STONEHENGE, AVEBURY AND ASSOCIATED SITES

United Kingdom (373bis)

In accordance with Decision **45 COM 7B.62** of the World Heritage Committee, the United Kingdom State Party has produced a State of Conservation Report for the Stonehenge, Avebury and Associated Sites World Heritage Site.

As requested, this report is structured according to the format set out in Annex 13 of the *Operational Guidelines (2023)*. The specific points raised in the World Heritage Committee's Decision are reproduced in text boxes.

1. Executive Summary

The State of Conservation Report provides an update on how the partnership between individuals, groups and organisations is continuing to support the management of the property and its surroundings. It updates the information included in the most recent State of Conservation Reports submitted on 01 February 2022 and 01 March 2023, and provides a cross reference to the additional information submitted subsequently under paragraphs 172 and 174 of the *Operational Guidelines*.

The State Party's report covers the ongoing work on projects noted by the World Heritage Committee, including the updated timetable for review of the Management Plan, and of the review of sustainability and resilience of the governance structures for the property. Both projects seek to deliver further coordinated management across the whole of the WHS, following on from what was achieved through the first joint Management Plan in 2015.

Key pieces of work which will contribute to the protection of the property's OUV will continue in 2024, comprising the resumption of work on developing the setting study and completion of the condition survey for monuments within the landscape. The intention remains for the finalised setting study to have the status of a material consideration in the planning process. It will therefore undergo public consultation alongside review by the Advisory Bodies. Similarly, the results of the condition survey will also be made available for review by the Advisory Bodies.

Rather than repeat information submitted to the World Heritage Centre since the last State of Conservation Report, the report acts as a cross reference to notifications regarding the conservation work carried out on the Stonehenge lintels and the provision of education facilities supporting the Stonehenge visitor centre.

In relation to the specific requests from the World Heritage Committee, the State Party has complied separately with the request for a comprehensive package of information, and for liaison with the World Heritage Centre and Advisory Bodies in the preparation of a related set of corrective measures for the A303 Stonehenge Scheme. The State Party reiterates its commitment to continued dialogue and consultation regarding how it proposes to address the Committee's concerns regarding the Scheme through the parameters set for implementation of the Development Consent Order (DCO).

The latter part of the report provides a number of reports on projects, events and activities that are

supporting the presentation and transmission of the OUV of the property within the local community. It concludes with an update on holistic cultural and natural stewardship of the landscape of the property through the work of those responsible for its day to day management.

2. Response from the State Party to the World Heritage Committee's Decision, paragraph by paragraph.

> *1. Having examined Document WHC/23/45.COM/7B.Add.2,*
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> *2. Recalling Decisions **41 COM 7B.56**, **42 COM 7B.32**, **43 COM 7B.95** and **44 COM 7B.61** adopted at its 42nd (Manama, 2018), 43rd (Baku, 2019) and extended 44th (Fuzhou/online, 2021) sessions respectively,*
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> *3. Notes further progress with the revised management and governance arrangements, the Trust Transition Project, the implementation of the Avebury 2015 Transport Strategy, the forthcoming setting study and proposed Supplementary Planning Documents and future boundary review of the property, and the World Heritage Site Condition Survey, and requests the State Party to submit the draft setting study and the World Heritage Site Condition Survey to the World Heritage Centre for review by the Advisory Bodies;*

Further to the information in the 2022 and 2023 State of Conservation Reports, the State Party is pleased to be able to provide the World Heritage Centre with additional updates on the projects noted by the World Heritage Committee in its most recent Decision.

Management Plan Review Update

The State Party can confirm that the WHS Coordination Unit are working to a timetable that would have the updated Plan in place by March 2026. In the interim, in agreement with the State Party, the 2015 Management Plan remains active.

Trust Transition Project

The State Party can provide the following update on work in a number of areas, which aims to ensure the WHS Management Function is put on a firmer, more resilient and more sustainable long-term foundation, addressing actions under the WHS Management Plan.

The Trust Transition Project, funded by a National Lottery Heritage Fund (NLHF) Resilient Heritage grant, has progressed over the past year. The project is managed by a Board comprising of a representative from each organisation and key stakeholder group on the WHS Partnership Panel. A progress report has been submitted to the NLHF in order to release the second tranche of funding to deliver this work.

Informed by initial scoping work, the Board has consulted with partnership members through a workshop and subsequent survey to establish the most suitable approach to deliver the ambitions of the project. The Trust Transition Project Board has agreed to create a charity to operate alongside the WHS Partnership to raise funds for projects arising from the Management Plan. The charity is to be delivered with the NLHF grant in 2024. A Charitable Incorporated Organisation (CIO) Working

Group of self-nominated Steering Committee members and external expertise from Historic England is supporting the delivery of this work.

Work is also continuing to develop a new partnership governance structure combining both parts of the World Heritage Site which will be completed in 2024. This is taking place in consultation with all members of the partnership and represents, following the first joint Management Plan of 2015, further progress in coordinating management across the whole of the WHS.

Discussions are progressing regarding partnership funding for the WHS Coordination Unit, to complement existing funding from Wiltshire Council and Historic England.

Update on Stonehenge and Avebury WHS Setting Supplementary Planning Document

Progress on developing the study has been delayed over the course of this year due to staff resources at Wiltshire Council being limited and the priority that Wiltshire Council needed to give to other key strategic documents going through the public consultation and adoption process, such as the Local Plan. The Local Plan, as the development plan covering the property, is also of strategic importance for the protection of its OUV as reported in the 2022 and 2023 State of Conservation Reports.

The State Party understands that Wiltshire Council intends to recommence the development of the setting study early in 2024 with the aim of notifying the World Heritage Committee in the Autumn of 2024. Wiltshire Council's intention remains for the WHS Setting Study to be adopted as a Supplementary Planning Document (SPD) that will become a material consideration in the determination of planning applications in or affecting the WHS within the local planning authority's area of administration.

The Council will be implementing their standard, formal process for review of the Setting Study. This will include a public consultation exercise before it can be formally adopted. Acknowledging the World Heritage Committee's request for submission of the draft study for review by the Advisory Bodies, the State Party confirms that this will take place as part of the public consultation in due course alongside consultation with other WHS partners.

There are no further updates regarding the potential for boundary modification at this time, subsequent to those included in the 2022 State of Conservation Report. This process will be dependent on both the continued progress of the Supplementary Planning Document and identification of further funding.

World Heritage Site Condition Survey

Wessex Archaeology was commissioned by Historic England to undertake the condition survey, as reported in the 2023 State of Conservation Report. To date they have completed a desk-based assessment to review and prioritise monuments for the fieldwork survey based on factors including previous condition. The Wessex Archaeology project team and trained volunteers continued to undertake the field work phase of the Condition Survey during winter 2023/2024, visiting monuments to examine and record conditions using a standard digital recording system.

The expected completion date of the final report is late Spring 2024. The State Party confirms that it will make the results available for review by the Advisory Bodies in line with Decision 45 COM 7B.62.

4. Welcomes the conservation works on the Stonehenge lintels and interpretation installations at West Kennet Long Barrow, Silbury Hill, the Sanctuary and Windmill Hill, also notes that the temporary education centre at Stonehenge does not affect attributes of the Outstanding Universal Value (OUV) of the property, but that a proposal for new educational facilities has been subject to a Technical Review by ICOMOS, and requests the State Party to take into account the resulting recommendations and to advise the World Heritage Centre of the response to the Technical Review findings;

The State Party is pleased to note that the World Heritage Committee welcomes the conservation works reported on previously. A response to ICOMOS' final queries regarding the works on the Stonehenge lintels, alongside an update regarding the latest monitoring exercise on those conservation works, was submitted to the World Heritage Centre on 30 January 2024.

Rather than repeat the information provided, the State Party would also draw the World Heritage Committee's attention to the most recent notification regarding the proposed new education facilities at Stonehenge. This was submitted to the World Heritage Centre, subsequent to the last State of Conservation Report and receipt of ICOMOS's Technical Review of the proposals, on 30 January 2024.

