a Local Community Forum and by establishing scheme links and liaison with stakeholder groups such as the Avebury and Stonehenge Archaeological and Historical Research Group (ASAHRG). In addition direct stakeholder contact has been set-up as an integral part of Advisory mission business, with a substantive face-to-face session taking place as part of the latest, March 2018 Advisory mission.

The State Party is committed to maintaining substantive dialogue with the WH Centre and its advisory bodies through an ongoing and iterative series of advisory missions at appropriate junctures in the development of scheme proposals. The latest, third, Advisory mission has just concluded, having run from the 5th to 7th March 2018. Consideration will be given to further advisory missions as appropriate.

8. *Requests the State Party to manage the timing of the consent and other statutory processes for the A303 trunk road project to ensure that the World Heritage Centre, ICOMOS and the World Heritage Committee can continue to contribute to the evaluation and decision-making processes at appropriate stages;*

The State Party has secured the adjustment of the consent and other statutory processes for the A303 trunk road so that the advice of the March 2018 Advisory mission and the decision of the 2018 WH Committee will be received and thoroughly considered before the A303 proposals are submitted as a Development Consent Order (DCO) application, likely to be in the Autumn of 2018. Likewise, any further decision by the WH Committee at its 2019 session will also be thoroughly considered by the State Party ahead of any decision on whether to grant the scheme its Development Consent Order.

3. Other current conservation issues identified by the State(s) Party(ies) which may have an impact on the property's Outstanding Universal Value

There has been progress in several areas that will benefit the World Heritage property over the twelve-month period since the Committee last considered the state of conservation of the property in 2017. There remain ongoing challenges in areas that have been identified in the Protection and Management Requirements section of the Statement of OUV and in the most recent completed cycle of Periodic Reporting for Europe in 2013. Positive developments are summarised below as well as the ongoing challenges including the proposals for the improvement of the A303.

Progress towards establishing an independent and sustainable Stonehenge and Avebury World Heritage Site Trust

The World Heritage Site Management Plan Policy 8b underlines the need to seek adequate funding for the coordination of the WHS and the implementation of the Management Plan. The World Heritage property partners are in the process of establishing an independent trust. The trust is designed to ensure that the arrangements for the overall management of the World Heritage property and the delivery of the Management Plan are both adequately resourced and sustainable. This is particularly important in a time of reduced public sector funding in the United Kingdom where diversifying income is a key to sustainability. The current World Heritage Site Coordination Unit relies solely on public funding from Wiltshire Council and Historic England.

World Heritage property partners, with assistance from a Heritage Lottery Fund Resilient Heritage grant, are supporting an evidence-based strategic development programme which will include the transition of the planning, coordination, monitoring and advice function to an independent trust. Strengthened governance and revitalised relationships with partners and stakeholders will underpin a trajectory towards sustainable growth. The establishment of an independent trust will greatly enhance the potential to raise funds and thereby add substantial value to the World Heritage property, its partners and the wider community. The additional funding will enable the World Heritage Site Trust to progress significantly with the implementation of the Management Plan and deliver the ambitious landscape scale strategies envisaged in it. Related interpretation projects will encourage greater understanding of the significance of the whole World Heritage property and deeper engagement with its protection and management.

World Heritage Property Setting Study and Boundary Review

There is a specific and robust policy in the Local Development Framework to protect the Outstanding Universal Value of the property from inappropriate development, along with full references in relevant strategies and plans at all levels. The Wiltshire Core Strategy, formally adopted on 20th January 2015, includes a specific World Heritage Property policy. Policy 59 requires that precedence should be given to the protection of the WHS and its OUV. This policy also advises that additional planning guidance be produced to ensure its effective implementation. Work on the setting study proposed as part of this guidance has reached the detailed draft brief stage. This has been developed with the input of a range of heritage and landscape expert partners. The work will be commissioned in the coming year. The study is designed to provide guidance on the identification of the setting and the type of development that is likely to have an impact on it and the World Heritage and its OUV. It will also provide advice on the nature of evidence likely to be required from developers.

The study will be informed by the Statement of OUV and identified attributes as well as Historic England's Guidance on the *Setting of Heritage Assets* Historic Environment Good Practice Advice in Planning Note 3 (Second Addition) 2017. This sets out guidance against the background of the National Planning Policy Framework and related guidance in the Planning Practice Guide on managing change within the setting of heritage assets. The ICOMOS *Guidance on Heritage Impact Assessments for Cultural World Heritage Properties* (2011) will also inform the study. These existing documents today form a robust basis for the assessment of impact on the World Heritage property through change in its setting and inform the approach to assessing impact in current development proposals.

The boundary review at Stonehenge will be progressed following completion of the setting study.

Conservation: Cultivation and Burrowing Animals

The first joint Stonehenge and Avebury WHS Condition Survey was produced in 2012. The summary of this joint Condition Survey noted a positive change to the overall condition of monuments. This analysis was confirmed by the broad stability of monuments in good and fair condition. These encouraging findings result from a great deal of positive management of the attributes of OUV by the partners engaged in both parts of the World Heritage property including national organisations and local landowners and farmers.

The results of the Condition Survey show that the two most significant threats to the physical remains that contribute to the OUV continue to be cultivation and burrowing animals. There has been a significant increase in the presence of the latter over the decade since the preceding condition surveys. Work to protect vulnerable monuments from damage by cultivation and from badgers and other burrowing animals are therefore two of the key priorities of the World Heritage Management Plan (2015).

Agri-environment schemes remain the most effective response to protecting sensitive archaeology from damage through cultivation. These schemes are extremely important for protecting the physical remains and enhancing the setting of prehistoric monuments through measures such as grassland restoration and scrub control. At Stonehenge around 40% of the WHS landscape is in environmental stewardship helping to protect and/or enhance the setting of c. 500 historic features. At Avebury too around 40% of the WHS is in these schemes which benefit c. 300 historic features.

Work on designing a brief for the World Heritage Property Burrowing Animal Strategy will continue this year. Funding will be sought to undertake the necessary baseline studies and, following a review of existing research, the design of an innovative landscape scale strategy for managing this impact.

Roads and Traffic

Despite the very substantial progress delivered by the closure of the A344 the impact of roads and traffic remains a major challenge in both parts of the World Heritage property. The dominance of roads, traffic and related clutter continues to have a harmful impact on integrity, the condition and setting of monuments and the ease and confidence with which visitors and the local community are able to explore the wider property. At Stonehenge the A303 remains a problem. The current Highways England scheme and its ability to address these issues is discussed above in relation to the WH Committee 2017 decision.

At Avebury, a strategy has been developed to identify a set of actions to address road and traffic related challenges, which include the impact of A4 on the setting of Silbury Hill and other attributes of OUV, and the erosion to some areas of the West Kennet Avenue where a minor road passes over and alongside the monument. This Avebury WHS Transport Strategy (2015) <http://www.stonehengeandaveburywhs.org/assets/Avebury-WHS-Transport-Strategy-2015.pdf> takes a holistic approach to road and traffic issues within the WHS. It has established an approach and recommended schemes agreed by delivery partners, curators, managers and representatives of the local community to balance the concerns of all parties and safeguard the WHS while retaining a viable transport network. It includes a set of design principles and specific outline schemes.

Work has been undertaken during the last twelve months in partnership with the local community to produce initial feasibility studies for some of the schemes proposed in the Strategy. This includes work related to the narrowing of the A4 to reduce its dominance in the landscape by calming traffic and encouraging exploration of the WHS. This will be even more important if visitor numbers see an increase during development of the A303 improvement scheme or in response to The Great West Way initiative to develop a tourist route along the A4 from London to Bristol. In addition, Wiltshire Council has indicated that they are willing to progress with work to further the move to a Traffic Regulation Order on the

Ridgeway National Trail; a Byway Open to All Traffic (BOAT) in the Avebury half of the World Heritage property where motorised traffic is currently causing damage to archaeology.

4. In conformity with Paragraph 172 of the Operational Guidelines, describe any potential major restorations, alterations and/or new construction(s) intended within the property, the buffer zone(s) and/or corridors or other areas, where such developments may affect the Outstanding Universal Value of the property, including authenticity and integrity.

Army Rebasing 2020

The Ministry of Defence has progressed with the planned development north of Stonehenge at Larkhill Garrison, which is part of the Rebasing 2020 project. The final location and design of this scheme has demonstrated sensitivity to the protection of the WHS and its setting. It is important that any additional or consequential development continues to take into account the need to protect the World Heritage property and its OUV.

Future Boscombe Down Development: Boeing Defence UK New Aircraft Hub

This development in the setting of the Stonehenge part of the World Heritage property is at the master planning stage. This is a major project that aims to redevelop the existing military airfield to the southeast of the World Heritage property near Amesbury to include a Boeing 'centre of excellence' for its UK business. A possible 1500 new jobs have been discussed.

The developers have been asked to produce an HIA following ICOMOS guidance. It is essential that any proposal brought forward identifies and adequately mitigates any harmful impacts on the World Heritage property and its OUV.

It will be important to assess cumulative and consequential impacts of development in the setting of Stonehenge from this proposed major development, the Army Rebasing project and the A303 scheme as well as planned expansion of housing. High level strategic engagement is required to ensure infrastructure planning is coordinated to minimise intrusion in the setting of the World Heritage property and avoid harm to OUV.

5. Public access to the state of conservation report

Note: this report will be uploaded for public access on the World Heritage Centre's State of conservation Information System (<http://whc.unesco.org/en/soc>).

The State Party agrees that the full state of conservation report should be made publicly available via the WH Centre's Information System

6. Signature of the Authority

APPENDIX 17 State of Conservation Report, 2019

STONEHENGE, AVEBURY AND ASSOCIATED SITES (UNITED KINGDOM) C373bis

1. Executive Summary of the report

In accordance with Decision 42 COM 7B.32, the United Kingdom State Party has produced a State of Conservation Report (SOCR) for the Stonehenge, Avebury and Associated Sites World Heritage Site.

This SOCR updates the Committee on changes made to the evolving A303 trunk road proposals in response to the 2018 WH Committee decision, the technical advice of the March 2018 Advisory Mission report and the previous Committee decisions and advisory mission reports.

Specifically, in response to the Committee's decision, this report provides updated information on the proposed A303 improvement within the WH property, including changes made to protect and transmit the OUV of the property through the scheme design and associated mechanisms. It provides information on road scheme options to which the Committee recommended further consideration should be given and reports on progress made in implementing the recommendations of the advisory missions.

The report is structured according to the format set out in the *Operational Guidelines*. The clauses of the World Heritage Committee decisions are given in italics and indented. The response of the State Party is not indented and does not use italics.

2. Response from the State Party to the World Heritage Committee's Decision, paragraph by paragraph.

The World Heritage Committee,

- 1. Having examined Document WHC/18/42.COM/7B.Add,*
- 2. Recalling Decision **41 COM.7B.56**, adopted at its 41st session (Krakow, 2017),*
- 3. Commends the State Party for inviting three Advisory missions to advise on the proposed upgrading of the main A303 road, (which currently bisects the property), as part of a major infrastructure project;*
- 4. Notes the additional investigations undertaken by the State Party to consider the southern surface (F10) by-pass route and alternative alignment and longer tunnel options to remove dual carriageway cuttings from the property, and further detailed investigations regarding tunnel alignment and both east and west portal locations;*
- 5. Also notes the findings and recommendations of the 2018 Advisory mission, particularly that, although the current 'Proposed Scheme' shows improvement compared with previous plans and would also improve the situation in the centre of the property, the rigorous investigation, evaluation, iterative design and assessment process has revealed that, if the current length of tunnel solution is pursued, the damage inflicted by the dual carriageway cuttings would impact adversely on integrity and the Outstanding Universal Value (OUV) of the property, and therefore the proposed A303 upgrade project should not proceed with the current length of the tunnel;*
- 6. Notes with concern the impacts of the current design of the dual carriageway on the property, especially at the western end;*

7. *Urges 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;*

This part of the Committee's decision was instrumental in ensuring that the Department for Transport agreed, in July 2018, to additional mitigation measures that were the subject of supplementary public consultation following receipt of the 2018 mission report.

These measures relate specifically to the 'green' land bridge at the western end of the World Heritage property which has been extended from 50m to 150m in length to enhance the physical and visual connectivity between the Winterbourne Stoke barrow group to the north of the existing A303 and the Diamond barrow group to its south. The extension of the land bridge, together with extensions to the overall tunnel length to almost 3.3km, reduces the total length of road in open cutting to 800m.

In addition, The State Party has followed the Committee's recommendation to continue to explore the potential for additional design refinements with a view to avoiding impact on the OUV of the WHS. This work has involved consideration by Highways England of the extent to which extension of the tunnel to the west with the portal outside the WHS boundary, or the covering the open cutting, would avoid adverse impact on OUV. Technical feasibility, public value and cost were also considered. This work is summarised in the attached Annex B.

The annex sets out the consideration that has been given to extending the bored tunnel so that the western portal lies outside the western boundary of the World Heritage Site. This option would require the existing A360 and Longbarrow roundabout to be retained at their existing undesirable locations adjacent to the WHS boundary. This would partly offset the benefit of extending the tunnel and moving traffic away from the WHS as it would also result in the loss of a significant heritage benefit delivered by the currently proposed scheme, which moves Longbarrow Roundabout some 600m further away from the western boundary of the WHS and re-routes the A360. This realignment would have a beneficial impact on the Winterbourne Stoke and Diamond barrow groups, the setting of which is currently significantly compromised. The additional construction cost is estimated at £540million and the longer tunnel would also require considerable additional annual maintenance expenditure. While understanding fully our responsibilities to the Convention, the State Party does not believe that an increase in the estimated cost of the scheme from £1.7billion to £2.24billion for the tunnel extension, together with the additional on-going annual expenditure, can be justified given that it is still likely to result in an adverse impact on some attributes of OUV, given the retention of the current location of Longbarrow roundabout and the A360.

In relation to the possibility of covering more of the open cutting, the additional exploratory work considered the potential impacts upon known buried archaeological remains, including those identified through archaeological field evaluation, which convey the OUV of the World Heritage Site. In addition, consideration was given to the potential impacts on the ability to appreciate the OUV of the World Heritage Site, especially those attributes concerned with the siting of ceremonial sites and monuments in relation to the landscape and each other.

From the indicative design parameters of the proposed open cutting (the *culvert*) the cut and cover tunnel could result in a marginally wider land-take. Considering this wider land-take against the potential archaeological remains identified by the scheme's extensive programme of archaeological assessment and evaluation, it appears that little additional archaeology relevant to the OUV of the WHS would be impacted. This covering of the cutting is likely to result in a neutral overall impact on archaeological remains that contribute to OUV, compared to the proposed scheme. Any marginal additional land-take would therefore be unlikely to make any material difference to the impact of the scheme on archaeological remains considered by the Committee in July 2018.

The potential effect of minimizing the extent of dual carriageway in open cutting on the ability to appreciate the attributes of OUV concerning the siting of ceremonial sites and monuments in relation to the landscape and each other has been explored further. The currently proposed length of open cutting is 650m between the canopy of the proposed western tunnel portal with a 150m long land bridge extending to 150m from the western edge of the WHS, for a total of 800m of open cutting within the site boundaries. The heritage impact assessments commissioned by Highways England and by Historic England/National Trust, which was commended by the 2018 UNESCO/ICOMOS Advisory Mission, both assess the impacts of the proposed scheme in this area as minor adverse.