5. Commends the State Party for inviting the 2022 joint World Heritage Centre/ICOMOS/ICCROM Advisory mission to provide advice in the context of the redetermination of the Development Consent Order (DCO) of the proposed A303 road improvement scheme (Scheme) within the Stonehenge component of the property;

6. Notes and endorses the conclusions and recommendations of the 2022 Advisory mission, and urges the State Party to fully implement the mission's recommendations;

The State Party reiterates its thanks to the Mission team for their time and consideration throughout their visit. We were pleased to have the opportunity to share our consideration of the scheme with the Mission and to see some of the benefits we appreciated reflected in their Report.

The conclusions and recommendations of the Advisory Mission report have informed the detail in the information package that has, separately, been submitted to the World Heritage Centre following ongoing discussions after the World Heritage Committee meeting.

7. Expresses profound regret that the Scheme has been granted a DCO without having been modified in accordance with previous Committee decisions and the recommendations of the 2022 mission;

The State Party confirms that the previous Committee decisions and the recommendations of the 2022 mission were taken into consideration by the Secretary of State for Transport in his redetermination of the Scheme. His Decision Letter was published on 14 July 2023.

As communicated by the State Party at the 2022 mission and in subsequent correspondence from the UK Ambassador on [16 May 2022; 15 July 2022; 18 July 2023; 25 July 2023], the DCO provides consent for the development and sets the parameters for its implementation within the overall limits set by the DCO. The DCO allows adjustment of these parameters following the granting of the DCO, subject to this not giving rise to any materially new or materially different environmental effects in comparison with those reported in the environmental statement. It is also possible to change the DCO by way of an application under a statutory change process.

8. Reiterates its previous request that the State Party not proceed with the implementation of the Scheme for the section between Amesbury and Berwick Down in its current form, and considers that the minimum change required must include an extension of the underground section of the western approach (in tunnel and/or cut-and-cover) to at least the western boundary of the property, with the western portal relocated as far west as reasonably practical, thereby reducing the length of the cut-and-cover section and minimising the extent of archaeological resources which must be removed, and the implementation of a comprehensive archaeological salvage and mitigation programme, consistent with best practice standards and approaches;

9. Further notes that the approved A303 road improvement scheme within the Stonehenge component of the property retains substantial dual carriageway sections exposed in cuttings, particularly those at the western end of the Stonehenge component of the property and that, at the present time, the A303 road improvement scheme, as approved by the DCO, constitutes a potential threat to the property, in conformity with Paragraph 179 of the Operational Guidelines, which, if implemented, would have deleterious impacts on the OUV of the property including its integrity, warranting inscription of the property on the List of World Heritage in Danger;

With the delivery of the comprehensive information package, as requested in paragraph 10, the State Party demonstrates its commitment to address the Committee's concerns identified above focused on the "...substantial dual carriageway sections exposed in cuttings, particularly those at the western end of the Stonehenge component of the property...", as far as is reasonably practicable.

The State Party is committed to achieving the best available outcome for the OUV of the property by removing the existing road, which divides the Stonehenge component of the property and which runs within 165 metres of the Stonehenge monument, and significantly reducing the related visual disturbance, vehicle pollution, noise and light pollution.

Further, the State Party affirms, in the highest possible terms, its view that the consented Scheme does not meet any of the criteria of Paragraph 179, particularly; iv) serious deterioration of urban or rural

space, or the natural environment; nor v) significant loss of historical authenticity; and therefore that there are no justifiable grounds for the inscription of the property on the List of World Heritage in Danger. The design developments will help to reduce any impacts even further.

The State Party can also confirm that the DCO requirements regarding a comprehensive strategy for archaeological mitigation are already in place for the Scheme - as confirmed in previous State of Conservation Reports (2020, 2022). The Detailed Archaeological Mitigation Strategy (DAMS) sets out and describes the scope, guiding principles, research agenda and methods for the planning and implementation of the essential archaeological mitigation works along the Scheme. A range of archaeological mitigation and evaluation measures are set out in the DAMS, taking into account the form and significance of archaeological remains that would be impacted.

In addition to the scope and methods set out in the DAMS, specific aspects of the mitigation strategy have been developed further through a Strategic Plan for Scientific Dating, a Detailed Environmental Strategy, a Strategy for Geoarchaeological Investigations, and a Strategy for the Recovery, Sampling and Dating of Human Remains.

For each site, or area of archaeological interest, a Site Specific Written Scheme of Investigation (SSWSI) will outline specific measures that would apply to particular pieces of archaeological fieldwork forming part of the overall programme of archaeological mitigation. The Scientific Committee has been actively consulted on aspects of the mitigation programme including, for example, the approach to ploughsoil artefact collection and to the investigation of tree hollows. Its advice has enhanced the methodology set out in those documents. Each SSWSI will detail the scope, aims and objectives and methods that will be applied for that site. The content and structure will be finalised in consultation with Wiltshire Council and Historic England and, for sites within or affecting the WHS, HMAG. Ultimately each SSWSI would be approved by Wiltshire Council, in consultation with Historic England. Once approved the final documents will be published online in accordance with the DCO (Requirement 16).

10. Taking note of the judicial review process following the DCO and the expected legal challenges, as well as the possibility that the proposed Scheme may be modified, requests the State Party to prepare a comprehensive information package on the proposed modifications to the Scheme conforming to the requests by the Committee in its decisions as well as in line with the recommendations of the 2022 Advisory mission, and to submit it to the World Heritage Centre for review by 1 February 2024, and urges furthermore the State Party to consult with the World Heritage Centre and the Advisory Bodies, to ensure consistency in this regard and that all further decisions or actions to implement the Scheme in its current approved state are halted until the Committee has reviewed the comprehensive information package of proposed modifications at its 46th session;

11. Requests furthermore the State Party to prepare, in consultation with the World Heritage Centre and the Advisory Bodies, a related set of corrective measures, which should include modifying the Scheme, consistent with the Committee's decisions and informed by the recommendations of the 2022 Advisory mission, to deliver the best available outcome for the OUV of the property, for examination by the Committee at its 46th session;

The State Party has complied with the request to prepare and submit a comprehensive information package on proposed design developments to the Scheme for review by the World Heritage Centre by 1 February 2024. It has also consulted with the World Heritage Centre and Advisory Bodies on the related set of corrective measures to deliver the best available outcome for the OUV of the property. The State Party maintains its commitment to continued dialogue and consultation.

*12. Finally requests the State Party to submit to the World Heritage Centre, by **1 February 2024**, 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 46th session, **considering that the absence of significant progress in modifying the Scheme consistent with the Committee's decisions and in accordance with the recommendations of the 2022 Advisory mission, would require a broad mobilization to preserve the Outstanding Universal Value of the property, including the inscription on the List of World Heritage in Danger.***

The State Party submits this report in response to the Committee's request, noting that the proposed design developments and dialogue with the World Heritage Centre and the Advisory Bodies demonstrate significant progress and respond to the World Heritage Committee's concerns, therefore demonstrating that there are no justifiable grounds for the inscription of the property on the List of World Heritage in Danger.

The State Party reiterates its view in the highest possible terms that the consented Scheme provides the best available solution to remove the existing busy road from the surface of the property, delivering a positive heritage impact and the best available outcome for the OUV of the property.

3. Other current conservation issues identified by the State Party which may have an impact on the property's Outstanding Universal Value

Recent Activities Presenting and Transmitting the OUV of the Property

A number of additional projects, events and activities have been undertaken that are supporting the presentation and transmission of the OUV of the property within the local community.

A **new Avebury community exhibition space** opened for the first time this summer. Leased by Avebury Parish Council from the National Trust, the 18th century chapel hosts exhibitions and talks once a month. Visitors are welcomed by local volunteers and the space offers a positive opportunity as a new venue in a historic building within the WHS for presentation and transmission to current and future generations of the cultural and natural heritage within the property. The chapel combines displays demonstrating 'A Living Landscape' from partners including North Wessex Downs National Landscape, and the Avebury and Stonehenge Archaeological and Historical Research Group (ASAHRG). ASAHRG celebrated its 30th year in 2023 with activities including the launch of a new logo voted for by its members.

Exploring what is happening elsewhere in the prehistoric world is key to understanding the significance of Stonehenge and Avebury. The WHS continues to build links with other properties internationally, most recently demonstrated by the **English Heritage exhibition 'Circles of Stone: Stonehenge and Prehistoric Japan'** (30 September 2022 – 3 September 2023, Stonehenge Visitor Centre). Jomon Prehistoric Sites in Northern Japan were inscribed as a UNESCO World Heritage Site in 2021, and the exhibition revealed remarkable parallels between prehistoric cultures 6,000 miles apart. The exhibition featured ancient Japanese artefacts never displayed in Britain before – including a 5,000 year-old Jomon Flame Pot.

The exhibition was accompanied by an **event hosted by English Heritage at the Japanese embassy** (14 June 2023, London) and conference 'Stone Circles across Eurasia' held by English Heritage and the Sainsbury Institute and supported by the Japan Foundation (29 August 2023, Salisbury). The conference brought together specialists from Japan and the UK to present recent work on stone circles and associated prehistoric monuments across Eurasia. Visitors to Avebury Chapel during the summer also enjoyed a display provided by The Sainsbury Institute on Jomon Stone Circles.

Throughout 2023 there were a number of opportunities to join **guided walks through the WHS** landscape with the National Trust, Wiltshire Museum, Wiltshire Council Archaeology Service and North Wessex Downs National Landscape. Alongside WHS partners' established and well-received education programmes, the **WHS Coordination Unit continued to engage with visitors** at selected Wiltshire events to further the presentation and transmission of OUV to local audiences: Archaeology in Wiltshire conference (26 March 2023, Devizes) and Open Farm Sunday (11 June 2023, Marlborough Downs Space for Nature).

The **influence of the WHS to artists, historians and archaeologists (Attribute 7 of OUV)** continues to be demonstrated through a number of exhibitions and events hosted by members of the WHS Partnership including: the National Trust's '300 Years of William Stukeley' exhibition (25 June – 10 November 2023) with 'Sketch like Stukeley' events, Wiltshire Museum's 'Wessex Airscapes, Elevating Wiltshire' exhibition (8 July – 15 October 2023) and The Art of Wessex exhibition at The Salisbury Museum (11 November 2023 – 28 January 2024).

The **first Festival of Neolithic Ideas** (11-12 November 2023) was held at Stonehenge in partnership between English Heritage and the Department of Archaeology, University of Cambridge comprising a programme of hands-on activities, demonstrations, talks and tours. All talks and walks were fully booked and the activities, including a planetarium, handheld laser scanning of artefacts and a pop-up prehistoric supermarket, provided great entertainment as well as an opportunity to explore the science of archaeology, helping visitors to better understand the World Heritage Site.

Leading researchers from more than a dozen organisations came together at Stonehenge, for the first time, to share ideas with the public and explore current understanding from recent technological advancements (from radiocarbon dating and ancient DNA analysis to astronomy and laser scanning). STEM (Science, technology, engineering or mathematics) is helping to illuminate prehistoric daily life. The event demonstrated community engagement, sharing of knowledge and understanding about the identification, protection, conservation, presentation and transmission of the OUV of the property alongside the Stonehenge Kids Dig held by English Heritage over the school summer holidays.

The four-year **Avebury Papers project** (first reported in the 2023 State of Conservation Report), research collaboration between the National Trust, English Heritage and the Universities of York and Bournemouth, continues to progress. Since the last report the project team has trained a team of volunteers to support the project and launched an artist brief The Avebury Papers: Artist brief – The Avebury Papers.

Holistic Management of the World Heritage Site

The Final Report on the joint World Heritage Centre / ICOMOS / ICCROM Advisory Mission to Stonehenge, Avebury and Associated Sites (c.373bis) in April 2022 pointed out that the property's *"safeguarding and protection should have a landscape approach"*. A landscape approach is applied to support holistic management of the property, taking account of the natural character and appearance of the setting within which the archaeological monuments are located. Partners work across the property in support of this approach to management.

Natural England (the UK Government's adviser for the natural environment in England) continues to support landholders across the WHS through Defra (Department for Environment, Food and Rural Affairs) funded **agri-environment schemes** (as reported in the 2022 State of Conservation Report). The schemes support both individual landholders and those working together such as the Porton to Plain and Pewsey Downs Farmers Groups. A wide span of works are delivered to support the protection and transmission of OUV including physical enhancements through grassland restoration, erosion repair, protection from burrowing animals, and scrub control as well as provision of educational access and interpretation. To highlight the historic environment and integrated landscape scale environmental outcomes which can be achieved and funded via such schemes, Natural England has produced a video with a landowner in the Avebury landscape and Historic England. The video demonstrates how agencies work together, how agreements are worked up, the value of advice, and what inspires and enables landholders.

In the Avebury landscape, the farmer-funded and led 'Making Space for Nature' Marlborough Downs Nature Enhancement Partnership has been **supporting and training farmers in collaborative landscape-scale conservation**. The Defra funded Farming in Protected Landscapes programme (2021-2025) managed by North Wessex Downs National Landscape has supported capital works to protect and interpret monuments.

In the 2023 State of Conservation Report the State Party reported on the work being undertaken by the National Trust to **manage erosion**, such as by dispersing visitors across the landscape, and the English Heritage Trust's research into a longer-term solution, more suitable for a warmer, wetter climate.

This work has progressed; the English Heritage Trust (EHT) has been considering **options to ensure that the visitor paths around Stonehenge are able to be open all year round despite the change in weather patterns**. The current paths generally work well as they are managed into winter and summer paths but can become excessively muddy and uneven particularly in the winter after heavy rain. EHT will be carrying out a trial of different types of grass reinforcement for a year on its winter paths to see if there is an environmentally friendly way of ensuring that the grass paths can be used. They will then be walked on when the circulation changes to the summer paths next spring. The

objective of the trial will be to investigate if more effective construction profiles for the grass paths can be found. This will continue to allow the people who want to visit Stonehenge from all over the world throughout the year to do so knowing that the underlying archaeological remains are being protected.

Chalk grassland reversion in response to priority one of the Stonehenge & Avebury WHS Management Plan (2015) to *'Protect Buried archaeology from ploughing and enhance the setting of monuments by maintaining and extending permanent wildlife rich chalk grassland'* continues to progress in both parts of the WHS through the work of landholders, Natural England and the National Trust as reported in the 2023 State of Conservation Report. This work protects archaeological remains and monuments, increases landscape-scale conservation and connects habitats, and where appropriate can provide opportunities for improved public access. In the Stonehenge landscape the National Trust will have restored a further c.100 hectares of its land to chalk grassland by 2025.

The Wiltshire Chalk Partnership, a group of organisations and landholders, have also come together to help create 2,000 hectares of semi-natural grassland across Wiltshire and to connect and restore important existing habitats. This initiative will further aid connecting the chalk grasslands in and around the WHS to the wider landscape of Wiltshire and beyond.

The Porton to Plain Farmers Group is also in partnership with the Royal Society for the Protection of Birds (RSPB) and others, **working to maximise benefits to nature by taking a cross farm approach**. The group are focusing on a number of priorities ranging from supporting a diversity of chalk grassland and arable wildlife to improving soil health and water management. The group is in its second year funded by Natural England's Countryside Stewardship Facilitation Fund which supports a programme of training events and activities. Recent events included workshops with local experts focusing on the importance of dung beetles and bats in the landscape, catchment sensitive farming and a visit to group members' farms to take a detailed look at arable plant conservation, chalk grassland management and measures to support pollinators.