This limited impact of the open cutting is due to its position in relation to the topography of the landscape, which has been carefully chosen to minimise the visual impact of the scheme when viewed from and between sites and monuments that convey OUV. At the only point where the open cutting alignment runs relatively close to two monument groups (the Winterbourne Stoke and Diamond groups), the proposed 150m land-bridge will provide effective mitigation of landscape and visual impacts, and the scheme overall will enhance this part of the WHS compared to the major adverse impact of the current A303 and A360 surface roads and the hugely intrusive Longbarrow Roundabout.

Therefore, while additional cut and cover within the western part of the WHS would have some beneficial effect, the additional cost of reducing what is currently a minor adverse impact has to be considered very carefully.

At present the estimated cost of the scheme is £1.7bn. Of this £1.2bn is directly attributable to the measures necessary to protect and enhance the historic environment of the WHS. This benefits to cost ratio is already pushing at the limits of what can be regarded as overall public value for money and the additional estimated construction cost of £126m to cover the cutting, plus the additional recurring annual maintenance costs of an extended tunnel, cannot in the view of the State Party, be regarded as reasonable in order to reduce further an impact which had already been reduced to minor adverse.

In addition, this minor adverse impact needs to be seen in the light of the overall benefit delivered by the scheme in reuniting the landscape by the removal of almost all of the existing surface A303 trunk road within the WHS, the removal of the intrusive Longbarrow roundabout and the re-routing of the A360 to the west of the WHS boundary.

The State Party has also considered the "noise, lighting and visibility" issues raised by the Committee. The proposed scheme, including the 200m long western portal canopy, the 150m

land-bridge, the 800m of full-depth open cutting and the relocation of the current A303/A360 junction to 600m west of the WHS boundary, are all designed with the intention of minimising noise, lighting and visibility impacts upon the WHS.

In terms of road noise, the removal of much of the surface A303 and its redirection into a tunnel will substantially improve the tranquillity of the WHS compared to the present situation, where heavy traffic moves through the WHS entirely on the surface.

The proposed scheme will have no lighting within the WHS beyond that necessary within the tunnel and beneath the 150m land-bridge. There will be no lighting within the open cutting, and tunnel lighting will be designed to minimise light spill outside of the tunnel portals'. Lighting under the land-bridge will only operate during daylight hours between dawn and dusk. There will be no lighting at the new Longbarrow Junction, and the improved Countess junction will utilise new directional lighting to minimise light spill. These are significant improvements over the current situation, where both Countess and Longbarrow junctions are brightly lit.

In terms of infrastructure visibility, the scheme has committed to no signage or other vertical installations (such as security cameras, aerials, etc) 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.

Highways England submitted a Development Consent Order (DCO) application to the English national Planning Inspectorate on 19th October 2018 after due consideration of the issues considered above. The Planning Inspectorate accepted the application for examination on 16th November. Registration of interested parties, including Historic England, closed on January 11th and the examination of the DCO is likely to run for 6 months from March to September 2019. The Planning Inspectorate has up to 3 months to submit its report and recommendations to the Secretary of State, who has a further 3 months in which to make a decision.

The State Party anticipates that sufficiently detailed evidence has/will be produced by Highways England in its application and during the examination of the DCO to provide assurance that the benefits of the scheme and the minimisation of adverse impacts will be delivered in the event of consent being granted. Historic England, as the State Party's statutory adviser, has asked Highways England to ensure that sufficiently detailed information is provided so that it can be taken into account by the Planning Inspectorate and Secretary of State in reaching a decision. The detailed heritage impact assessment submitted as part of Highways England's DCO application is part of their response to that request.

In summary the State Party has responded to paragraph 7 of 42 COM 7B.32 by reducing the length of the open cutting (*culvert*) through the lengthening of the land bridge and by extending the overall length of the tunnel to almost 3.3km, and has explored options to extend the length of the tunnel and to cover the remaining 800m of open cutting. The proposed scheme will reduce noise, lighting and visibility of traffic significantly in relation to the current arrangements. The conclusions drawn are that lengthening the tunnel would not achieve the aim of avoiding minor adverse impact on OUV and would substantially increase the cost of the scheme. While covering the open cut (*culvert*) would reduce the minor adverse impact on OUV, this modest level of benefit does not justify the significantly increased cost,

particularly in the light of the overall benefit to OUV delivered by the proposed scheme. The State Party anticipates that sufficiently detailed information will be provided in the application and during the examination of the DCO to ensure that, in the event of consent being granted, the benefits to the World Heritage Site will be delivered and adverse impacts appropriately mitigated.

8. *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;*

Further detail in response to the recommendations of the 2018 Advisory Mission can be found in Annex A.

9. *Further notes that the State Party has advised that it will manage the timing of the consent and other statutory processes for the A303 trunk road project to take into account Committee Decisions and to ensure that the World Heritage Centre, ICOMOS and the Committee can continue to contribute to the evaluation and decision-making processes at appropriate stages of the project;*

The pre-application phase of the Development Consent Order process has been managed to allow for consideration of the conclusions and recommendations of the advisory missions and the decisions of the World Heritage Committee to date. The Examination of the DCO is likely to run from March to September 2019, thus allowing consideration to be given to any decision on Stonehenge that may be taken by the World Heritage Committee during the 43rd session in July 2019, following the submission of this report. The State Party has submitted relevant representations to the Planning Inspectorate to register its interest in conveying the Committee decision and any relevant supporting documentation to the Planning Inspectorate during the course of the DCO application.

10. *Also requests the State Party to submit to the World Heritage Centre, by 1 February 2019, an updated report on the state of conservation of the property and the implementation of the above, for examination by the World Heritage Committee at its 43rd session in 2019.*

The UK State party submits this report for examination by the World Heritage Committee at its 43rd session in 2019.

3. Other current conservation issues identified by the State(s) Party(ies) which may have an impact on the property's Outstanding Universal Value

Progress towards establishing an independent and sustainable Stonehenge and Avebury World Heritage Site Trust

The World Heritage Site Management Plan Policy 8b underlines the need to seek adequate funding for the coordination of the WHS and the implementation of the Management Plan. The World Heritage property partners have made significant advances towards establishing an independent trust. The trust is designed to ensure that the arrangements for the overall management of the World Heritage property and the delivery of the Management Plan are

both adequately resourced and sustainable. This is particularly important in a time of reduced public sector funding in the United Kingdom where diversifying income is a key to sustainability. The current World Heritage Site Coordination Unit relies solely on public funding from Wiltshire Council and Historic England.

World Heritage property partners, with assistance from a Heritage Lottery Fund Resilient Heritage grant, are supporting an evidence-based strategic development programme and exploring the transition of the planning, coordination, monitoring and advice function to an independent trust. Strengthened governance and revitalised relationships with partners and stakeholders will underpin a trajectory towards sustainable growth. The establishment of an independent trust will greatly enhance the potential to raise funds and thereby add substantial value to the World Heritage property, its partners and the wider community. The additional funding will enable the World Heritage Site Trust to progress significantly with the implementation of the Management Plan and deliver the ambitious landscape scale strategies envisaged in it. Related interpretation projects will encourage greater understanding of the significance of the whole World Heritage property and deeper engagement with its protection and management.

World Heritage Property Setting Study and Boundary Review

There is a specific and robust policy in the Local Development Framework to protect the Outstanding Universal Value of the property from inappropriate development, along with full references in relevant strategies and plans at all levels. The Wiltshire Core Strategy, formally adopted on 20th January 2015, includes a specific World Heritage Property policy. Policy 59 requires that precedence should be given to the protection of the WHS and its OUV. This policy also advises that additional planning guidance be produced to ensure its effective implementation. The brief for the Setting Study has now been finalised. This has been developed alongside heritage and landscape expert partners. The study is designed to provide guidance on the identification of the setting and the type of development that is likely to have an impact on it and the World Heritage and its OUV. It will also provide advice on the nature of evidence likely to be required from developers. Funding is currently being sought to commission this work.

The study will be informed by the Statement of OUV and identified attributes as well as Historic England's Guidance on the *Setting of Heritage Assets* Historic Environment Good Practice Advice in Planning Note 3 (Second edition) 2017. This sets out guidance against the background of the National Planning Policy Framework and related guidance in the Planning Practice Guide on managing change within the setting of heritage assets. The ICOMOS *Guidance on Heritage Impact Assessments for Cultural World Heritage Properties* (2011) will also inform the study. These existing documents today form a robust basis for the assessment of impact on the World Heritage property through change in its setting and inform the approach to assessing impact in current development proposals. The boundary review at Stonehenge will be progressed following completion of the setting study.

Conservation: Cultivation, Brexit and Burrowing Animals

The first joint Stonehenge and Avebury WHS Condition Survey was produced in 2012. The summary of this joint Condition Survey noted a positive change to the overall condition of monuments. This analysis was confirmed by the broad stability of monuments in good and fair condition. These encouraging findings result from a great deal of positive management of

the attributes of OUV by the partners engaged in both parts of the World Heritage property including national organisations and local landowners and farmers.

The results of the Condition Survey show that the two most significant threats to the physical remains that contribute to the OUV continue to be cultivation and burrowing animals. There has been a significant increase in the presence of the latter over the decade since the preceding condition surveys. Work to protect vulnerable monuments from damage by cultivation and from badgers and other burrowing animals are therefore two of the key priorities of the World Heritage Management Plan (2015).

Agri-environment schemes remain the most effective response to protecting sensitive archaeology from damage through cultivation. These schemes are extremely important for protecting the physical remains and enhancing the setting of prehistoric monuments through measures such as grassland restoration and scrub control. At Stonehenge around 40% of the WHS landscape is in environmental stewardship helping to protect and/or enhance the setting of c. 500 historic features. At Avebury too around 40% of the WHS is in these schemes which benefit c. 300 historic features. Agri-environment schemes currently rely on European Union funding. The UK Government is putting in place arrangements for Environmental Land Management Schemes to succeed EU funded schemes as they expire and the Agriculture Bill which is currently going through Parliament makes provision for the Secretary of State to provide financial assistance for, amongst other things, “*managing land or water in a way that maintains, restores or enhances cultural heritage or natural heritage*”

The brief for the World Heritage Property Burrowing Animal Strategy remains to be finalised. Funding will be sought to undertake the necessary baseline studies and, following a review of existing research, the design of an innovative landscape scale strategy for managing this impact.

Roads and Traffic

Despite the very substantial progress delivered by the closure of the A344 the impact of roads and traffic remains a major challenge in both parts of the World Heritage property. The dominance of roads, traffic and related clutter continues to have a harmful impact on integrity, the condition and setting of monuments and the ease and confidence with which visitors and the local community are able to explore the wider property. At Stonehenge the A303 remains a problem. The current Highways England scheme and its ability to address these issues is discussed above in relation to the WH Committee 2018 decision.

At Avebury, a strategy has been developed to identify a set of actions to address road and traffic related challenges, which include the impact of A4 on the setting of Silbury Hill and other attributes of OUV, and the erosion to some areas of the West Kennet Avenue where a minor road passes over and alongside the monument. This Avebury WHS Transport Strategy (2015) <http://www.stonehengeandaveburywhs.org/assets/Avebury-WHS-TransportStrategy-2015.pdf> takes a holistic approach to road and traffic issues within the WHS. It has established an approach and recommended schemes agreed by delivery partners, curators, managers and representatives of the local community to balance the concerns of all parties and safeguard the WHS while retaining a viable transport network. It includes a set of design principles and specific outline schemes. Such an agreed set of Design Principles would be helpful across the World Heritage property.

Work on developing more detailed plans for some of the schemes proposed in the Strategy is required. These schemes relate in part to the narrowing of the A4 to reduce its dominance in the landscape by calming traffic and encouraging exploration of the WHS. This will be even more important if visitor numbers see an increase during development of the A303 improvement scheme or in response to The Great West Way initiative to develop a tourist route along the A4 from London to Bristol. Wiltshire Council are willing to progress with work to further the introduction of a Traffic Regulation Order on the Ridgeway National Trail. At present, as a Byway Open to All Traffic (BOAT) in the Avebury half of the World Heritage property, motorised traffic is causing damage to archaeology and visual amenity. An Experimental Traffic Regulation Order was in place on the BOATs within the Stonehenge part of the property for six months from June 2018. WHS partner organisations have given very positive feedback on the results yielded by the closure for the landscape setting of monuments and greater amenity for visitors. The Experimental Traffic Regulation Order was however rescinded by court ruling and Wiltshire Council is considering whether to address the issues raised in the ruling and re-establish the Order.

Landscape Scale Strategies: Landscape Access, Sustainable Tourism, and Sustainable Transport

Funding has been secured from Highways England designated funds to support the World Heritage Site partnership in undertaking work on the Landscape Access, Sustainable Tourism and Sustainable Transport Strategies. These strategies are all actions set out in the Management Plan 2015 for the property aimed at achieving the agreed vision and aims for the property. The work will cover both the Stonehenge and Avebury landscape and deliver valuable benefits to the World Heritage Property, visitors and the local community and wider environment. Work on agreeing the scope and finalising briefs is underway.

World Heritage Site Condition Survey 2022

The World Heritage Site Condition Survey is carried out every 10 years to gain a detailed understanding of the condition of the property and provide a baseline for on-going review. The results of this survey enable an assessment of the success of conservation and management interventions and assist in planning future approaches. Partners are holding initial meetings to review our approach and agree funding for the next round of survey which it is planned will begin in 2020. The results of this survey should help to inform the response to the third cycle of Periodic Reporting.

4. In conformity with Paragraph 172 of the Operational Guidelines, describe any potential major restorations, alterations and/or new construction(s) intended within the property, the buffer zone(s) and/or corridors or other areas, where such developments may affect the Outstanding Universal Value of the property, including authenticity and integrity.

Army Rebasing 2020

Development connected with army rebasing is well advanced. Current plans have been agreed by the Local Planning Authority and curators for World Heritage Site. It remains important that any additional or consequential development continues to take into account the need to protect the World Heritage property and its OUV.

5. Public access to the state of conservation report

The State Party agrees that the full state of conservation report can be made publicly available via the WH Centre's Information System

6. Signature of the Authority

Enid Williams
World Heritage Policy Adviser
Department for Digital, Culture, Media and Sport

Annex A: Response to Recommendations of the 2018 Mission Report

Recommendations:

1. Although the Proposed Scheme shows improvement compared with previous plans, and would also improve the current situation in the centre of the Stonehenge component of the WHS, it should not proceed in its current form.

The proposed scheme has been further altered following the mission in March 2018 to ensure the protection of the World Heritage Site. The State Party believes that, subject to the provision of more detailed information, the proposed scheme offers a way forward that will deliver overall benefit to the OUV of the property and resolve the long standing adverse impacts of the existing A303.

2. Potential surface routes for the proposed dual carriageway sections of the A303 should be reconsidered outside the WHS, on the basis that Outstanding Universal Value (OUV) of the WHS should be afforded at least equal priority to other environmental considerations (including impact on Areas of Outstanding Natural Beauty and Special Areas of Conservation), and must include complete closure of the section of the A303 which runs through the WHS.