The RSPB also continues its long running Wessex **stone-curlew monitoring programme** working closely with landholders in and around the WHS to conserve this unique and charismatic bird. 2023 was generally a mixed year for stone-curlew breeding success. The cold weather in early spring combined with a wet July contributed to slightly less fledging success than the previous year. However, the co-ordinated roost count by RSPB volunteers around Salisbury Plain has found that the numbers of stone-curlews gathering in the WHS in the autumn fortunately remained stable, contributing to a steady recovery of the population in this landscape.

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.

At the time of writing no proposals, other than those described above, which fall within the scope of paragraph 172 have been brought forward which require notification to the World Heritage Committee.

5. Public access to the state of conservation report

The State Party is content for the full State of Conservation Report to be uploaded to the World Heritage Centre's State of Conservation Information System.

6. Signature of the Authority

Henry Reed
Senior International Policy Adviser, Cultural Diplomacy
Department for Culture, Media and Sport

Stonehenge, Avebury and Associated Sites World Heritage Site

Proposed design developments to the A303 Scheme

1. This report

1.1. In accordance with Decision 45 COM 7B.62 of the World Heritage Committee, the United Kingdom State Party has produced a comprehensive information package on the proposed design developments to the A303 Scheme for the Stonehenge, Avebury and Associated Sites World Heritage Site.

1.2. Annexes:

- Annex A - Main Heritage Impact Assessment for Cantilevers and an Additional Green Bridge
- Annex B - Possible Locations for an Additional Green Bridge
- Annex C - General Arrangement Drawing
- Annex D - Heritage Monitoring Advisory Group (HMAG) Comments

2. Judicial Review

2.1. Following the most recent decision 14 July 2023 by the Secretary of State for Transport to approve the Development Consent Order (DCO) for the A303 Scheme a legal challenge was made.

2.2. The Court heard the submissions from the parties at a hearing from 12-14 December 2023. We anticipate a decision by the Court to be made by March 2024.

2.3. To note, there are clear boundaries between Government and the Courts and we do not expect to have any advance warning of the content or timing of the Judge's decision. The State Party will therefore notify the World Heritage Centre as soon as the decision becomes public.

3. The Scheme

3.1. Within the Stonehenge, Avebury and Associated Sites World Heritage Site, there is currently a noisy, congested and dangerous main road, which divides the property and runs very close to the globally recognised stones.

3.2. The road and associated traffic (1 vehicle passes every 3.5 seconds) brings significant noise, pollution, visual disturbance and light pollution to the World Heritage Site.

3.3. There have been more than 50 proposals to improve the road infrastructure around Stonehenge over the last 30 years. Options have been subject to methodical and detailed analysis to respond to a complex set of demands and needs including those of the communities and villages around the World Heritage Site.

3.4. The current Scheme has been redesigned over a number of years and amended in response to views and concerns raised through public consultation and discussions with heritage bodies, Heritage Monitoring Advisory Group (HMAG), Scientific Committee, regular dialogue with the World Heritage Centre and Advisory Bodies and taking into consideration World Heritage Committee decisions.

3.5. National Highways considers the consented A303 Scheme the best solution that has been presented in terms of preserving the landscape and restoring tranquillity to Stonehenge's surrounding area.

3.6. The UK has committed £1.7 billion pounds to replace the road and to bury a 3.3 kilometre long section in a tunnel deep under any archaeological remains. Driving at 60mph (97kph), it would take 2 minutes to drive the length of the tunnel.

3.7. This will remove the road entirely from sight if standing at the stones. It is a huge investment in our heritage that will restore peace and tranquillity, bring back the dark night skies, and provide greater community access across the site - giving the stones and landscape the respect and setting that a World Heritage Site deserves.

3.8. The A303 Scheme has the support of the UK's leading heritage organisations including Historic England, English Heritage and National Trust, in addition to the Wiltshire Council Archaeology Service.

3.9. Whilst we have already addressed the majority of the recommendations from the 2022 Mission report, we note the concerns from the 45th Committee Meeting and the Mission report with the exposed dual-carriageway at the Western Portal.

3.10. As previously noted, we are committed to doing all we can to address these concerns, and are proposing further design developments to the existing scheme, in order to ensure the best available outcome for the site.

4. Design Developments

4.1. We have explored all the possible options with the Department for Transport, HM Treasury and National Highways as to how we can address concerns around the exposed dual-carriageway.

4.2. From the longlist of options, we are not able to consider any design developments that would require an application for a material change to the Development Consent Order (DCO). A material change application (which could take over 2 years and cost £millions) would jeopardise commitments for the whole Scheme.

4.3. The DCO provides consent for the development and sets the parameters for its implementation within the overall limits set by the DCO. The DCO allows adjustment of these parameters, allowing us to make design developments as part of the detailed design phase. This is subject to any design developments not giving rise to any materially new or materially different environmental effects in comparison with those reported in the environmental statement.

4.4. We are proposing two key design developments to the Scheme in order to address concerns regarding the "...substantial dual carriageway sections exposed in cuttings, particularly those at the western end of the Stonehenge component of the property...".

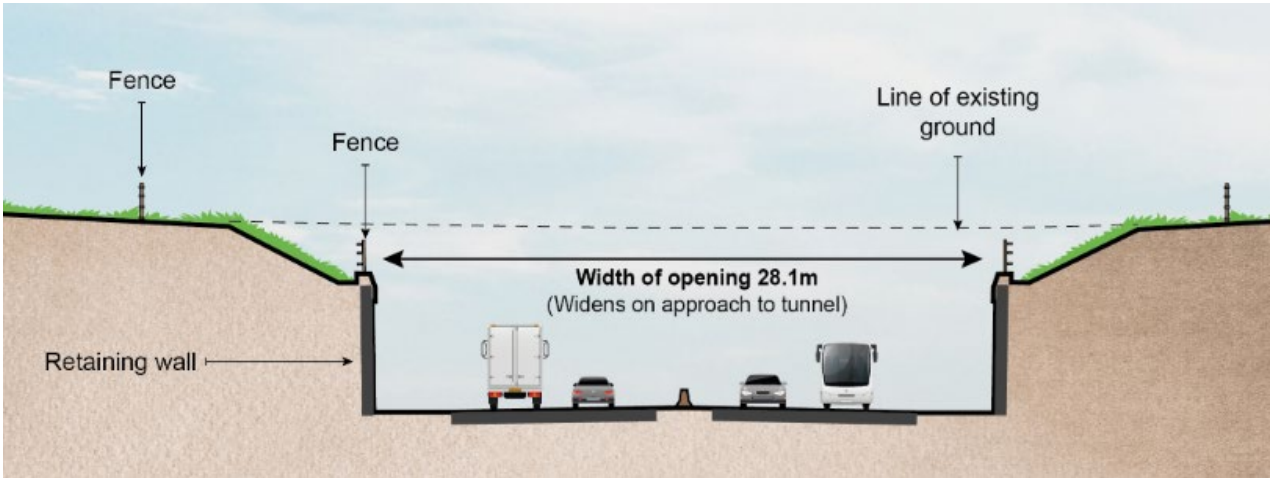
4.5. The proposed design developments aim to;

- reduce the amount of exposed dual carriageway sections,
- minimise visual and aural impact from viewpoints across the site,
- improve north to south physical (and ecological) connectivity, and
- reduce the impact on the integrity of the spatial relationships between monuments.

4.6. We are proposing two design developments to the Scheme - Cantilevers and an additional green bridge, in order to deliver the best available outcome for the OUV of the site.

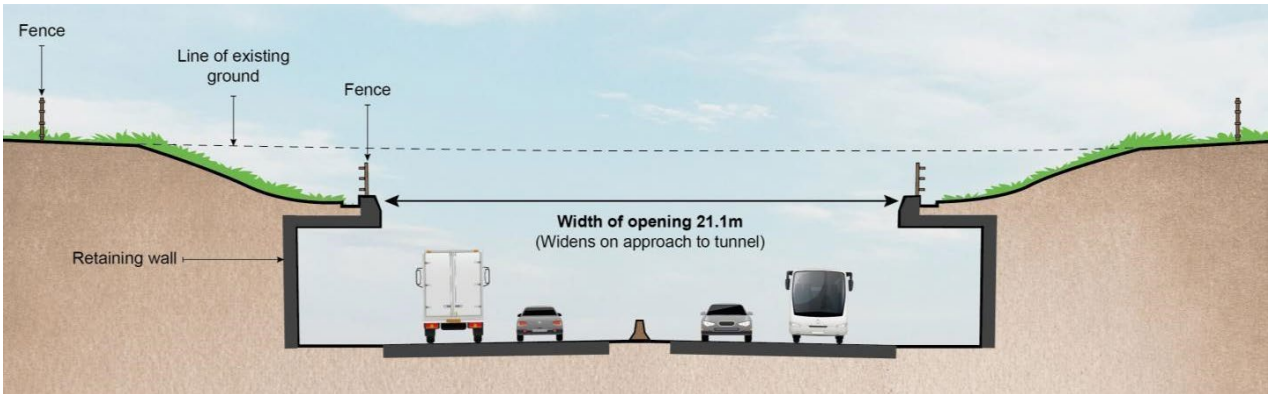
5. Cantilevers Summary

5.1. The current proposed width of the opening at the western approach is 28.1 metres. See cross-section:



5.2. In order to reduce the exposed western approach section, the proposal is for Cantilevers to extend 3.5 metres from each side of the retaining wall, for the full 850 metre length. This is the maximum cantilever extension possible within the proposed structure.

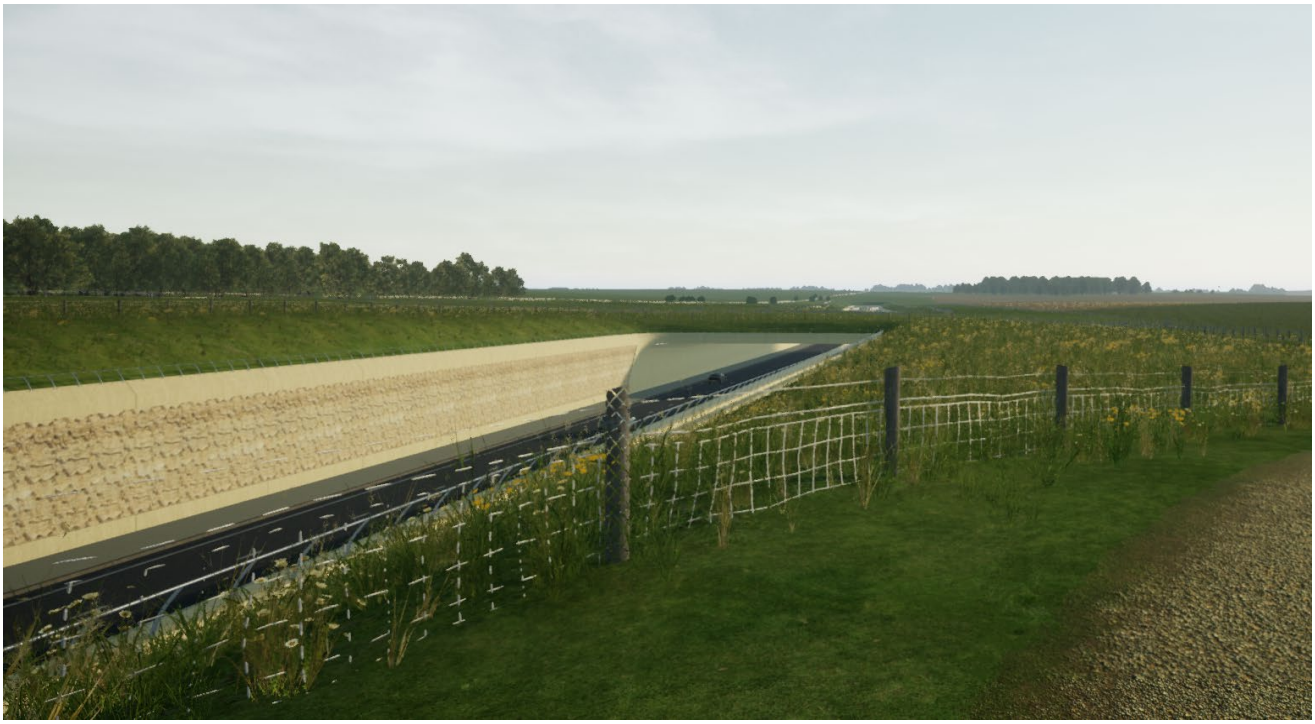
5.3. This would see the boundary fence moved to the edge of the cantilever, with the grass covering extended close to the edge of the opening and the width of the opening reduced to 21.1 metres.



5.4. This addition would reduce the cutting width by 25% and substantially improve the transition between the landscape and the road by reducing the sight and sound of the road. In particular, it would reduce visibility of the retaining wall when viewed from the north or south of the cutting.

5.5. We have used the virtual reality realisation of the precise Scheme design to replicate the impact from two key points. Firstly, on the edge of the site boundary, closest to the entrance:

5.6. First viewpoint - south of new A303, looking east, existing design:



5.7. First viewpoint - south of new A303, looking east, design with 3.5m Cantilevers reducing visibility of the retaining wall:

5.8. This image illustrates the location of the second viewpoint from the existing A303 road that will be removed and made into an accessible pathway:

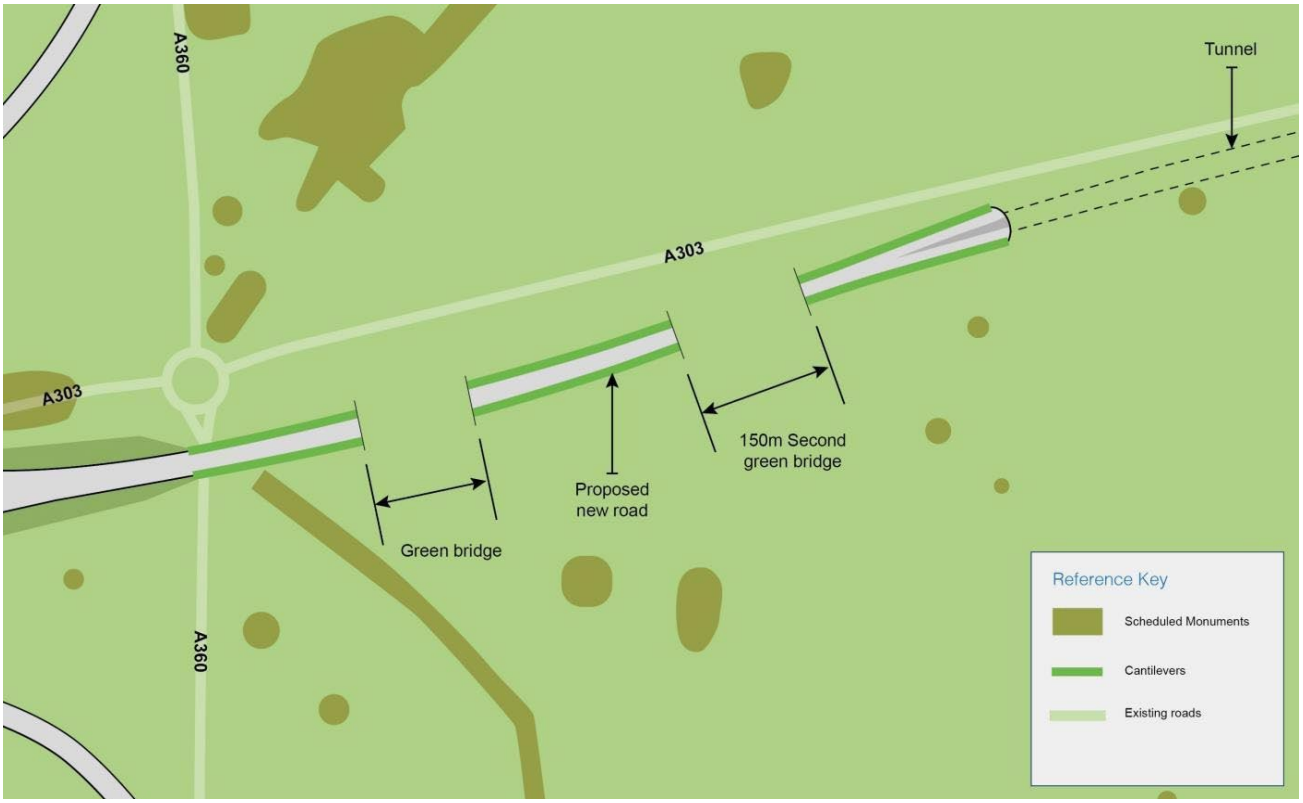
5.9. Second viewpoint - looking south east, current design with cutting just visible:

5.10. Second viewpoint - looking south east, design with Cantilevers making the cutting barely visible:

6. Additional Green Bridge Summary

6.1. The second proposed design development would be an additional Green Bridge.

6.2. A second Green Bridge at the Western Portal would be in addition to the previously agreed Green Bridge (identified as Green Bridge Four in the DCO) and be in addition to the proposed Cantilevers.