The World Heritage Committee in its 42nd Session in Manama, Bahrain in June 2018 decided to remove the recommendation in the draft decision, based on the mission's recommendation, which asked that potential surface route options outside the WHS should be reconsidered. The Committee decision 42 COM 7B.32 supersedes the mission's recommendation and consequently no further work has been done on reconsidering surface routes outside the WHS, which had already been explored exhaustively. Work instead focused on the exploration of the potential for further mitigation of the minor adverse impact of the preferred route on the westernmost part of the WHS as requested by the Committee. This work is summarised in the body of the SOCR above and is detailed in Annex B.

3. Economic modelling of route options, and particularly the 'willingness to pay' approach, should recognise that options which reduce impact on OUV (such as a longer tunnel or a complete by-pass of the WHS) may have greater community benefit than options which partially remove the surface road but have other adverse impacts on OUV.

The detailed consideration given to the longer tunnel option undertaken in response to 42 COM 7B.32 summarised in the main body of the SOCR above has demonstrated that a longer tunnel would still have an adverse impact on OUV as the Longbarrow roundabout would have to remain in its present position and the existing alignment of the A360 would have to be retained. The opportunity to eliminate the adverse impact on two key barrow groups would be lost. As noted above the Committee did not ask for any further work to be undertaken on routes by-passing the WHS. As noted above the Committee did not ask for any further work to be undertaken on routes by-passing the WHS. Given that the minor adverse impact

remains and costs significantly increase, the “willingness to pay” approach is therefore no longer relevant to these options

4. If a longer tunnel is further considered, its design (as currently presented in the Proposed Scheme) must be substantially refined to ensure the OUV of the WHS is fully respected, and this refinement should take precedence over any predetermined project programme or deadline.

Please refer to Section 2 of the main body of the SOCR above. In addition, it should be noted that Committee decision 42 COM 7B.32 refers to the overall design of the tunnel rather than length, which is only one component of the design.

5. If a longer tunnel is further considered, the western portal should be relocated to the west of the western boundary of the WHS.

Please refer to Section 2 of the main body of the SOCR above.

6. If a longer tunnel is further considered, the location of the eastern portal should be further considered with a view to relocating it well to the east of the Countess roundabout.

As detailed previously, the location of the eastern portal is optimal and the suggestion that it should be moved 4km to the east is not justified in terms of the very minor benefits to OUV in relation to the exceptionally high cost, lack of connection with local roads and the threat to waterlogged archaeological remains alongside the River Avon from extending the tunnel.

7. A sustainable tourism strategy should be prepared for the WHS in its entirety, including the Avebury component, addressing the implications of results from the previously-recommended studies on changes in visitor numbers and behaviour, and responding to the opportunities for new interpretation and visitor experience that would arise from the proposed scheme. This would also imply incorporating the WHS Avebury component presentation within the current exhibition at the Visitor Centre.

Funding has been secured from Highways England designated funds to support the World Heritage Site partnership in undertaking work on the Landscape Access, Sustainable Tourism and Sustainable Transport Strategies. These strategies are all actions set out in the Management Plan 2015 for the property aimed at achieving the agreed vision and aims for the property. The work will cover both the Stonehenge and Avebury landscape and deliver valuable benefits to the World Heritage Property, visitors and the local community and wider environment. Work on agreeing the scope and finalising briefs is underway.

8. The Scientific Committee should be empowered to provide unfettered advice on any matter, including alternative route or construction options, the archaeological methodologies to be used during the project and its own membership, experience and skill set, and should be at liberty to report directly to the Heritage Monitoring Advisory Group and UK statutory heritage bodies, not only to Highways England.

The independent Scientific Committee of eminent archaeologists who are subject-matter experts in the heritage of the WHS is now established and reports directly to the Heritage Monitoring Advisory Group. Chaired by Professor Sir Barry Cunliffe, the Committee plays an active part in advising on the scope and standards of archaeological assessment, evaluation and (ultimately) mitigation to be applied to the proposed scheme. The Committee also considers and provides advice on matters relating to the OUV of the property. The Committee also includes representatives of the Heritage Management and Advisory Group who are members on behalf of their respective organisations: Historic England; English Heritage Trust; National Trust and Wiltshire Council.

9. The impact of any further proposed schemes on the OUV of the WHS should be evaluated using the methodology outlined in the Heritage Impact Assessment Scope (AECOM, Mace, WSP February 2018), the 2017 and 2014 preliminary heritage impact assessments by Snashall & Young, and the 2011 ICOMOS Guidance on Heritage Impact Assessments for Cultural World Heritage Properties.

We are pleased that the report “considers that the methodology outlined in the Heritage Impact Assessment Scoping Report (AECOM, Mace, February 2018) is appropriate” and that future HIA work should also have regard to initial assessment work undertaken by Dr Nick Snashall and Dr Christopher Young on behalf of Historic England and the National Trust as well as the 2011 ICOMOS Guidance on Heritage Impact Assessments for Cultural World Heritage Properties. The HIA accompanying the DCO application for the scheme was prepared on this basis and the State Party will ensure that any future HIA work is taken forward on this basis.

The January 2017 assessment by Snashall and Young referenced in this recommendation concluded that the scheme as it was then, would have a minor adverse impact on OUV and that this would be offset by the benefits to OUV delivered by the scheme, provided a land bridge of at least 150m length was included at the western end of the WHS. Since the assessment was concluded, a land bridge of 150m length has been included in the proposed scheme.

10. If a longer tunnel is considered, the HIA/EIA/DCO processes and assessments should include relevant expertise and adequate investigations to address factors such as life expectancy, end-of-working-life remediation, vibration and noise, which are particular to the tunnel solution.

Please refer to section 2 of the main body of the SOCR above.

11. The section of the current A303 which runs through the WHS could become a non- or limited vehicular thoroughfare after an improvement scheme has been completed that removes the road from the WHS, but the proposed link between byways 11 and 12 should not be established.

Both of the proposals recommended have been included in the currently proposed scheme.

12. A more broad-ranging community consultative process, which particularly includes the Avebury community, should be established to allow civil society to express their views, on an ongoing basis, about any aspect of the project, not only the legacy benefits being considered through the benefits and legacy forum process.

A wider consultative engagement with stakeholders and civil society has been achieved through the establishment of a Local Community Forum and by establishing scheme links and liaison with stakeholder groups such as the Avebury and Stonehenge Archaeological and Historical Research Group (ASAHRG). In addition direct stakeholder contact was set-up as an integral part of Advisory mission business, with a substantive face-to-face session taking place as part of the latest, March 2018 Advisory mission.

Additionally, Civil society has had the opportunity to express views formally at non-statutory pre-application, statutory pre-application and DCO stages, and this will continue throughout the DCO examination process. Dialogue has been ongoing through many avenues throughout the process. The State Party believes this has been completed in a thorough fashion and that this recommendation has been fully met.

13. The legacy benefits package for the project should incorporate initiatives and programmes identified as desirable to conserve and/or interpret OUV in the Management Plan for the WHS.

The legacy benefits package will consider a range of initiatives, including those to conserve and interpret the OUV of the World Heritage site. A legacy and benefits steering group has been established to ensure that the project maximises the heritage benefits of the scheme.

Legacy planning has taken into account the aims, policies and actions in the WHS Management Plan which provide a framework for positive legacy planning.

14. The timing and programme for the Development Consent Order process should be managed to allow for consideration of the conclusions and recommendations of this Advisory mission, any recommendations of the World Heritage Committee, and the time needed to explore further options.

Please refer to section 2 of the main body of the SOCR above.

15. Consultation with UNESCO World Heritage Centre and ICOMOS should continue for the life of the project, including, where appropriate, further Advisory missions once alternative options have been explored.

The UK State Party will continue to remain fully engaged with the World Heritage Centre and ICOMOS throughout the process and will consider inviting further advisory missions if required. As the Committee has accepted that alternative route options need no longer be explored we will continue our engagement with the Committee, World Heritage Centre and ICOMOS in relation to any potential there may be for further mitigation.

Annex B:

A303 Amesbury to Berwick Down: Options Considered in Response to 42COM 7B.32

PURPOSE

This annex provides further detail on the options considered for mitigating the impact of the A303 Amesbury to Berwick Down scheme on the Outstanding Universal Value (OUV) of the World Heritage Site (WHS). This is in response to the part of World Heritage Committee Decision 42COM 7B.32 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*”.

Specifically, this report considers the following:

- Options for further mitigation at the western end including covering the cutting entirely or significantly reducing the open section to much less than a kilometre;
- Whether the options are technically feasible, affordable and implementable, and if not, explain with evidence;
- An explanation of how and when any feasible mitigation could be implemented;
- Consideration of how the proposed option meets the requirements of the Convention.

BACKGROUND

The A303 between Amesbury and Berwick Down is a single carriageway road which regularly carries traffic levels which are twice its design capacity. Lack of capacity means that road users suffer from severe congestion, queuing and long delays, especially during summer months when delays can be an hour or more. Congestion, delay and poor journey time reliability on the A303 is a major impediment to economic growth in the South West region, which performs poorly compared to the rest of the UK.

Local communities suffer from the effects of through traffic and rat-running as drivers try to avoid congestion on the A303. The extra traffic on unsuitable routes causes frustration for local people who rely on these roads for day to day journeys and also raises safety concerns. The A303 passes directly through the village of Winterbourne Stoke, much of which is within a Conservation Area. Heavy traffic leads to community severance, noise and poor air quality.

The A303 also runs through the Stonehenge, Avebury and Associated Sites World Heritage Site (“WHS”), a landscape without parallel in the world, with a dense concentration of prehistoric monuments and sites, many of which are adversely impacted by the presence of the intrusive surface road. This creates incongruous sights and sounds of traffic within an otherwise tranquil rural setting that seriously diminish people’s enjoyment of the outstanding prehistoric landscape and degrade the setting of the iconic stone circle and many of the other monuments that convey the OUV of the WHS.

The A303 splits the Stonehenge component of the WHS in two, making it difficult for visitors to access and enjoy the wider landscape. Addressing the issue of the present surface road would reconnect many of the ancient monuments within the WHS. It would greatly improve access to the WHS and greatly enhance the ability to transmit the OUV of the WHS.

The harm caused by roads within the World Heritage Site has been recognised by the World Heritage Committee since the inscription of the property on the World Heritage List in 1986 and in 2007 the Committee expressed regret that no progress had been made in implementing the (2004) scheme to address the issue.

Development of the Scheme

The requirement for the A303 to be upgraded to a dual carriageway from a transport, regional and local economy and local community perspective is overwhelming. Importantly, the existing road also causes a major detrimental impact on the Outstanding Universal Value of the WHS as per **Table 1** below.

The State Party is fully cognisant of its responsibilities in respect of the Convention to protect World Heritage properties and has taken this into account throughout the planning and design of the currently proposed scheme.

From an affordability perspective, the approach to solving the transport and knock on economic and community impacts would be to widen the existing road to a dual carriageway. The most likely cost associated with such a dual carriageway has been calculated as £515m.

The proposed scheme, which is described below, has an expected cost of £1.699 bn. This is a further investment of c £1.2bn above the cost of a dual carriageway scheme. The additional cost relates to the heritage mitigations introduced to ensure that the scheme addresses the impact of the road on the OUV of the WHS. Approximately 70% of the cost of the scheme is dedicated to the protection and enhancement of OUV – this is a wholly exceptional figure which is unparalleled in English transport projects.

Preferred Route

The preferred route scheme, announced by the Secretary of State in September 2017, consisted of 12.3km of new free flowing 2 lane road of which 5.1km was in the WHS including a 3km twin bored tunnel, which would remove over 3km of the current surface road from the WHS.

The preferred route is shown in **Figure 1** below and the most likely capital cost of this scheme was £1.56bn.

The scheme was approximately 8 miles (13 km) long and comprised:

- a new two lane dual carriageway between Amesbury and Berwick Down
- a free-flowing junction between the A303 and A345
- a twin-bore tunnel under part of the WHS
- a junction west of the WHS, accommodating free-flowing A303 and A360 traffic movements, and a link to Winterbourne Stoke village.
- a bypass to the north of Winterbourne Stoke village.

The scheme design had both tunnel portals located within the WHS, although the location of the western portal was moved following the 2017 non-statutory consultation and in response to concerns raised by the Heritage Monitoring and Advisory Group (HMAG), and the second UNESCO/ICOMOS advisory mission, to avoid adversely impacting astronomical alignments including the Winter Solstice alignment from Stonehenge.

The proposed scheme also avoids an intrusive impact upon the Normanton Down barrow group through the landscape mitigation offered by the 200m canopy extension to the western portal. The current alignment of the surface road from the western portal to edge of the WHS has also ensured that the Diamond group of monuments is not bisected by the proposed infrastructure.

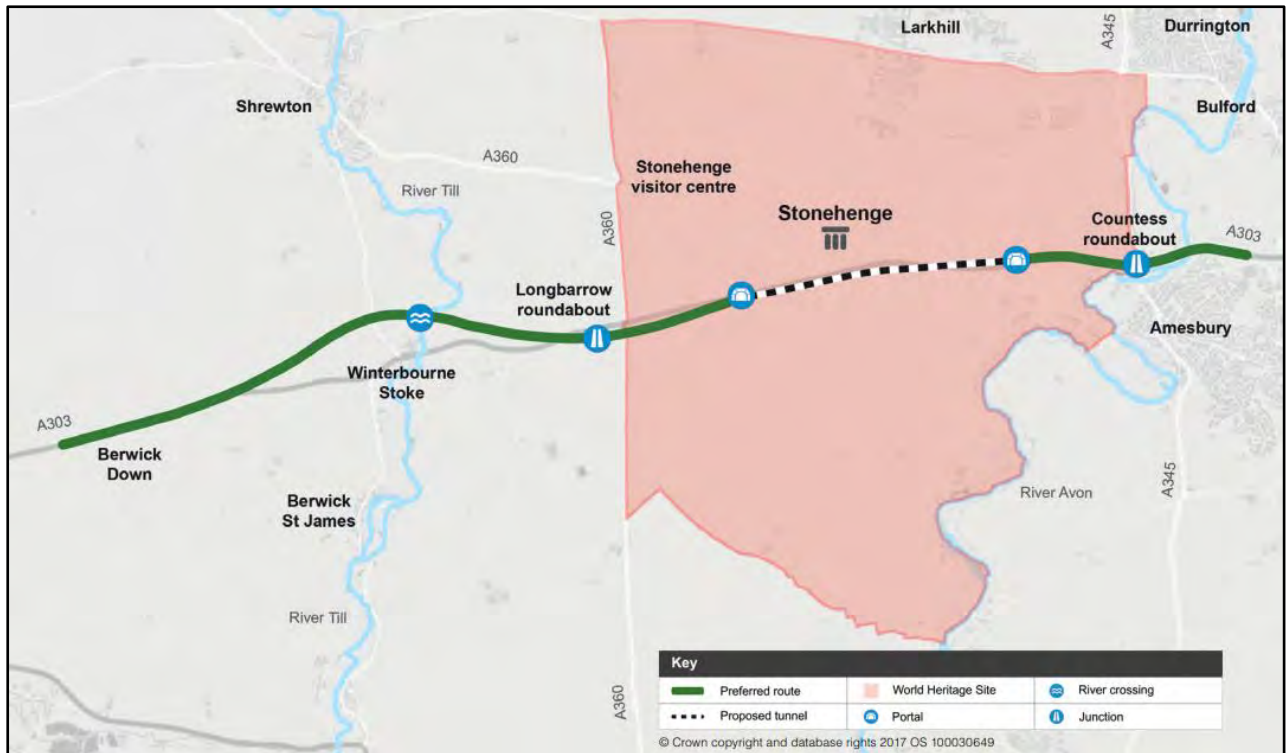


Figure 1: Preferred Route, announced in 2017

At preferred route announcement, the road entering both portals was of a standard cutting design, flanked by sloped sides and rising back to surface level at the western end soon after exiting the tunnel.