6.3. This would reduce the length of the open cutting section within the World Heritage site from 850 metres to 700 metres, helping to minimise the visual and aural impact as well as improving the north to south physical, landscape and ecological connectivity.

6.4. The precise location of the additional Green Bridge would be agreed in consultation with stakeholders during the design phase, and would take into account maximising the benefit to the OUV of the World Heritage Site, as well as taking into account compliance with existing standards around the separation of structures and space between the Green Bridge exit and slip roads for Countess Roundabout. An indicative location is provided above.

6.5. In addition to the Cantilevers which reduce the open area by 25%, the additional Green Bridge would add a further covered area of over 3,000 square metres, meaning the design developments would reduce the total exposed area by 38.2%.

6.6. We have maximised the width of the bridge at 150 metres, as anything greater is classed as a tunnel and subject to tunnel standards such as ventilation, evacuation and lighting.

6.7. We have used the virtual reality realisation of the precise Scheme design to replicate the impact of the additional Green Bridge from a third viewpoint on the path north of the opening, looking south west:

6.8. Third viewpoint, looking south west, original Scheme:

6.9. Third viewpoint, looking south west, scheme with Cantilevers and additional Green Bridge:

7. Funding and approval

7.1. We have secured funding commitments for these design developments of an additional £50 million investment in the heritage benefits of the Scheme.

7.2. The Cantilevers would require a simple approval process that exists in the DCO that supports the detailed design phase, prior to the main works commencing.

7.3. The consenting process that would be required for the additional Green Bridge will be confirmed on finalisation of our assessments. It may follow the same process required for the Cantilevers.

8. Heritage Monitoring Advisory Group (HMAG) review

8.1. HMAG members have continued to be involved in the development of the Scheme and were consulted with an early proposal of the design developments outlined above.

8.2. The responses acknowledge the positive contribution of the proposed developments which would enhance and have a beneficial impact on the Scheme, and would help to further minimise the residual adverse impacts of the Scheme on the OUV of the World Heritage Site.

8.3. The responses are included in full at Annex D. As part of the ongoing dialogue process, HMAG members are happy to provide further review of the latest version of the Heritage Impact Assessment annexed to this report.

9. Cantilevers Detailed Information

9.1. The consented DCO provides for the construction of the western portal approach retaining walls (Work No. 1D(ii)). These take the form of retaining walls within a cutting of a minimum of 7m in depth in accordance with commitment D-CH5 in the Register of Environmental Actions and Commitments (REAC) contained within the Outline Environmental Management Plan (OEMP).

9.2. The inclusion of the Cantilevers to the retaining wall structures would develop the design between chainage 6,200 (towards the western extent of Work No. 1D) and chainage 7,200 (the eastern extent of work No. 1D at the western portal) in the following ways:

- Introduce 3.5m wide cantilever canopies for up to approximately 850m between chainage 6,200 and chainage 7,200 to the north and south sides of the vertical retaining walls within the western approach cutting. The remaining 150m between chainage 6,200 and chainage 7,200 is where Green Bridge Four is located. This 850m would be reduced to approximately 700m should a fifth green bridge also be included as a further amendment to the Engineering Section Drawings. The Cantilevers would span over the verge, and where an emergency lay-by has been provided will span over the lay-by and the hard standing strip behind the lay-by. These would reduce the appearance of the width of the open retained cut by approximately 25% by allowing the landscape to extend over the retaining wall.
- The consented DCO allows for a grassland slope with a ‘rounded top’ at the top of the cuttings at an approximately 1:2 (Horizontal:Vertical) gradient and approximately 2.5m depth of soil coverage (commitment D-CH5 in the REAC). A 1:2 gradient grassland slope would be provided over the cantilever sections, tapering to the edge of the cantilever, instead of the retaining wall structures.

9.3. The 200m canopy at the western portal and the 150m wide Green Bridge Four would be retained.

10. Summary of the Environmental Appraisal of the Cantilevers

10.1. Table 1 provides a summary comparison between the effects of the A303 Scheme with the Cantilevers and the effects of the A303 Scheme without the Cantilevers, the latter as reported in the Environmental Statement (ES).

10.2. An outline Heritage Impact Assessment (HIA), covering the Cantilevers and additional green bridge, is included in Annex A.

10.3. In conclusion, this appraisal has indicated that whilst impacts with the Cantilevers may differ slightly, no change in magnitude of impact category is anticipated. In turn, this would also not change the significance category used to classify the environmental effects. Therefore, it can be concluded that no new or materially different environmental effects would arise from the inclusion of the Cantilevers.

Table 1: Summary of the Environmental Appraisal

Topic	Discussion
Air Quality	**Construction:** Additional work for construction would be minimal, located at distance from receptors sensitive to construction and be managed with the traffic management measures already planned. Construction air quality effects are therefore anticipated to be comparable to those already assessed for the Scheme without the Cantilevers. **Operation:** The addition of the Cantilevers would not change operational traffic flows, although the Cantilevers have the potential to subtly change the dispersion of pollutants away from the cutting. Operational air quality effects are anticipated to be comparable to those already assessed for the Scheme without the Cantilevers.
Cultural Heritage	**Construction:** The addition of the Cantilevers relates to the construction of the Western Tunnel Approach Cutting. Construction would therefore require the removal of archaeological remains within the World Heritage Site (WHS) over the same footprint as the Scheme without the Cantilevers that has already been assessed. The temporary construction activities for the Cantilevers would be the same as for the Scheme without the Cantilevers that has already been assessed, with significant adverse effects on a number of Asset Groups that contribute to the Outstanding Universal Value (OUV) of the WHS, including Asset Groups AG12 Winterbourne Stoke Crossroads Barrows, AG13 Diamond Group and AG19 Normanton Down Barrows. Discrete and isolated assets that contribute to the OUV of the WHS, close to the construction cutting for the Cantilevers, would also experience significant temporary adverse effects (NHLE 1010831, 1010832, 1010833, 1013812, 1011048 and UID 2177 / 7092). The permanent construction effects of the Cantilevers would be the same as reported in the ES. **Operation:** Although the Cantilevers would introduce positive changes, the relative scale of these changes, as part of the Scheme as a whole, would be very minor. There would be negligible positive change and enhancement (very minor changes to key archaeological settings) in comparison with the Scheme without the Cantilevers. The Environmental Statement concluded a residual effect on the WHS as a whole, taking into account the residual effects on the Attributes of OUV, Integrity and Authenticity of the WHS, of Slight Beneficial. The Cantilevers would not change the beneficial or adverse residual effects reported previously. Although the negligible positive changes, due to the Cantilevers, would improve the performance of the Scheme overall, these would not be sufficient to change the residual overall effect of the Scheme, on the OUV of the WHS as a whole, to Moderate Beneficial. Operationally, the effects of the Cantilevers would be the same as those reported in the ES.

Landscape	**Construction:** The Cantilevers would be constructed after the Scheme has altered the underlying pattern of landform to construct the retained cutting. The scale of the Cantilevers construction activity would be relatively small in comparison to other aspects of the proposed structures. In combination with the small extent of the activity and the combined perception with the construction activity for the Scheme, the Cantilevers would not alter the predicted landscape effects of the Scheme during the construction phase. **Operation:** The additional grassland and reduced extent of the open cutting resulting from the Cantilevers would be beneficial for the pattern of landform, vegetation cover and reduced perception of the retained cutting. Due to this, the Cantilevers would be an improvement in landscape terms upon the Scheme. However, the small scale and extent of the Cantilevers would not alter the predicted tiers of landscape impacts and therefore the effects of the Scheme in operation. As such landscape effects associated with the Scheme with the Cantilevers would be comparable to those associated with the Scheme without the Cantilevers that has already been assessed.
Visual	**Construction:** The Cantilevers would be located within the same geographic extent as other elements of the Scheme and be present in the same views. The additional visibility of the construction activity would not result in any additional significant adverse visual effects to those already reported, however there could be an increase in the period of time over which the effect is experienced at this location. **Operation:** The proposed surface finish to the Cantilevers is grassland which would reflect views of the proposed soft landscape design adjacent to the retained cutting, across Green Bridge Four and the Western Portal. This integration would be an improvement in comparison to the Scheme without the Cantilevers that has already been assessed. However, given that the retained cutting is already set low within the WHS to minimise its visibility, the Cantilevers would not alter the predicted tiers of visual impacts and therefore the visual effects would remain as already predicted.
Biodiversity	**Construction:** The Cantilevers would not result in additional land take. As such, the adverse impacts to species associated with loss of habitats are anticipated to be comparable to the Scheme without the Cantilevers that has already been assessed. Construction dust and traffic impacts on air quality are also anticipated to be comparable. Air quality effects on designated sites are therefore anticipated to be comparable what has already been assessed. **Operation:** There would be no reduction in the amount of species rich chalk grassland. The ‘rounded top’ of species rich grassland would increase grassland and may result in a slight increase in the overall Biodiversity Net Gain percentage. However, these benefits would be minor and as such that the biodiversity effects of the Scheme inclusive of the

	Cantilevers would be comparable to those without the Cantilevers. Air quality impacts associated with operational traffic to biodiversity receptors during operation also are anticipated to be comparable.
Noise and Vibration	**Construction:** The Environmental Statement reported that for receptors at the Stonehenge Visitor Centre and Hill Farm Cottage, construction noise levels did not exceed the trigger level for a potentially significant adverse effect. Due to the large distance between the Cantilevers and these receptors (approximately 1.3km), new potentially significant adverse noise effects at these receptors are not anticipated. Noise impacts to PRoW users, construction vibration impacts and construction traffic noise impacts would be comparable to those for the Scheme without the Cantilevers that has already been assessed. **Operation:** The addition of the Cantilevers has the potential to slightly reduce the propagation of road traffic noise from the western approach cutting. The closest receptors at the Stonehenge Visitor Centre and Hill Farm Cottages are remote from the cutting at approximately 1.3km away, therefore any slight beneficial impact is likely to be limited to users of a small area of the WHS close to the cutting. Operational phase noise effects are anticipated to be comparable to those that have already been assessed.
Geology and Soils	**Construction and Operation:** The construction and operation of the Cantilevers would not result in any additional impacts upon geology and soils. Geology and soils effects as a result of the Scheme inclusive of the Cantilevers are therefore anticipated to be comparable to those that have already been assessed for the Scheme during construction and operation.
Road Drainage and Water Environment	**Construction:** Additional works to construct the Cantilevers have the potential to impact upon surface water and groundwater, although such impacts would be appropriately managed through the adoption of the measures outlines in the OEMP. With the implementation of the measures outlined in the OEMP, the water environment effects are anticipated to be comparable to those that have already been assessed for the Scheme. **Operation:** The inclusion of the Cantilevers is anticipated to create a slightly longer flow path for surface water in comparison with the Scheme without the Cantilevers. Therefore, the timing of inputs into groundwater would be affected, although at a catchment-wide scale, the result would be insignificant. The drainage proposals for the Cantilevers design would be designed to the same standards as the other elements of the Scheme, and so effects would be anticipated to be comparable to those that have already been assessed for the Scheme.

Materials and Waste	**Construction:** Construction of the Cantilevers would require the use of additional construction materials and generate a small amount of additional construction waste. Such changes are expected to be negligible in the context of overall material use and waste generation from the Scheme. The likely material and waste impacts associated with the Scheme inclusive of the Cantilevers are anticipated to be comparable to those associated with the Scheme without the Cantilevers that has already been assessed. **Operation:** The Cantilevers are not expected to increase operational waste generation or material requirements. Therefore, materials and waste effects for the Scheme inclusive of the Cantilevers would be comparable with those associated with the Scheme without the Cantilevers.
People and Communities	**Construction:** Additional works would not require any additional land take or change predicted amenity effects. As such, the people and communities effects for the Scheme inclusive of the Cantilevers would be comparable to the Scheme without the Cantilevers that has already been assessed. **Operation:** The Cantilevers would not amend accessibility for users of the PRoW network, change journey reliability or driver stress, or result in new or additional severance. No change in operational traffic is expected due to the Cantilevers. Amenity effects that could arise from traffic would be managed through the OEMP commitments. People and communities impacts would be comparable to those for the Scheme without the Cantilevers that already has been assessed.
Climate	**Construction:** Construction of the Cantilevers would lead to additional greenhouse gas (GHG) emissions due to the need for additional construction materials, plant use and energy use. However, the additional GHG emissions would be minimal in the context of the overall Scheme, so the climate effects for the Scheme inclusive of the Cantilevers would be comparable to those for the Scheme without the Cantilevers that already has been assessed. **Operation:** The installation of the Cantilevers would not result in any changes to operation traffic flows. Therefore, GHG emissions for the Scheme with the addition of the Cantilevers would be the same as with the Scheme without the Cantilevers. The drainage design for the Scheme with Cantilevers would be to the same standards as for other elements of the Scheme, taking account of future climate change and changes to groundwater and surface water flows due to the inclusion of the Cantilevers. As such, the effects would remain comparable to the Scheme without the Cantilevers that already has been assessed.

Combined Effects	**Construction:** A review of the potential for multiple effects on the same receptors has been undertaken. This indicated very little potential for combined effects upon the same receptor. Byway WCLA 1 was noted to have the potential to experience combined noise and vibration and landscape and visual impacts. However, such potential combined effects are not considered to result in significant effects (positive or adverse) upon this receptor. As such, the combined effects upon Byway WCLA 1 as a result of the Scheme inclusive of the Cantilever would be the same as reported within the Environmental Statement. Therefore, the previously reported large adverse combined effect as upon 'Recreational users on byways within the River Till floodplain' would remain with the addition of the Cantilevers. **Operation:** A review of the potential for multiple effects on the same receptors has been undertaken. Byway WCLA 1 was identified to have the potential to experience a beneficial noise impact, as well as a marginal benefit in terms of a reduced amount of visible cutting. Due to the low level of additional benefit impact expected as a result of the Cantilevers, no significant combined effects would be expected to arise. As such, the combined effects upon Byway WCLA 1 as a result of the Scheme inclusive of the Cantilevers would be the same as reported within the Environmental Statement. Therefore, the previously reported moderate adverse combined effect as upon 'Recreational users on byways within the River Till floodplain' would remain with the addition of the Cantilevers.

11. Additional Green Bridge Detailed Information

11.1. Inclusion of an additional green bridge brings particular safety and technical factors that need to be evaluated prior to confirming its location. Most notably, whereas the minimum distance of the green bridge from the western portal is controlled by design standards, the minimum distance between one structure (for example a green bridge) and the next structure is not. This separation distance between green bridges is a fundamentally important consideration from a safety perspective.