Following concerns raised by UNESCO, ICOMOS, HMAG and other stakeholders about the impact of the scheme on the Outstanding Universal Value (OUV) of the WHS, we amended the scope of the project to include:

Primary scopes change in response to WHC decision in July 2017	Purpose
Bored tunnel length increased from 2.9km to 3.0km.	This is necessary to avoid impacting on a Bronze Age barrow that conveys OUV (which is also a Scheduled Monument) that was close to the line of the tunnel.
A 1.2km & 7m (min) deep cut on the approach to the western portal.	To avoid large adverse impact identified during the HIA process of vehicles being seen across the line of sight between monuments.
Include 4 green bridges and a twin viaduct over the River Till	These are required to improve biodiversity and non-motorised user connectivity across the road corridor in a manner than is sympathetic to the landscape in which the road will sit.
200m Canopy over the cutting at the tunnel's western portal	To hide the normal infrastructure that is associated with tunnel entrances

This scope was presented to representatives of ICOMOS and the UNESCO World Heritage Centre on their visit in March 2018 and was the basis of their most recent report and recommendations to the World Heritage Committee. This scope also formed the basis of the design presented at Statutory Consultation which ran between Feb and April 2018.

World Heritage Committee Decision 42COM 7B.32

The Committee amended the draft decision to remove the request to the State Party to explore alternative surface route options and to consider a position for the eastern portal 4km to the east.

The focus of the Committee decision in relation to the proposed scheme was on the potential for further mitigation at the western end of the route within the Stonehenge component of the WHS.

DEVELOPMENT OF PROPOSED SCHEME IN RESPONSE TO THE 2018 MISSION REPORT AND COMMITTEE DECISION

We note that while the Committee endorsed much of the 2018 Advisory Mission report, it reduced the emphasis on the exploration of surface options and providing an eastern extension to the tunnel. As such, the State Party has proceeded on the basis that the Committee’s request to the State Party for alterations aimed at reducing the minor adverse impact on OUV to no adverse impact at all.

The first response of the State Party to this element of the Committee’s decision was to consider whether the land bridge could be lengthened to 150m. Following further discussions with the Heritage Monitoring Advisory Group (HMAG) and other stakeholders after the UNESCO/ICOMOS mission in March 2018, and as a result of the concerns about the impact on the OUV expressed, the scope of the project was further increased to extend the green land bridge east of the Longbarrow Junction from 50m to 150m as part of the “proposed scheme” and to move the bridge further east as per the recommendations of the Snashall and Young heritage impact assessment and HMAG. This proposal was agreed by DfT and included in a supplementary consultation exercise between July and August 2018.

The most likely capital cost of the proposed scheme is £1.699 bn. The layout of the proposed scheme is shown in Fig 2 below:



Figure 2: Schematic layout of the proposed scheme

NOISE AND LIGHT MITIGATIONS

In addition to the mitigations to the scheme described above, specific mitigations in relation to lighting and noise have been developed as outlined below:

Lighting

Given the position of the scheme within the WHS, dark skies have been an important consideration to avoid adversely impacting on the WHS' attribute of OUV relating to astronomy. This consideration has been translated into specific mitigation measures, namely:

- There will be no new permanent open road lighting within the WHS section of the Scheme; and immediately adjacent to it
- At the western end of the WHS, road signs will not be lit;
- Lighting under the 150m Green Bridge will only occur between dawn and dusk and will be designed to minimise light spill outside of the bridge footprint;
- Tunnel portals will not be lit and lighting inside the tunnel will be designed to minimise light spill outside of the portals' footprint;
- There will be no lighting columns and associated lighting at Longbarrow Junction, on Countess Flyover and at Rollestone Corner;
- Existing lighting units at Countess Roundabout shall be replaced to minimise light spill

These measures will reduce the amount of light pollution to a level below that which currently exists, and will improve the overall appearance and understanding of the monuments in the context of the night sky for visitors.

Noise

A number of design features have been incorporated into the Scheme to minimise road traffic noise within the WHS, namely:

- Extending the tunnel to a length of approximately 3.3km and the inclusion of a green bridge at the western end of approximately 150m wide. This will give an over covered length of road within the WHS of approximately 3.45km and will reduce the length of open cut at the western end of the WHS to approximately 800m;
- Using a thin road surfacing system that results in lower noise generation than standard hot rolled asphalt road surfacing;
- Setting the route within a deep (7m minimum) cut along the western approach to the tunnel;
- Designing the surface finish of the retaining walls on the approaches to the tunnel portals to reduce noise reflection.

Overall, the scheme has been designed to reduce the impact of both noise and lighting to below that currently experienced within the WHS as a result of the existing road.

HERITAGE IMPACT ASSESSMENT FOR PROPOSED SCHEME:

In considering the potential for further mitigation in addition to the lengthening of the green land bridge, and as part of the work towards the submission of the Development Consent Order application, a Heritage Impact Assessment (HIA) has been undertaken by Highways England. This looks at the impact and effect of the existing A303 and that of the proposed scheme on the individual attributes of Outstanding Universal Value of the WHS as summarised in Table 1 below.

Attribute of Outstanding Universal Value	Impact of existing A303	Effect of existing A303	Impact of proposed scheme	Effect of proposed scheme
1. Stonehenge itself as a globally famous and iconic monument	Moderate Negative	Large Adverse	Major Positive	Very Large Beneficial
2. The physical remains of the Neolithic and Bronze Age funerary and ceremonial sites and monuments and associated sites.	Moderate Negative	Large Adverse	Negligible Negative Change	Slight (minor) Adverse
3. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in the landscape	Minor Negative	Moderate Adverse	Negligible Negative Change	Slight (minor) Adverse
4. The design of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the skies and astronomy	Minor Negative	Moderate Adverse	Moderate Positive Change	Large Beneficial
5. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other	Moderate Negative	Large Adverse	Negligible Positive Change	Slight Beneficial
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	Moderate Negative	Large Adverse	Negligible Positive Change	Slight Beneficial
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	Negligible Negative	Slight Adverse	Negligible Positive Change	Slight Beneficial
Integrity	Major Negative	Large Adverse	Negligible Positive Change	Slight Beneficial
Authenticity	Negligible Negative	Slight Adverse	Negligible Positive Change	Slight Beneficial

Table 1: Summary of assessment of effect of existing A303 and proposed scheme on Attributes of OUV, Integrity and Authenticity of the WHS.

The HIA concludes that the proposed 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 the Stonehenge monument itself (Attribute 1) and “Large Beneficial” effects will be experienced by the solstitial alignment (Attribute 4).

“Slight Beneficial” effects will be achieved 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) and 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.

Overall, the OUV of the WHS would be sustained by the construction of the proposed 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 proposed 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.

Highways England’s conclusion, set out in the HIA regarding the effect of the proposed scheme on the Attributes of OUV and the Authenticity and Integrity of the WHS as a whole, is it will have a “**Slight Beneficial**” effect. In reaching this conclusion, a precautionary approach has been adopted to avoid overstating positive impacts and beneficial effects where these arise to ensure a balanced view is achieved.

The final report was published in October 2018 as part of the DCO application. This HIA forms the baseline against which the potential for further mitigation is reported as set out in the next section

FURTHER MITIGATION

Highways England considered how further mitigation could be introduced at the western portal which would reduce the minor adverse impact of the scheme. These options considered were:

- Extending the bored tunnel
- Extending the cut and cover section at the western portal

1. EXTENDING THE BORED TUNNEL

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; which for the A303 tunnel would be approximately 7m. For this reason, it is necessary to commence/finish the bores at the upward /downward faces of hills and to maintain a similar minimum depth of cover of 7m along the entire length of the tunnel.

Figure 3 below, shows the proposed scheme road alignment and western portal location within the WHS, as well as the profile of the land in a westerly direction. It also shows a possible location for a western bored tunnel portal outside of the WHS.

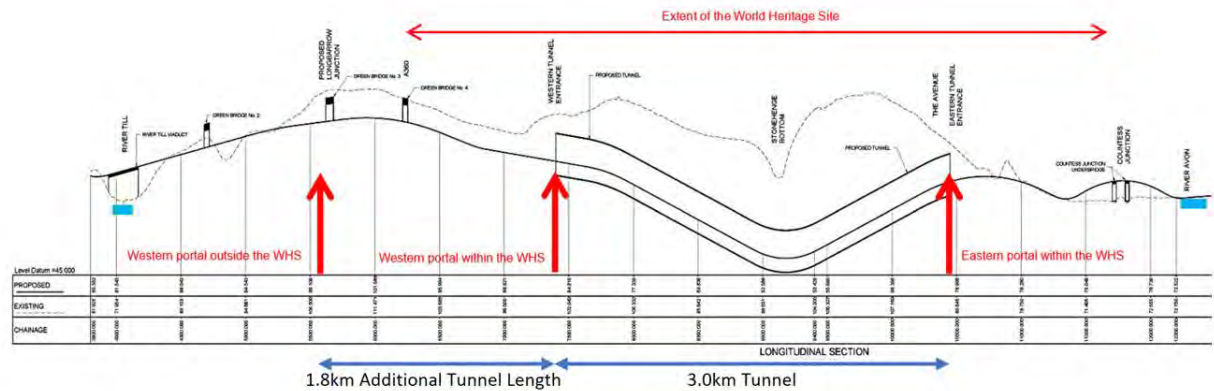


Figure 3: Possible alternative western tunnel portal location

This potential location for the western portal outside of the WHS boundary is located 1.8km to the west of the currently proposed location.

The additional tunnel length would cost an additional £540million. This would increase the most likely scheme cost from £1.7bn to £2.24bn and increase the costs directly attributed to heritage as against transport from £1.2bn to over £1.7bn. In other words, the cost of the road scheme directly resulting from actions to benefit the heritage would be almost 4.5 times the cost of the transport element of the scheme. The additional cost would also significantly reduce the benefits to costs ratio for the scheme resulting in a “poor” value for money ratio.

Extending the tunnel would also require a considerable change to the location and layout of the Longbarrow junction to fit the junction before the floodplain.

The only junction arrangement that would fit within the space available would be sub-standard for the predicted volumes of traffic on the A303 and would therefore not be acceptable on safety grounds. This junction arrangement would result in the existing A360 and Longbarrow roundabout being retained at their existing undesirable locations adjacent to the WHS boundary and in particular the Winterbourne Stoke Barrow Group. This would partly erode the benefit of extending the tunnel and moving traffic away from the WHS, and also result in the loss of a significant heritage benefit delivered by the currently proposed scheme.

Locating the junction further away from the A360 would also result in increased “rat running” through Winterbourne Stoke and other villages as the junction would be located nearer to Winterbourne Stoke and its associated minor roads network rather than to the principal A360 road.

It is therefore clear that extending the tunnel portal to the West is not a viable proposition. It would fail on value for money grounds, having a greater heritage impact in certain areas than the current proposals thereby eroding the benefit of extending the tunnel and moving traffic away from the WHS, and would not resolve the current rat-running traffic problems in the local villages. For these reasons, consideration of this option was not taken any further.

2. LONGER CUT AND COVER

The other option explored was to cover the cutting between the end of the canopy at the western portal and the 150m land bridge east of the current Longbarrow roundabout and to extend the remaining section from the land bridge to the western extent of the WHS. This would create an additional fully covered tunnel section of 800m as illustrated in figure 4 below.

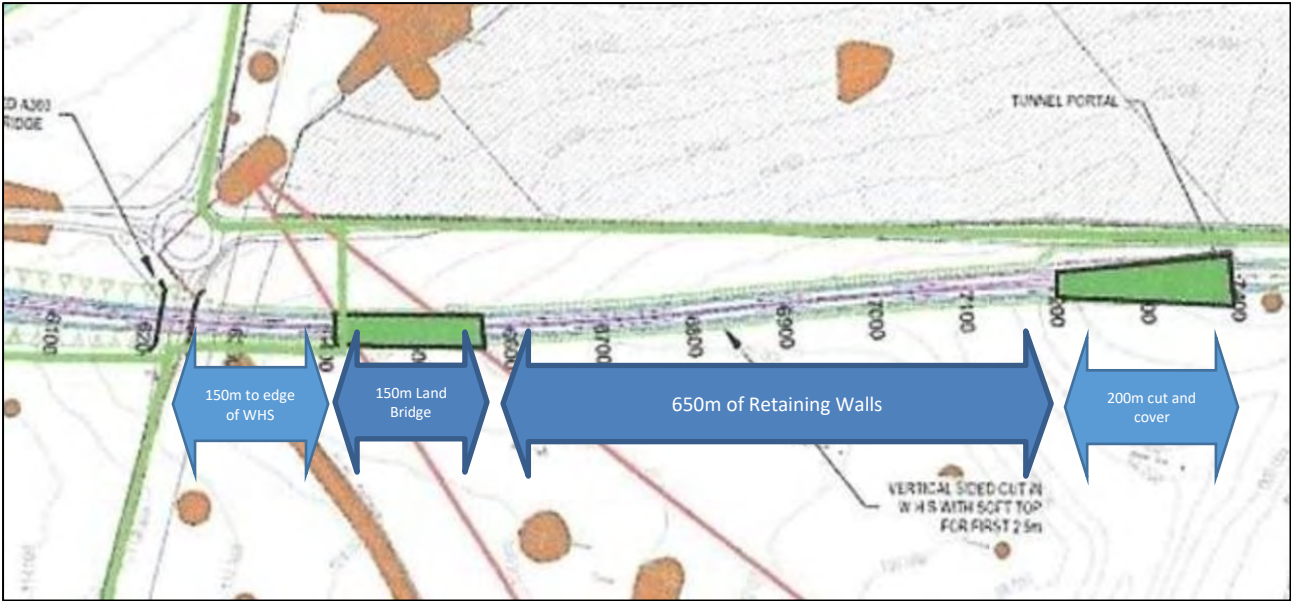


Figure 4: Extended cut and cover at western porta

Costs and benefits

There is also an additional cost to the cut and cover proposal.

A comparison of the capital costs, construction period and benefits of the option compared with the proposed scheme is given in Table 2 below:

	Proposed Scheme	Extended cut and cover	Difference
Construction period	66 months	78 months	+12 months
Most Likely Capital Cost	£1,699m	£1,825m	+£126m
Present Value of Benefits	£1,313m	£1,313m	-

Table 2: Costs and benefits of proposed scheme versus adding additional cut and cover

As can be seen, the most likely cost of construction increases by £126m if additional cut and cover is added at the western end.

Value for Money (VfM)

The value for money (VfM) of a road scheme in the UK is classified in accordance with DfT guidance and this in part depends upon the benefits to cost ratio but also on other, broader factors such as environmental impacts.

The VfM of the A303 scheme at preferred route was classed as “Medium” but the additional costs of the heritage mitigations included in the proposed scheme (described above) has reduced the VfM to “Low”. The benefits to cost ratio of the proposed scheme is 1.1:1 which means the cost of the scheme is only just balanced by the expected benefits (including those related to improving the cultural heritage of the WHS).

We have undertaken analysis to assess the value for money of the scheme if the additional cut and cover was added. This indicates that the additional costs of £126m are not balanced by additional quantifiable benefits and the VfM of the scheme would be reduced to “Poor”.

The majority of road schemes that are invested in by the UK government have a VfM of “medium” or “high” to ensure that the return on the investment is maximised. Support for the proposed scheme with a VfM of “low” demonstrates the significant commitment to minimising the impact of the current road on the WHS. Adding additional cost to the scheme with no additional benefit will put the approval of this scheme at significant risk.

Technical Feasibility

There are potential technical and safety implications regarding the distance between the end of the covered area (from a drivers’ point of view at the end of the “tunnel”) and the slip roads to the Longbarrow junction. In order to comply with highways safety standards, it is recommended that the minimum distance from the commencement of the slip roads is no less than 180m.

There are a number of design implications including the provision and location of signs, the location of laybys, and the location of and access to the Tunnel Service Buildings. This leads to a number of safety implications including the creation of additional traffic movements and lane changes in an area that already leads to higher driver workload.

Extending the covered area would result in multiple design changes, including the need to redesign the Longbarrow junction. This would result in further costs of this option not considered in the costs and benefits analysis above, further reducing the value for money offered by the scheme.

**APPENDIX 18 Extract from World Heritage Committee Decision
41.COM 7B.56 (2017)**



United Nations
Educational, Scientific and
Cultural Organization

Organisation
des Nations Unies
pour l'éducation,
la science et la culture

World Heritage

41 COM

WHC/17/41.COM/18

Krakow, 12 July 2017

Original: English

**UNITED NATIONS EDUCATIONAL, SCIENTIFIC
AND CULTURAL ORGANIZATION**

**CONVENTION CONCERNING THE PROTECTION OF
THE WORLD CULTURAL AND NATURAL HERITAGE**

WORLD HERITAGE COMMITTEE

Forty-first session

**Krakow, Poland
2 – 12 July 2017**

**Decisions adopted
during the 41st session
of the World Heritage Committee
(Krakow, 2017)**

Centre for review by the Advisory Bodies, as soon as these are available and before any decision is taken or approval is issued;

9. Further requests the State Party to finalize the review of the Management Plan for the property as soon as possible and to submit an electronic and three printed copies to the World Heritage Centre for review by the Advisory Bodies;
10. Taking note of the 23 recommendations of the 2017 Reactive Monitoring mission, to identify potential courses of action to address ways of strengthening protection, including planning frameworks and management structures and limit the impacts development projects and other current planning applications on the OUV of the property, and requests furthermore the State Party to expedite their implementation;
11. Finally requests the State Party to submit to the World Heritage Centre, by **1 December 2018**, an updated report on the state of conservation of the property and the implementation of the above, for examination by the World Heritage Committee at its 43rd session in 2019.

56. Stonehenge, Avebury and Associated Sites (United Kingdom of Great Britain and Northern Ireland) (C 373bis)

Decision: 41 COM 7B.56

The World Heritage Committee,

1. Having examined Document WHC/17/41.COM/7B.Add,
2. Recalling Decision **35 COM.7B.116**, adopted at its 35th session (UNESCO, 2011),
3. Takes note with satisfaction of the management achievements, and progress with implementation of previous Committee Decisions, to address protection and management issues identified in the Statement of Outstanding Universal Value (OUV) for the property;
4. Commends the State Party for having invited two Advisory missions to advise on the process for determining and evaluating options for the proposed upgrading of the main A303 road across the property, as part of a wide major infrastructure project;
5. Expresses concern that the 2.9km Stonehenge tunnel options and their associated 2.2km of dual carriageway approach roads within the property that are under consideration, would impact adversely the OUV of the property;
6. Urges the State Party to explore further options with a view to avoiding impacts on the OUV of the property, including:
 - a) The F10 non-tunnel by-pass option to the south of the property,
 - b) Longer tunnel options to remove dual carriageway cuttings from the property and further detailed investigations regarding tunnel alignment and both east and west portal locations;

7. Encourages the State Party to address the findings and implement the recommendations of both Advisory missions and to invite further World Heritage Centre/ICOMOS Advisory missions to the property, to be financed by the State Party, in order to continue to facilitate progress towards an optimal solution for the widening of the A303 to ensure no adverse impact on the OUV of the property;
8. Requests the State Party to manage the timing of the consent and other statutory processes for the A303 trunk road project to ensure that the World Heritage Centre, ICOMOS and the World Heritage Committee can continue to contribute to the evaluation and decision-making processes at appropriate stages;
9. Also requests the State Party to submit to the World Heritage Centre, by **1 February 2018**, an updated report on the state of conservation of the property and the implementation of the above, for examination by the World Heritage Committee at its 42nd session in 2018.

57. The Forth Bridge (United Kingdom of Great Britain and Northern Ireland) (C 1485)

Decision: 41 COM 7B.57

The World Heritage Committee,

1. Having examined Document WHC/17/41.COM/7B,
2. Recalling Decision **39 COM 8B.33**, adopted at its 39th session (Bonn, 2015),
3. Welcomes the progress made by the State Party in responding to the World Heritage Committee's recommendations, especially:
 - a) The improvement of the protection policy by means of the identification of 10 key views of the property and associated protected view-cones,
 - b) The reinforcement of the management system by the creation of the Forth Bridge World Heritage Management Group and specialized commissions for tourism development and communication;
4. Reiterates its previous recommendations to the State Party to consider the following:
 - a) Creating key monitoring indicators that are more specific and relate more directly to the attributes that convey Outstanding Universal Value,
 - b) Extending the Management Plan of the property to include an interpretation and tourism plan,
 - c) Submitting plans for any proposed visitor centre at the earliest possibility to the World Heritage Centre for review, in accordance with Paragraph 172 of the *Operational Guidelines*;
5. Requests the State Party to submit to the World Heritage Centre, by **1 December 2018**, an updated report on the state of conservation of the property and the implementation of the above.

APPENDIX 19 Draft 2018 World Heritage Committee Decision

Draft Decision: 42 COM 7B.32

The World Heritage Committee,

1. Having examined Document WHC/18/42.COM/7B.Add,
2. Recalling Decision **41 COM.7B.56**, adopted at its 41st session (Krakow, 2017),
3. Commends the State Party for inviting three Advisory missions to advise on the proposed upgrading of the main A303 road, (which currently bisects the property), as part of a wide major infrastructure project;
4. Notes the additional investigations undertaken by the State Party to consider the southern surface (F10) by-pass route and alternative alignment and longer tunnel options to remove dual carriageway cuttings from the property, and further detailed investigations regarding tunnel alignment and both east and west portal locations;
5. Also notes the findings and recommendations of the 2018 Advisory mission, particularly that, although the current 'Proposed Scheme' shows improvement compared with previous plans and would also improve the situation in the centre of the property, the rigorous investigation, evaluation, iterative design and assessment process has revealed that, if the current length of tunnel solution is pursued, the damage inflicted by the dual carriageway cuttings would impact adversely on integrity and the Outstanding Universal Value (OUV) of the property, and therefore the proposed A303 upgrade project should not proceed with the current length of the tunnel ;
6. Urges the State Party to continue to explore further options and design refinement, with a view to avoiding impact on the OUV of the property, including:
 - a) alternative surface by-pass options,
 - b) longer tunnel options that allow for the re-location of the western portal outside the property and which do not require dual carriageway cuttings within the property;
7. 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 to ensure there is no adverse impact on the OUV of the property;
8. Further notes that the State Party has advised that it will manage the timing of the consent and other statutory processes for the A303 trunk road project to take into account Committee Decisions and to ensure that the World Heritage Centre, ICOMOS and the Committee can continue to contribute to the evaluation and decision-making processes at appropriate stages;
9. Also requests the State Party to submit to the World Heritage Centre, by **1 February 2019**, an updated report on the state of conservation of the property and the implementation of the above, for examination by the World Heritage Committee at its 43rd session in 2019.

**APPENDIX 20 Extract from 2018 World Heritage Committee
Decision**



United Nations
Educational, Scientific and
Cultural Organization

Organisation
des Nations Unies
pour l'éducation,
la science et la culture

World Heritage

42 COM

WHC/18/42.COM/18
Manama, 4 July 2018
Original: English

**UNITED NATIONS EDUCATIONAL, SCIENTIFIC
AND CULTURAL ORGANIZATION**

**CONVENTION CONCERNING THE PROTECTION OF
THE WORLD CULTURAL AND NATURAL HERITAGE**

WORLD HERITAGE COMMITTEE

Forty-second session
Manama, Bahrain
24 June – 4 July 2018

Decisions adopted
during the 42nd session
of the World Heritage Committee
(Manama, 2018)

8. Notes the work proposed for the reconstruction of the Hagia Sophia medrese for which an HIA had been prepared, and the work undertaken on the Land Walls, the Bucoleon Palace, the Chora museum and the Molla Zeyrek mosque;
 9. Also notes the large number of proposed infrastructure and other projects, and recommends that the State Party develop a progress report on these, together with a road-map including short- and long-term strategies covering all types of projects (development/renovation/renewal) which may have an impact on the OUV of the property, and determine all required details and steps in close cooperation with the World Heritage Centre and the Advisory Bodies before any irreversible decisions are taken; and submit this road map to the World Heritage Centre by **1 February 2019**;
 10. Encourages the State Party to invite an ICCROM/ICOMOS Advisory mission to review the restoration and conservation projects such as the Chora Museum and the Zeyrek Mosque in line with the recommendations of the 2016 Reactive Monitoring Mission report;
 11. Also requests the State Party to submit to the World Heritage Centre, by **1 December 2019**, an updated report on the state of conservation of the property and the implementation of the above, for examination by the World Heritage Committee at its 44th session in 2020.
- 32. Stonehenge, Avebury and Associated Sites (United Kingdom of Great Britain and Northern Ireland) (C 373bis)**

Decision: 42 COM 7B.32

The World Heritage Committee,

1. Having examined Document WHC/18/42.COM/7B.Add,
2. Recalling Decision **41 COM.7B.56**, adopted at its 41st session (Krakow, 2017),
3. Commends the State Party for inviting three Advisory missions to advise on the proposed upgrading of the main A303 road, (which currently bisects the property), as part of a major infrastructure project;
4. Notes the additional investigations undertaken by the State Party to consider the southern surface (F10) by-pass route and alternative alignment and longer tunnel options to remove dual carriageway cuttings from the property, and further detailed investigations regarding tunnel alignment and both east and west portal locations;
5. Also notes the findings and recommendations of the 2018 Advisory mission, particularly that, although the current ‘Proposed Scheme’ shows improvement compared with previous plans and would also improve the situation in the centre of the property, the rigorous investigation, evaluation, iterative design and assessment process has revealed that, if the current length of tunnel solution is pursued, the damage inflicted by the dual carriageway cuttings would impact adversely on integrity and the Outstanding Universal Value (OUV) of the property, and therefore the proposed A303 upgrade project should not proceed with the current length of the tunnel;
6. Notes with concern the impacts of the current design of the dual carriageway on the property, especially at the western end;

7. Urges 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;
8. 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;
9. Further notes that the State Party has advised that it will manage the timing of the consent and other statutory processes for the A303 trunk road project to take into account Committee Decisions and to ensure that the World Heritage Centre, ICOMOS and the Committee can continue to contribute to the evaluation and decision-making processes at appropriate stages of the project;
10. Also requests the State Party to submit to the World Heritage Centre, by **1 February 2019**, an updated report on the state of conservation of the property and the implementation of the above, for examination by the World Heritage Committee at its 43rd session in 2019.

LATIN AMERICA AND THE CARIBBEAN

33. **Qhapaq Ñan, Andean Road System (Argentina, Bolivia (Plurinational State of), Chile, Colombia, Ecuador, Peru) (C 1459)**

Decision: 42 COM 7B.33

The World Heritage Committee,

1. Having examined Document WHC/18/42.COM/7B,
2. Recalling Decision **40 COM 7B.1**, adopted at its 40th session (Istanbul/UNESCO, 2016),
3. Commends the six States Parties on their cooperation and commitment in addressing the recommendations noted at the time of inscription, and for the important advances in the implementation of the UNESCO/Japanese Funds-in-Trust for the Preservation of the World Cultural Heritage (JFiT) project “Support to the reinforcement of the participative management structure of the Qhapaq Ñan, Andean Road System”;
4. Strongly encourages the six State Parties to continue working in a coordinated and global manner to address the long-term conservation and management challenges of the property as a whole;
5. Notes with appreciation the progress made by the States Parties in the development of participatory management and conservation plans, including the participation of local

**APPENDIX 21 Guidance on Heritage Impact Assessment for
Cultural World Properties. A publication of the
International Council on Monuments and Sites,
January 2011**

ICOMOS

Guidance on Heritage Impact Assessments for Cultural World Heritage Properties

A publication of the International Council on Monuments and Sites

January 2011



ICOMOS, 49-51 rue de la Fédération 75015 Paris, France
In collaboration with the World Heritage Centre

© ICOMOS, 2011. All rights reserved.

Guidance on Heritage Impact Assessments for Cultural World Heritage Properties

Purpose

To offer guidance on the process of commissioning HERITAGE IMPACT ASSESSMENTS (HIAs) for World Heritage (WH) properties in order to evaluate effectively the impact of potential development on the Outstanding Universal Value (OUV) of properties.

The guidance is addressed at managers, developers, consultants and decision-makers and is also intended to be relevant to the World Heritage Committee and States Parties.

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.

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.

The Guidance was developed following an international workshop organised by ICOMOS in Paris in September 2009.

Contents

1 Background

- a) Specificities of the World Heritage context within which HIA are undertaken.
- b) Diverse regulatory, planning and management contexts
- c) Tools, resources and capacities needed to undertake an HIA

2 Suggested HIA procedures

- 2-1 Introduction
- 2-2 Understanding what needs to be undertaken before starting an HIA

3 Data and documentation

4 Methods and approaches appropriate to the property - optimising available tools, techniques and resources

5 A defensible system for assessing/evaluating impact

6 Can impacts be avoided, reduced, rehabilitated or compensated – mitigation?

7 Deliver an evaluation that is helpful to States Parties, the Advisory Bodies and the World Heritage Committee, and relevant to the World Heritage context in general and specific properties in particular

Appendix 1: Heritage Impact Assessment Process

Appendix 2: Scoping Report Contents

Appendix 3A: Example Guide for assessing value of heritage assets

Appendix 3B: Example Guide for assessing magnitude of impact

Appendix 3C: Example Inventory Entry

Appendix 4: Heritage Impact Report Contents

1 Background

In recent years the UNESCO World Heritage Committee has addressed considerable numbers of State of Conservation Reports related to threats to World Heritage properties from various forms of large-scale development. These developments include roads, bridges, tall buildings, “box” buildings (e.g. malls), inappropriate, acontextual or insensitive developments, renewals, demolitions and new infrastructure typologies like wind farms, as well as land-use policy changes and large scale urban frameworks. The Committee has also examined threats from excessive or inappropriate tourism. Many of these projects have had the potential to impact adversely on the appearance, skyline, key views and other different attributes that contribute to Outstanding Universal Value (OUV).

In order for the ICOMOS and the Committee to evaluate satisfactorily these potential threats, there is a need to be specific about the impacts of proposed changes on OUV. While heritage impact assessment exists in many countries, these seem less reliably used in the World Heritage context.

Where formal evaluations are undertaken, many of these make use of procedures for environmental impact assessment (EIA). Whilst there is merit at looking at the experience of EIA, this is not likely to be immediately useful without some adaptation. EIA frequently disaggregates all the possible cultural heritage attributes and assesses impact on them separately, through discrete receptors such as protected buildings, archaeological sites, and specified view-points with their view cones, without applying the lens of OUV to the overall ensemble of attributes. A more global approach to the site is required, one directly linked to the expression of the site’s OUV.

EIA therefore often produces disappointing results when applied to cultural World Heritage properties as the assessment of impacts is not clearly and directly tied to the attributes of OUV. Cumulative impacts and incremental changes (adverse) may also more easily pass undetected. The recent work done to assess the impacts of the proposed bridge on the World Heritage site of the Middle Rhine Valley is an example of this problem.

Currently, there are limited formal tools for identifying receptors and for assessing impact and few examples of excellence for Heritage Impact Assessment (HIA) undertaken for cultural WH properties. However, progress in 3D virtual representations and digital tools open new means to operate HIA.

a) World Heritage context within which HIA are undertaken

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.

The development of Statements of OUV (SoOUV) for all World Heritage properties, a requirement set out in the *Operational Guidelines for the implementation of the World Heritage Convention* (UNESCO, 2008) paragraph 154-5, should assist through setting out clearly the attributes that reflect OUV and the links between them. The examination of integrity and authenticity is also a useful starting point.

In terms of assessing the effect of any impact on OUV, concepts such as ‘limits of acceptable change’ and ‘absorption capacity’ are being discussed, although there is no consensus yet on the usefulness of these concepts, or on how to operationalise them. There is also no consensus on how to revive heritage value that has been eroded.

Numerous visual assessment tools have been adapted to the assessment of impacts of proposed developments on the OUV of various World Heritage properties, especially those located within dynamic urban contexts, but so far these have rarely been linked to a more in-depth assessment of impact on all the attributes of OUV. There are also new tools on recording and mapping intangible heritage and multiple layers of attributes that have not been exploited for use in WH properties.

World Heritage properties are very diverse, as are the potential impacts. Although development of new tools is potentially useful, for the foreseeable future, impact assessment processes need to be able to access a variety of existing tools, without relying entirely on any one of them.

The 2nd cycle of the World Heritage Periodic Reporting should provide ICOMOS with a new data set relevant to this issue. The goal to have SoOUVs for all World Heritage properties by 2012 will also be an important underpinning of the guidance provided by ICOMOS.

b) The diverse regulatory, planning and management contexts

Neither EIA nor HIA are mandated in many countries and there is often no national regulatory framework within which they can operate.

The capacity of heritage authorities varies globally and some are not strong within the national government structures. In some countries there are strong environmental systems that provide a basis for EIA, but the heritage elements (including World Heritage) are underdeveloped or non-existent. In others, HIA are undertaken but the identified “triggers” for their use are often basic (usually in the form of lists of activities) or age.

This guidance aims to support the use and influence of HIAs, even where there are few legal structures that support the EIA/HIA processes.

Industry codes of practice should be influential in ensuring that HIA processes occur, and that the methods employed meet internationally-recognised standards of practice.

However, in many countries specific sectors considered to be of national interest are permitted to override EIA or HIA requirements.

Management plans for WH properties are potentially very important. They should be well anchored in planning arrangements at national, regional and local levels, and although embedded in national systems of protection in different ways, could be utilised more to define how change will be assessed. The sustainable development of WH properties is extremely important, including the protection of OUV elements. If the management plan is sufficiently robust and has undergone a thorough consultation process in its development, it should be possible to implement cooperative approaches to potential problems within the framework of the plan.

Potential threats should be anticipated in the management system in a property-specific way – not “one size fits all”. Conservation policies embedded in the management system may also be used as a measure to assess potential diverse impacts.

A large number of World Heritage properties do not have a well-functioning management system (for some even where there is a management plan). This is an underlying issue for many properties selected for State of Conservation reporting.

c) Tools, resources and capacities needed to undertake a HIA

State of the art techniques are possible in many countries, but in many others, the levels of skills, knowledge and resources are quite basic. This guidance attempts to be applicable to all situations.

The skills required to do a HIA, using modern IT based and highly technical tools are only held by a limited number of people. These can be very helpful, particularly in complex situations, but HIA should not depend on them. On the other hand, diffusion of new HIA tools should be encouraged when their efficiency is proven.

In some cases, the level of analysis undertaken is very deep and expensive to produce but the outcome is difficult to understand and to operationalise. A key issue is identifying the optimum resources to get the job done, and not requiring more than is necessary.

Training of managers and staff at World Heritage properties and in the approvals agencies of all levels of government within a country will be important in order to ensure that the commissioning process for HIA is appropriate and that full and effective use is made of the output.

The backgrounds and professional skills of those who conduct HIA are diverse, but training and capacity-building will often be needed. Single professionals cannot always do a total HIA – there is most often a need to bring together an HIA team with the specific analytical skills needed for a particular project or site. A number of professional environmental management institutions provide archiving and other tools. In some circumstances opportunities for partnerships could be explored.

Although proposals for WH nominations should make sure adequate data and documentation are in place, and that realistic and relevant monitoring arrangements are in use, there is often a lack of baseline documentation.

Good documentation does not require a Geographic Information System (GIS), although this has been a powerful and useful tool where it is available. All approaches need to be systematic and follow rational guidelines.

2 Suggested procedures for Heritage Impact Assessment

2-1 Introduction

2-1-1 This section is intended to help to States Parties, heritage managers and decision-makers or others in managing their WH properties in circumstances where some form of change may affect the Outstanding Universal Value (OUV) of those sites. Change may be adverse or beneficial, but both need to be assessed as objectively as possible, against the stated OUV as reference point.

2-1-2 The guidance is a tool to encourage managers and decision-makers to think about key aspects of heritage management and to make decisions based on evidence within the framework of the 1972 World Heritage Convention. It is also designed to encourage potential developers or other agents of change to consider key factors at an appropriate time and at an appropriate level of detail. Heritage Impact Assessments (HIAs) may also be useful in the general management of cultural WH properties by collating information at a given point in time.

- 2-1-3 There are many ways of assessing impact on heritage assets, some formalised in law, some very technical and sophisticated, others less so. This guidance sets down some principles and options. But whatever route is chosen, the assessment must be “fit-for-purpose” – suitable for the WH property and for the changes proposed, and suitable to the local environment. It must provide the evidence on which decisions can be made in a clear, transparent and practicable way.
- 2-1-4 In any proposal for change there will be many factors to be considered. Balanced and justifiable decisions about change depend upon understanding who values a place and why they do so. This leads to a clear statement of a place’s significance and with it the ability to understand the impact of the proposed change on that significance.
- 2-1-5 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. Every reasonable effort should be made to eliminate or minimise adverse impacts on significant places. Ultimately, however, it may be necessary to balance the public benefit of the proposed change against the harm to the place. It is therefore also important to know who benefits from the proposed change and for what reasons. In such cases the weight given to heritage values should be proportionate to the significance of the place and the impact of the change upon it. WH properties *de facto* are seen to have global value and thus logically have a higher significance than national or local heritage value.
- 2-1-6 Where change may affect the OUV of a WH property, consideration of the cultural [and/or natural] heritage attributes should be central to planning any proposal and should be presented early on in any general assessment (such as an Environmental Impact Assessment - EIA). Managers and decision-makers should consider whether the heritage conservation needs should be given greater weight than competing uses and developments. A key consideration is the threat or risk to the WH status and this should be clearly addressed in the HIA report.
- 2-1-7 Where statutory environmental impact assessments apply, the cultural heritage sections must take account of this ICOMOS guidance where the EIA relates to a WH property. An HIA undertaken as part of an EIA in these circumstances is not additional to normal EIA requirements, but uses a different methodology which clearly focuses on OUV and attributes that convey that OUV. The HIA should be summarised early on in the Environmental Statement, and the full technical HIA report should be included as a technical appendix. The requirements should be made clear at the planning or scoping stage. ICOMOS and the World Heritage Centre will encourage States Parties to ensure that HIAs in line with this guidance are undertaken in line with best practice. 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.

2-2 Understanding what needs to be undertaken before starting an HIA

- 2-2-1 The assessment process is in essence very simple:
- What is the heritage at risk and why is it important – how does it contribute to OUV?
 - How will change or a development proposal impact on OUV?

- How can these effects be avoided, reduced, rehabilitated or compensated?
- 2-2-2 The overall process is summarised in Appendix 1, but key elements include early and continued consultation with all relevant parties and agreement on the scope and expectations of the HIA before work commences. It is also important to identify possible negative impacts very early on in the process, in order to inform both the development design and the planning process in a pro-active rather than reactive manner.
- 2-2-3 The basis for management and decision making is a good understanding of the WH property, its significance and OUV, its attributes and its context. The Management Plan will often be the important first step in building an ability to have clear and effective impact assessments. Establishment of baseline data about the WH property and its condition is critical.
- 2-2-4 The starting point for any heritage assessment, once an initial development proposal or change of use is identified, should be to set out the scope of work necessary for an HIA which will provide the evidence for decision-making. Early consultation with relevant parties, including any affected community, is important. The HIA may also be useful in collating information about WH properties not otherwise easily accessible. HIA is a useful cooperative tool for all stakeholders.
- 2-2-5 A Scoping Report (or HIA brief) should be agreed with all relevant parties – the State Party, regional or local government, heritage advisors or managers, local communities or others as necessary. The scoping report should make it clear what is to be done, why and how, when and what are the expected outputs. It is important to include an agreed calendar between all stakeholders and the development programme (Appendix 2)
- 2-2-6 The Scoping Report should provide an outline description of the WH property and set out its OUV. It should have an outline of the proposed change or development including the need for change or development, a summary of the conditions present on the site and its environs, details of any alternative development being considered, an outline methodology and terms of reference for the HIA. The methodology should include organisations or people to be consulted, determining, for example, who are stakeholders and who is part of a heritage community related to the site, details of the baseline information to be collected including methods and appropriate study areas, likely sensitive heritage receptors and proposed survey and assessment methodology. It is also important at this stage to identify whether the proposed development is within a WH property or within a buffer zone or within the setting of the property but outside both. A Scoping Report should be used to flag large or critical impacts – the full HIA Report can then assess any positive reaction in terms of the altered development.
- 2-2-7 The Scoping Report should also give (as far as is practicable) a clear indication of what knowledge exists about the site and where lacunae exist – how good is the information base and what level of confidence may be placed on the assessment. This should be followed through in the actual assessment itself.
- 2-2-8 It is not only big developments that need an assessment of impact. WH properties may also be vulnerable to changes of policy which could have significant consequences – for example changes in land use and urban planning policies. Tourism infrastructure and increased visits may have unintended consequences. Major archaeological excavations could also

adversely affect the OUV of properties, though possibly compensating by the gaining of knowledge.

- 2-2-9 It is also important at this stage to ensure that organisations or individuals undertaking the HIA are suitably qualified and experienced, and that their expertise matches the demands of the site, its material and intangible content, its OUV and the nature and extent of the proposed changes. Single professionals can rarely do a total HIA, and the composition of the HIA team - heritage professionals and all other necessary competences - is crucial: the team will need specific analytical skills for a particular project or site. Opportunities for partnerships could be explored. This may also bring benefits in terms of developing capacity for HIA, and in developing and sharing best practice.

3 Data and documentation

- 3-1 There are no agreed minimum standards for inventories, data review or condition surveys, though it may in due course be useful to define these. Such matters need to be proportionate to the property and its management needs. It is desirable that the HIA documentation stage is as comprehensive as possible, including developing an archive.
- 3-2 For WH properties the core documentation is the Statement of OUV and the identification of attributes that convey OUV. Hence this guidance concentrates on identifying impact on attributes that convey that OUV. However, the HIA should collect and collate information on all aspects and attributes of the cultural heritage within the agreed study area, so that the historical development of the property, its context, setting and where appropriate other values (for example national and local) can be fully understood.
- 3-3 It is useful, if not essential, to document and manage the collection of data. Assessment processes can be very lengthy and data sources may require periodic "refreshment". When data sources are in a state of flux or the timetable for assessment is lengthy, it may be necessary to agree a "data freeze" so that the HIA team can compare like with like information.
- 3-4 Inventories should be included in the HIA reports, as tables or gazetteers in appendices to the main text. Underpinning archives of material and information collected should be retained for future use and properly referenced, including location and accessibility. Good documentation does not require sophisticated techniques such as GIS or complex databases; it needs a common sense, systematic and consistent approach which is suitable to the needs of the property.
- 3-5 In more complex cases, more sophisticated approaches could be considered. However, the use of databases and GIS, or 3D-modelling, changes the way in which HIAs are undertaken. The systems allow assessment to be a far more iterative process, and as a result HIA can be more effectively fed back into the design processes. But this also allows for more "what if" scenarios to be requested of the HIA team. The scoping report would need to set down the principles for this iteration so that the HIA team can work effectively.

4 Methods and approaches appropriate to the property - optimising available tools, techniques and resources

- 4-1 The collection of information during HIA should consider all potential sources of data. Techniques will include desk study or historical research, and site visits to check condition, authenticity and integrity, sensitive viewpoints and so on. They may include terrain modelling, or inter-visibility modelling to predict impacts on heritage assets. It is necessary to capture and explain in clear text evidence of both tangible and intangible heritage attributes, and wherever possible to relate the latter to the physical features which embody them.
- 4-2 Field studies are also generally essential to ensure that the HIA is robust. Techniques should be linked to the development proposal and could include non-intrusive evaluation or field testing by topographic survey, geophysical survey, virtual 3D scale models or more intrusive methods such as artefact collection, scientific survey, test pitting or trial trenching. In some circumstances the collection of oral histories or evidence may also be valid and useful.
- 4-3 The data collection must enable the heritage attributes to be quantified and characterised, and allow their vulnerability to proposed changes to be established. It is also necessary to look at the interrelationship/s between discrete heritage resources, in order to understand the whole. There is often a relationship between a material aspect and an intangible aspect which must be brought to the fore.
- 4-4 Collection of information during the HIA is an iterative process which can often lead to the emergence of alternatives and options for the development proposal.
- 4-5 Understanding the full meaning of the OUV of a WH property (and other values of heritage) is a crucial part of the HIA process. The evaluation of the overall significance of the effect (overall impact) is a function of the heritage value and assessment of scale of changes and impact.
- 4-6 When describing WH properties, it is essential to start by describing the attributes of OUV. This is the “baseline data” against which impacts must be measured, and includes both tangible and intangible aspects. A statement of condition may be useful for each key attribute of OUV.
- 4-7 However, while the SoOUV is an essential starting point, sometimes they are not detailed enough in terms of attributes to be directly useful to impact assessment work. Each property will need to be assessed and where necessary, the attributes may need to be more specifically defined during the HIA process.
- 4-8 Such definition of attributes should not seek to re-define the SoOUV, but to describe the attributes in a way which assists decision-making on the proposed change. It should be noted that OUV is defined at the time a WH property is inscribed on the WH List and cannot be changed without a re-nomination which goes through a full evaluation process.
- 4-9 The production of location or themed maps or plan views is almost always needed to demonstrate the findings and issues raised. Spatial rendering is useful to show the disposition of attributes, the relationships between the attributes (which may be processes), and the associations attributes have such as visual, historical, religious, communal, aesthetic or evidential. It is necessary to link the attributes back to the components of the SoOUV in a clear and readable manner, which does not oversimplify but retains cultural or other complexities in synoptic statements or diagrams. HIA teams should, however, be wary of too much reliance on maps, as our human experience of places is in 3D – ground-truthing is always required to check spatial relationships.

- 4-10 One option for assessing value is set out in Appendix 3A. In this system the value of heritage attributes is assessed in relation to statutory designations, international or national, and priorities or recommendations set out in national research agendas, and ascribed values. Professional judgement is then used to determine the importance of the resource. Whilst this method should be used as objectively as possible, qualitative assessment using professional judgement is inevitably involved. The value of the asset may be defined using the following grading scale:
- Very High
 - High
 - Medium
 - Low
 - Negligible
 - Unknown
- 4-11 In the HIA Report there should be a clear and comprehensive text description of individual and/or groups of heritage attributes, which sets out their individual and/or collective condition, importance, inter-relationships and sensitivity, and possibly also an indication of capacity for change. This should be accompanied by appropriate mapping to aid the reader. All heritage elements should be included, but the components contributing to the WH property's OUV will be particularly relevant and may merit a further detailed section. A detailed inventory should be included in supporting appendices or reports so that the reader may check the assessment of each element. An example is included in Appendix 3C.

5 A defensible system for assessing/evaluating impact

- 5-1 Effects on cultural heritage attributes from development or other changes may be adverse or beneficial. It is necessary to identify all changes on all attributes, especially those attributes which give the property its OUV, on which this guidance concentrates. It is also important to identify the scale or severity of a specific change or impact on a specific attribute – as this combination is what defines the significance of the impact, otherwise called “significance of effect”.
- 5-2 There is sometimes a tendency to see impacts as primarily visual. While visual impacts are often very sensitive, a broad approach is needed as outlined in the ICOMOS Xi'an Declaration. Impacts take many forms – they may be direct and indirect; cumulative, temporary and permanent, reversible or irreversible, visual, physical, social and cultural, even economic. Impacts may arise as a consequence of construction or operation of the proposed development. Each needs to be considered for its relevance to the HIA.
- 5-3 Direct impacts are those that arise as a primary consequence of the proposed development or change of use. Direct impacts can result in the physical loss of part or all of an attribute, and/or changes to its setting - the surroundings in which a place is experienced, its local context, embracing present and past relationships to the adjacent landscape. 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.
- 5-4 Direct impacts resulting in physical loss are usually permanent and irreversible; they normally occur as a consequence of construction and are usually confined within the development footprint. The scale or magnitude of these impacts will depend on the proportion of the attribute affected, and whether its key characteristics or relation to OUV would be affected.
- 5-5 Direct impacts that affect the setting of an attribute may occur as a consequence of construction or operation of the development scheme and may have an effect

some distance from the development. Assessment of impacts on setting refers to perceptible visual and aural (noise) effects that can be appreciated at a given time. Such impacts may be temporary or permanent, reversible or irreversible depending on the extent to which the cause of the impact can be removed. Impacts may also be transient where occurrence is sporadic or of limited duration, for example, related to hours of operation or the frequency of passage of vehicles.

- 5-6 Indirect impacts occur as a secondary consequence of construction or operation of the development, and can result in physical loss or changes to the setting of an asset beyond the development footprint. For example, construction of related infrastructure such as roads or powerlines that are required to support the development. Facilitated impacts should also be considered which may be further actions (including by third parties) which are made possible or facilitated by the development.
- 5-7 Scale or severity of impacts or changes can be judged taking into account their direct and indirect effects and whether they are temporary or permanent, reversible or irreversible. The cumulative effect of separate impacts should also be considered. The scale or severity of impact can be ranked without regard to the value of the asset as:
 - No change
 - Negligible change
 - Minor change
 - Moderate change
 - Major change
- 5-8 The significance of the effect of change – i.e. the overall impact - on an attribute is a function of the importance of the attribute and the scale of change. This can be summarized for each attribute described using the following descriptors. As change or impacts may be adverse or beneficial, there is a nine-point scale with “neutral” as its centre point:
 - Major beneficial
 - Moderate beneficial
 - Minor beneficial
 - Negligible beneficial
 - Neutral
 - Negligible adverse
 - Minor adverse
 - Moderate adverse
 - Major adverse

VALUE OF HERITAGE ASSET	SCALE & SEVERITY OF CHANGE/IMPACT				
	No Change	Negligible change	Minor change	Moderate change	Major change
For WH properties Very High – attributes which convey OUV	SIGNIFICANCE OF EFFECT OR OVERALL IMPACT (EITHER ADVERSE OR BENEFICIAL)				
	Neutral	Slight	Moderate/ Large	Large/very Large	Very Large

For other heritage assets or attributes	SIGNIFICANCE OF IMPACT (EITHER ADVERSE OR BENEFICIAL)				
	Very High	Neutral	Slight	Moderate/ Large	Large/very Large
High	Neutral	Slight	Moderate/ Slight	Moderate/ Large	Large/Very Large
Medium	Neutral	Neutral/Slight	Slight	Moderate	Moderate/ Large
Low	Neutral	Neutral/Slight	Neutral/Slight	Slight	Slight/ Moderate
Negligible	Neutral	Neutral	Neutral/Slight	Neutral/Slight	Slight

5-9 For example:

- Total demolition of a key building which is the main conveyance of OUV for a WH property to make way for a new road would be a major adverse effect or overall major adverse impact.
- Removal of a later road from the immediate vicinity of a key building which conveys OUV and which is not directly related to its OUV attributes would be a major beneficial effect or overall impact.

5-10 The table above is a summary to aid assessment of impact. The HIA Report will need to show the assessment for each OUV attribute – for example in a simple table - and demonstrate how the results for each individual or collective heritage attribute have been obtained. This should include qualitative as well as quantitative evaluation.

5-11 Proposals should be tested against existing policy frameworks and the management plan for the property and surrounding area. The compatibility of the scale, pattern, use, etc should be tested according to the attributes of the property that convey OUV and other assets. Issues such as sight lines, architectural type, volumes and surface appearances, settlement form, functional uses and persistence through time etc might be relevant. In all this, it is necessary to match the attributes of the development to the attributes of the site, so that development is complementary and even enhancing to the property.

5-12 Changes arising from developments must also be assessed for their impact on integrity and authenticity. The property should have baseline statements regarding integrity and authenticity at the time of inscription, or at the time the retrospective SoOUV was undertaken [paragraphs 79-88 in *Operational Guidelines*]. The relationship between attributes of OUV, authenticity and integrity needs to be understood and needs to be shown to be understood in the HIA report. Authenticity relates to the way attributes convey OUV and integrity relates to whether all the attributes that convey OUV are extant within the property and not eroded or under threat.

- 5-13 Benefits and dis-benefits – or adverse effects - must be very carefully considered. There are a range of benefits and dis-benefits, and the question of who receives the benefits (or misses out through the benefits) is important. Often the property itself and the associated communities do not receive the benefits flowing from development. Financial consequences of the assessment are also important and often directly influence decisions. The analysis must reveal rather than disguise these complexities. The conservation of the property should be counted within the benefits of a project, so that projects that are supportive of conservation can be weighted more than those that do not.

6 Can impacts be avoided, reduced, rehabilitated or compensated – mitigation?

- 6-1 Impact assessment is an iterative process. Results of data collection and evaluation should be fed back into the design process for the development, or proposals for change or for archaeological investigation.
- 6-2 Conservation is about managing sustainable change. 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.
- 6-3 HIA should include proposed principles and where possible proposed methods to mitigate or offset the effects of a development proposal or other agent of change. This should include consideration of other options for the development including site selection/location, timing, duration and design. The HIA should indicate fully how the mitigation is acceptable in the context of sustaining OUV, including the authenticity and integrity of the WH property. Available guidance in the *Operational Guidelines* on periodic reporting should be consulted to help this process.
- 6-4 It may be appropriate to undertake further consultation at this stage before finalising the HIA.

7 Deliver an evaluation that is helpful to States Parties, the Advisory Bodies and the World Heritage Committee, and relevant to the World Heritage context in general and specific properties in particular

- 7-1 Appendix 4 sets out a guide to the contents of an HIA report. It is a matter of expert judgement, following suitable consultation and scoping to define exact requirements.
- 7-2 The HIA report should provide the evidence on which decisions can be made in a clear, transparent and practicable way. The level of detail needed will depend on the site and proposed changes. The Statement of OUV will be central to the evaluation of the impacts and risk to the property.
- 7-3 The HIA report will need to show
- A comprehensive understanding of the WH property and its OUV, authenticity and integrity, condition, context (including other heritage attributes) and inter-relationships;
 - An understanding of the range of impacts arising from the development or other proposal for change;

- An objective evaluation of those impacts (beneficial and adverse) on the heritage elements and in particular on the site's OUV, integrity and authenticity;
 - An assessment of the risk posed to the retention of OUV and the likelihood that the property may be in potential or actual danger;
 - A statement of heritage benefits which may arise from proposals including better knowledge and understanding and awareness-raising;
 - Clear guidelines as to how impact can be mitigated or avoided;
 - Supporting evidence in the form of a suitably detailed inventory of attributes of OUV and other heritage assets, impacts, survey or scientific studies, illustrations and photographs.
- 7-4 The HIA Report will need to have a non-technical summary clearly setting out all relevant matters, a detailed text description and analysis and a text summary of the results of the evaluation of impact accompanied by tables to assist the reader.

Appendix 1: Heritage Impact Assessment Process

Stages of HIA
Initial development and design
Early consultation
Identify and recruit suitable organisations to undertake works
Establish study area
Establish scope of work
Collect data
Collate data
Characterise the heritage resource, especially in identifying attributes that convey OUV
Model and assess impacts, direct and indirect
Draft mitigation – avoid, reduce, rehabilitate or compensate
Draft report
Consultation
Moderate the assessment results and mitigation
Final reporting and illustration – to inform decisions
Mitigation
Dissemination of results and knowledge gained

Appendix 2: Scoping Report Contents

At the outset of any proposed impact assessment it is desirable to agree the scope of the work needed so that the work is ‘fit-for-purpose’ and will enable decision to be made. Early consultation is essential.

The scope should be agreed with all relevant parties, including the State Party, regional or local government or its agencies, any statutory consultees and local community representatives and the public. In some cases it may be also desirable to consult with the WHC or its advisors, ICOMOS or IUCN.

The “developer” is responsible for producing the scoping report. Its contents should include

- An outline description of the proposed change or development, providing as much detail as is available at the time of writing;
- A summary of the conditions present on the site and its environs, based on information collated to that point in time;
- The Statement of Outstanding Universal Value
- Details of how alternatives to changes are being considered;
- Outline methodology and terms of reference for the HIA as a whole;
- The organisations/people consulted and to be consulted further;
- A topic by topic assessment of the key impacts of the development; this should include:
 - details (as known) of the baseline conditions;
 - consideration of the potential effects of the development where overall impacts or effects are not considered to be significant, a justification of why they should be “scoped out” of the HIA;
 - where overall impacts are considered to be potentially significant, details of the baseline information to be collected (including methods and appropriate study areas), likely sensitive heritage receptors in particular those related to attributes of OUV and proposed survey and assessment methodology.
- A negotiated calendar covering the whole process, including deadlines for reporting and consultation.

Appendix 3A: Example Guide for Assessing Value of Heritage Assets

HIAs for WH properties will need to consider their international heritage value and also other local or national values, and priorities or recommendations set out in national research agendas. They may also need to consider other international values which are reflected in, for example, international natural heritage designations.

Professional judgement is used to determine the importance of the resource. The value of the asset may be defined using the following grading scale:

- Very High
- High
- Medium
- Low
- Negligible
- Unknown potential.

The following table is not intended to be exhaustive.

Grading	Archaeology	Built heritage or Historic Urban Landscape	Historic landscape	Intangible Cultural Heritage or Associations
Very High	<p>Sites of acknowledged international importance inscribed as WH property.</p> <p>Individual attributes that convey OUV of the WH property.</p> <p>Assets that can contribute significantly to acknowledged international research objectives.</p>	<p>Sites or structures of acknowledged international importance inscribed as of universal importance as WH property.</p> <p>Individual attributes that convey OUV of the WH property.</p> <p>Other buildings or urban landscapes of recognised international importance.</p>	<p>Landscapes of acknowledged international importance inscribed as WH property.</p> <p>Individual attributes that convey OUV of the WH property.</p> <p>Historic landscapes of international value, whether designated or not.</p> <p>Extremely well-preserved historic landscapes with exceptional coherence, time-depth, or other critical factors.</p>	<p>Areas associated with Intangible Cultural heritage activities as evidenced by the national register.</p> <p>Associations with particular innovations, technical or scientific developments or movements of global significance.</p> <p>Associations with particular individuals of global importance</p>

High	<p>Nationally-designated Archaeological Monuments protected by the State Party's laws</p> <p>Undesignated sites of the quality and importance to be designated.</p> <p>Assets that can contribute significantly to acknowledged national research objectives.</p>	<p>Nationally-designated structures with standing remains.</p> <p>Other buildings that can be shown to have exceptional qualities in their fabric or historical associations not adequately reflected in the listing grade.</p> <p>Conservation Areas containing very Important buildings.</p> <p>Undesignated structures of clear national importance.</p>	<p>Nationally-designated historic landscape of outstanding interest.</p> <p>Undesignated landscapes of outstanding interest.</p> <p>Undesignated landscapes of high quality and importance, and of demonstrable national value.</p> <p>Well preserved historic landscapes, exhibiting considerable coherence, time-depth or other critical factors.</p>	<p>Nationally-designated areas or activities associated with globally-important Intangible Cultural Heritage activities .</p> <p>Associations with particular innovations, technical or scientific developments or movements of national significance</p> <p>Associations with particular individuals of national importance</p>
Medium	<p>Designated or undesignated assets that can contribute significantly to regional research objectives.</p>	<p>Designated buildings. Historic (unlisted) buildings that can be shown to have exceptional qualities or historical associations.</p> <p>Conservation Areas containing buildings that contribute significantly to its historic character.</p> <p>Historic townscapes or built-up areas with important historic integrity in their buildings, or built settings.</p>	<p>Designated special historic landscapes.</p> <p>Undesignated historic landscapes that would justify special historic landscape designation.</p> <p>Landscapes of regional value.</p> <p>Averagely well preserved historic landscapes with reasonable coherence, time-depth or other critical factors.</p>	<p>Areas associated with Intangible Cultural heritage activities as evidenced by local registers.</p> <p>Associations with particular innovations or developments of regional or local significance.</p> <p>Associations with particular individuals of regional importance</p>

Low	<p>Designated or undesignated assets of local importance.</p> <p>Assets compromised by poor preservation and/or poor survival of contextual associations.</p> <p>Assets of limited value, but with potential to contribute to local research objectives.</p>	<p>“Locally Listed” buildings.</p> <p>Historic (unlisted) buildings of modest quality in their fabric or historical associations.</p> <p>Historic Townscape or built-up areas of limited historic integrity in their buildings, or built settings.</p>	<p>Robust undesignated historic landscapes.</p> <p>Historic landscapes with importance to local interest groups.</p> <p>Historic landscapes whose value is limited by poor preservation and/or poor survival of contextual associations.</p>	<p>Intangible Cultural heritage activities of local significance</p> <p>Associations with particular individuals of local importance</p> <p>Poor survival of physical areas in which activities occur or are associated</p>
Negligible	<p>Assets with little or no surviving archaeological interest.</p>	<p>Buildings or urban landscapes of no architectural or historical merit; buildings of an intrusive character.</p>	<p>Landscapes little or no significant historical interest.</p>	<p>Few associations or ICH vestiges surviving</p>
Unknown potential	<p>The importance of the asset has not been ascertained.</p>	<p>Buildings with some hidden (i.e. inaccessible) potential for historic significance.</p>	<p>n/a</p>	<p>Little is known or recorded about ICH of the area</p>

Appendix 3B: Example Guide for assessing magnitude of impact

Impact Grading	Archaeological attributes	Built heritage or Historic Urban Landscape attributes	Historic landscape attributes	Intangible Cultural Heritage attributes or Associations
Major	<p>Changes to attributes that convey OUV of WH properties</p> <p>Most or all key archaeological materials, including those that contribute to OUV such that the resource is totally altered.</p> <p>Comprehensive changes to setting.</p>	<p>Change to key historic building elements that contribute to OUV,, such that the resource is totally altered.</p> <p>Comprehensive changes to the setting.</p>	<p>Change to most or all key historic landscape elements, parcels or components; extreme visual effects; gross change of noise or change to sound quality; fundamental changes to use or access; resulting in total change to historic landscape character unit and loss of OUV.</p>	<p>Major changes to area that affect the ICH activities or associations or visual links and cultural appreciation.</p>

Moderate	<p>Changes to many key archaeological materials, such that the resource is clearly modified.</p> <p>Considerable changes to setting that affect the character of the asset.</p>	<p>Changes to many key historic building elements, such that the resource is significantly modified.</p> <p>Changes to the setting of an historic building, such that it is significantly modified.</p>	<p>Change to many key historic landscape elements, parcels or components; visual change to many key aspects of the historic landscape; noticeable differences in noise or sound quality; considerable changes to use or access; resulting in moderate changes to historic landscape character.</p>	<p>Considerable changes to area that affect the ICH activities or associations or visual links and cultural appreciation.</p>
Minor	<p>Changes to key archaeological materials, such that the resource is slightly altered.</p> <p>Slight changes to setting.</p>	<p>Change to key historic building elements, such that the asset is slightly different.</p> <p>Change to setting of an historic building, such that it is noticeably changed.</p>	<p>Change to few key historic landscape elements, parcels or components; slight visual changes to few key aspects of historic landscape; limited changes to noise levels or sound quality; slight changes to use or access; resulting in limited change to historic landscape character.</p>	<p>Changes to area that affect the ICH activities or associations or visual links and cultural appreciation.</p>
Negligible	<p>Very minor changes to key archaeological materials, or setting.</p>	<p>Slight changes to historic building elements or setting that hardly affect it.</p>	<p>Very minor changes to key historic landscape elements, parcels or components; virtually unchanged visual effects; very slight changes in noise levels or sound quality; very slight changes to use or access; resulting in a very small change to historic landscape character.</p>	<p>Very minor changes to area that affect the ICH activities or associations or visual links and cultural appreciation.</p>
No change	<p>No change.</p>	<p>No change to fabric or setting.</p>	<p>No change to elements, parcels or components; no visual or audible changes; no changes in amenity or community factors.</p>	<p>No change</p>

Appendix 3C: Example Inventory Entry

The following list gives a suggested set of data fields which could be used in supporting tables or inventories which collate information on an individual or group of heritage assets.

Unique Identity number
Asset name
Location (map reference)
Type of asset (burial mound, church, fort, landscape, ICH etc)
Date
Statutory designation (e.g. on national or local register, WHS)
Brief description
Condition
Authenticity
Integrity
Inter-relationships (list)
Sensitivity
Importance (Very high, high,
Development magnitude of impact – construction (Major, Moderate, Minor, Negligible, No change)
Development significance of effect – construction (Major beneficial, Moderate beneficial, Minor beneficial, Negligible beneficial; No Change, Negligible adverse, Minor adverse, Moderate adverse, Major adverse)
Operational magnitude of impact (as above)
Operational significance of effect

Appendix 4: Heritage Impact Report Contents

The HIA Report should provide the evidence on which decisions can be made in a clear, transparent and practicable way. The level of detail needed will depend on the site and proposed changes. The Statement of OUV will be central to the evaluation of the impacts and risk to the site.

The report should include:

- the proper name of the WH property,
- its geographical coordinates,
- the date of inscription,
- the date of the HIA report,
- the name of the organization or entities responsible for preparing the HIA report,
- for whom it was prepared, and
- a statement on whether the report has been externally assessed or peer-reviewed.

Outline report contents

- 1 Non-technical summary – must contain all key points and be useable alone.
- 2 Contents
- 3 Introduction
- 4 Methodology
 - Data sources
 - Published works
 - Unpublished reports
 - Databases
 - Field Surveys
 - Impact Assessment Methodology
 - Scope of Assessment
 - Evaluation of Heritage Resource

- Assessment of Scale of Specific Impact and Change
- Evaluation of Overall Impact
- Definition of the Assessment Area

5 Site history and description –
Key in this section will be the Statement of OUV, and a description of the attributes which convey OUV and which contribute to the Statements of authenticity and integrity.

This section should also include any nationally or locally designated sites, monuments or structures as well as non-designated sites. It should set out the historical development of the study area, and describe its character, such as the historic landscape, including field patterns, boundaries and extant historic elements of the landscape and cultural heritage. 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.

6 Description of changes or developments proposed

7 Assessment and evaluation of overall impact of the proposed changes

This part should set out an assessment of specific changes and impacts on the attributes of OUV and other heritage assets. It should include a description and assessment of the direct or indirect impacts, including physical impacts, visual, or noise, on individual heritage attributes, assets or elements and associations, and on the whole. Impact on OUV should be evaluated through assessment of impact on the attributes which convey the OUV of the site. It should consider all impacts on all attributes; professional judgement is required in presenting the information in an appropriate form to assist decision-making.

It should also include an evaluation of the overall significance of effect – overall impact - of the proposals for development or change on individual attributes and the whole WH property. This may also need to include an assessment of how the changes may impact on the perception of the site locally, nationally and internationally. It

8 Measures to avoid, to reduce or to compensate for impacts - Mitigation Measures

Such measures include both general and site or asset-specific measures and cover

- those needed before the development or change proceeds (such as archaeological excavation),
- those needed during construction or change (such as a watching brief or physical protection of assets) and
- any post-construction measures during the operation of any proposed change or development (such as interpretation or access measures, awareness-building, education, reconstruction proposals),
- proposals to disseminate information, knowledge or understanding gained by the HIA and any detailed desk, field or scientific studies.

9 Summary and Conclusions, including

- A clear statement on effects on the Outstanding Universal Value of the WHS, its integrity and authenticity,
- The risk to the Inscription of the site as a WH property,
- Any beneficial effects, including better knowledge and understanding and awareness-raising.

10 Bibliography

11 Glossary of terms used

12 Acknowledgements and authorship

- 13 Illustrations and photographs showing for example
 - Location and extent of sites, including buffer zones
 - Any study area defined
 - Development or proposals for change
 - Visual or inter-visibility analyses
 - Mitigation measures
 - Key sites and views

- 14 Appendices with detailed data, for example
 - Tables of individual sites or elements, summary description and summary of impacts
 - Desk studies
 - Field study reports (such as geophysical survey, trial evaluation, excavation)
 - Scientific studies
 - List of consultees and consultation responses
 - The scoping statement or project brief.

**APPENDIX 22 Designated and Non-Designated Heritage Assets
Mentioned in HBMCE's Written Representations**

Appendix 10: Heritage Assets within and outside the WHS referred to in HBMCE's Written Representation

HA Uid (NHLE)	Name	Asset Type	Grade	Date Designated	NGR	Capture Scale	Link to NHLE Entry Report
1005614	Round barrow N of Yarnbury Castle	Scheduled Monument	N/A	18/04/1955	SU 03393 40996	1:10000	List Entry Report
1005689	Yarnbury camp (Yarnbury Castle)	Scheduled Monument	N/A	10/03/1925	SU 03531 40397	1:10000	List Entry Report
1008953	Long barrow 250m north of Normanton Gorse	Scheduled Monument	N/A	10/03/1925	SU 11542 41753	1:10000	List Entry Report
1009130	Long barrow 450m WSW of Woodhenge	Scheduled Monument	N/A	03/05/1995	SU 14652 43241	1:10000	List Entry Report
1009132	The Cursus, two round barrows situated within its western end, and a long barrow situated at its eastern end	Scheduled Monument	N/A	30/01/1952	SU 12351 43043	1:10000	List Entry Report
1009133	Henge monuments at Durrington Walls and Woodhenge, a round barrow cemetery, two additional round barrows and four settlements	Scheduled Monument	N/A	19/11/1928	SU 14955 43598	1:10000	List Entry Report
1009566	Two disc barrows and a bell barrow, 400m east of the Pennings, Earl's Farm Down	Scheduled Monument	N/A	25/02/1991	SU 17790 41801	1:10000	List Entry Report
1009593	Robin Hood's Ball, causewayed enclosure	Scheduled Monument	N/A	29/07/1965	SU 10225 45956	1:10000	List Entry Report
1009614	Long barrow and 18 round barrows, forming the greater part of Normanton Down round barrow cemetery	Scheduled Monument	N/A	10/03/1925	SU 12056 41230	1:10000	List Entry Report
1009618	Bowl barrow known as 'Bush Barrow' and two disc barrows south east of Normanton Gorse forming part of Normanton Down round barrow cemetery	Scheduled Monument	N/A	10/03/1925	SU 11589 41266	1:10000	List Entry Report
1009621	Long barrow 350m south west of the Normanton Down round barrow cemetery	Scheduled Monument	N/A	10/03/1925	SU 11410 41068	1:10000	List Entry Report
1009646	Parsonage Down Camp earthwork enclosure and associated field system.	Scheduled Monument	N/A	29/08/1956	SU 03852 41305	1:10000	List Entry Report
1009872	Bell barrow 550m east of New Barn, Earl's Farm Down	Scheduled Monument	N/A	03/03/1960	SU 17872 42231	1:10000	List Entry Report
1010140	Stonehenge, the Avenue, and three barrows adjacent to the Avenue forming part of a round barrow cemetery on Countess Farm	Scheduled Monument	N/A	18/08/1882	SU 14173 41481	1:10000	List Entry Report
1010830	Long barrow on Wilsford Down 300m north of The Diamond	Scheduled Monument	N/A	23/06/1925	SU 10404 41184	1:10000	List Entry Report
1010837	Linear boundary from south east of Winterbourne Stoke crossroads to south west of The Diamond on Wilsford Down	Scheduled Monument	N/A	21/03/1995	SU 10297 41054	1:10000	List Entry Report
1010863	Lake Barrow Group, North Kite earthwork enclosure, four sections of linear boundary, and a bowl barrow within the North Kite	Scheduled Monument	N/A	30/03/1995	SU 11041 40235	1:10000	List Entry Report
1010901	The Lesser Cursus and a triple bowl barrow forming part of a linear round barrow cemetery south east of Greenland Farm on Winterbourne Stoke Down	Scheduled Monument	N/A	10/03/1925	SU 10511 43486	1:10000	List Entry Report
1011048	Bronze Age enclosure and bowl barrow 100m west of Longbarrow Cross Roads on Winterbourne Stoke Down	Scheduled Monument	N/A	21/03/1995	SU 09751 41408	1:10000	List Entry Report
1011841	Long barrow north east of Winterbourne Stoke crossroads	Scheduled Monument	N/A	09/07/1923	SU 09995 41500	1:10000	List Entry Report
1012368	Eighteen round barrows forming the greater part of the Winterbourne Stoke crossroads round barrow cemetery	Scheduled Monument	N/A	09/07/1923	SU 10180 41765	1:10000	List Entry Report
1012376	Henge monument 400m south of Stonehenge Cottages	Scheduled Monument	N/A	01/08/1977	SU 13434 41602	1:10000	List Entry Report
1012402	Hengi-form monument in Fargo Plantation south of The Cursus	Scheduled Monument	N/A	10/06/1952	SU 11250 42795	1:10000	List Entry Report
1015019	Winterbourne Stoke West round barrow cemetery, The Coniger enclosure and section of linear boundary earthwork	Scheduled Monument	N/A	10/03/1925	SU 07727 41971	1:10000	List Entry Report
1015222	Romano-British settlement on Winterbourne Stoke Down	Scheduled Monument	N/A	18/04/1955	SU 08938 42452	1:10000	List Entry Report
1021349	Henge monument 300m south of Longbarrow Cross Roads, east of A360	Scheduled Monument	N/A	20/03/1995	SU 10022 41122	1:10000	List Entry Report
1012126	Vespasian's Camp	Scheduled Monument	N/A	02/05/1940	SU 14647 41737	1:10000	List Entry Report
1000469	Amesbury Abbey	Park and Garden	II*	01/09/1987	SU 15203 41688	1:10000	List Entry Report
1131079	Amesbury Abbey	Listed Building	I	10/01/1953	SU 15097 41717	1:2500	List Entry Report
1130971	Manor House	Listed Building	II*	10/10/1988	SU 07594 40957	1:2500	List Entry Report
1130975	Church of St Peter	Listed Building	II*	10/02/1988	SU 07688 40651	1:2500	List Entry Report
1131053	Diana's House	Listed Building	II*	10/01/1953	SU 15346 41854	1:2500	List Entry Report
1131055	Stables and Barn at Countess Farm	Listed Building	II	31/12/1974	SU 15348 42118	1:2500	List Entry Report
1131056	Large Barn at Countess Farm	Listed Building	II	31/12/1974	SU 15306 42149	1:2500	List Entry Report
1131057	Small Granary to North of Large Barn at Countess Farm	Listed Building	II	31/12/1974	SU 15306 42171	1:2500	List Entry Report
1318487	Countess Farmhouse and Front Garden Walls	Listed Building	II	10/10/1988	SU 15327 42143	1:2500	List Entry Report
1318488	Large Granary at Countess Farm	Listed Building	II	31/12/1974	SU 15287 42129	1:2500	List Entry Report
N/A	Winterbourne Stoke, Wiltshire	Conservation Area	N/A	Unknown		N/A	N/A
N/A	Amesbury, Wiltshire	Conservation Area	N/A	27/02/1980		N/A	N/A
N/A	Blick Mead	Non-designated heritage asset	N/A	N/A	SU 14956 42003	N/A	N/A