11.2. The design parameters provided in CD 352[1] [Design of road tunnels, National Highways, March 2020], for a 70mph road, set the minimum distance of the location of the additional green bridge at 333m from the western portal (Chainage 6867). The A303 Project Team is engaged in ongoing discussions with National Highways' Safety Engineering and Standards directorate to determine the minimum separation distance between green bridges on a risk-based approach, that includes, but not limited to, the following factors:

- Smoke dispersion (in the event of a vehicle fire below a green bridge)
- Stopping sight distance (including traffic entering and exiting emergency laybys)
- Driver distraction

11.3. In accordance with CD 352 [Design of road tunnels, National Highways, March 2020], any structure 150m or longer is subject to tunnel regulations and standards, hence we have assumed the maximum length of any green bridge to be 149m. Four possible locations for Green Bridge 5 were chosen to enable a high-level feasibility study to be conducted. The four locations are shown on the drawing in Annex B and the approximate chainages (Ch.) are:

- Option 1, Ch 6220 – 6369 (west of Green Bridge 4)
- Option 2, Ch 6600 – 6749 (east of Green Bridge 4)
- Option 3, Ch 6800 – 6949 (east of Green Bridge 4)
- Option 4, Ch 6717 – 6867 (east of Green Bridge 4)

11.4. For the purposes of the feasibility study, it was assumed that, other than the absence of a Public Right of Way on top, the functional requirements of the additional green bridge mirrored those of Green Bridge 4, namely that it shall provide:

- daytime lighting only
- no night-time lighting
- route guidance to road users
- clear visibility of stationary vehicles and pedestrians in emergency situations during the daytime

11.5. The smoke dispersion study is about to commence; in the meantime, an initial high-level technical appraisal of these locations is provided in Table 2. The initial environmental appraisal is included in Tables 3 and 4.

Table 2: Summary of Initial Technical Appraisal Findings

	Option 1	Option 2	Option 3	Option 4
	Approx. Ch 6220 - 6369	**Approx. Ch 6600 – 6749**	**Approx. Ch 6800 - 6949**	**Approx. Ch 6717 - 6867**
	approx. 830m between additional green bridge and tunnel portal approx. 45m between GB4 and additional green bridge	approx. 450m between additional green bridge and tunnel portal approx. 40m between GB4 and additional green bridge	**approx. 250m between additional green bridge and tunnel portal makes this option unviable** approx. 240m between GB4 and additional green bridge	approx. 333m between additional green bridge and tunnel portal approx. 157m between GB4 and additional green bridge
Highways	1.2m Structure deck, 5.3m clearance leaves residual fill. Looks like workable solution below existing ground levels			
Drainage	No significant issues	No significant issues	No significant issues	No significant issues
Structures	Soil nails encroach outwith archaeological boundary, but this could be resolved by revisions to the Archaeological Mitigation Areas following provisions in the DAMS (i.e. through amending, consulting, approving SSWSI)			
Operations & Safety	Does not increase driver distraction since outwith 333m of tunnel	Does not increase driver distraction since outwith 333m of tunnel	Increases driver distraction since within 333m of tunnel	Should not increase driver distraction since approx. 333m outwith tunnel portal and in line with minimum standard
	Currently deemed to be too short a distance between bridges, but this finding will be revisited when the outcomes of the smoke dispersion study are received. **Not a defendable option as effectively breaking a second tunnel in half to avoid it being a tunnel**		Distance to GB4 is 240m and should be sufficient to demonstrate two separate bridges	Distance to GB4 is approx. 157m. Borderline if this could be argued as sufficient to not be classed as deliberately breaking a second tunnel in two, but this finding will be revisited when the outcomes of the smoke dispersion study are available.
	Roadside technology and signing - should be OK given current positions within verge or central reserve. No real difference compared to retaining wall solution.			
	Stopping Sight Distance will be unaffected by adding an additional green bridge as long as the bridge abutments are set at the back of the verge, as per the retaining walls. Visibility along the mainline and to/from the emergency laybys crosses the verge and will not be made worse by effectively adding a lid to the retaining walls due to the relatively flat vertical profile and 5.3m minimum headroom beneath the structure.			
Tunnel M&E	The impact on smoke control of the presence of the canopies and additional green bridge needs to be assessed through a detailed study			

Table 3: Summary of Initial Environmental Appraisal

Topic	Notes
Noise	An extra green bridge would reduce noise levels in the World Heritage Site in the area on the top of the bridge. However, there would be potential extra noise at the portals as the noise generated within the section of road covered by the bridge has to go somewhere so there would be more noise at the portals than if the bridge wasn't there. The extra portal noise can then propagate along the cutting. Therefore, Option 3 is preferred, followed by Option 4 (further west), Option 2 (further west) and Option 1 is least preferred as it is closest to the houses to the west. The extra green bridge would be much shorter in length than the tunnel so such portal noise would be much less of an issue. Portal noise could be minimised by using an absorptive lining at the entrance/exit, noting that this is already specified in the ES for the tunnel and green bridge included in the Environmental Statement (D-NOI6). As there are no houses in close proximity, noise is not considered to be a critical factor in the decision.
Population and Health	- GB4 accommodates a new public right of way (PRoW), a restricted byway. The route for this, see red circle area below, would pass to the south of **Option 1**, see blue chevrons marked below. If it is provided with no access across it, it might seem odd to the new PRoW users to be diverted past it to use another bridge. That said, it would only impact users who are planning to head generally north rather than east as it's only they that would incur an extra journey length (and fairly minimal at that). - Hypothetically, if the **new restricted byway could be routed over Option 1** (noting there are no current plans for this) instead of GB4 there would be a very small benefit to some users from this saved journey length - This is the **only differentiator for population and health between the 4 options**. Adding a green bridge would not mean any material land take from holdings that would alter effect conclusions as reported in the Environmental Statement. - If no access can be provided across it, then they are all the same, with all locations being acceptable.
Geology and Soils	No option preference from geology and soils perspective. They all appear just south of RAF Stonehenge, but outside of the historical boundary of this potential land contamination site. Had one of the locations been further east then perhaps we could have differentiated between locations in or outside of the potential land contamination site.
Air Quality	No preference from an air quality perspective. There is very little of sensitivity to air quality in this part of the Scheme.
Landscape	See detailed narrative in Table 4 below.

Topic	Notes
	Option 3 confirmed to be the same as Option 4 in landscape terms.
Heritage	See Outline HIA in Annex A and detailed narrative in table below.
Water	The bridges can affect the rate of recharge (insignificant on wider scale). No overall preference on option location.
Climate	Option position unlikely to have a differentiator for greenhouse gases or climate resilience issues.
Biodiversity	Would be beneficial for wildlife connectivity in all locations. A location that could encourage people to wander further into the landscape may increase disturbance on nesting stone curlew. However, assuming no public access at this point, no option differentiator identified at this point.

Table 4: Summary of Initial Landscape and Visual Impact Appraisal

Green Bridge (assumed no public access)	LVIA Benefits	LVIA Disbenefits
Option 1 Ch.6220-6359	● Sited in an area of very high construction activity, therefore unlikely to result in any increase to predicted landscape and visual impacts during the construction phase ● Responds positively to published landscape guidance ● Improved north to south physical (and ecological) connectivity ● Reflective of the existing north to south alignment of the A360 at the boundary of the WHS and historic routeway alignment ● Potential to be perceived as an 'entrance' to the WHS for road users on A303 and improved 'sense of place' ● Reduces perceived scale, extent and severance of cutting between GB3, Longbarrow and GB4 ● Provides a physical and visual separation between Longbarrow and the WHS ● Improved visual connection for visitors and recreational users at the Winterbourne Stoke Group (to the north) in views southwards ● Slight improvement in the predicted landscape impacts for Local Landscape Character Area 11: Oatlands Hill, which covers Longbarrow Junction and therefore experience a higher degree of alteration to landform and perception of highways infrastructure ● Very slight improvement for LLCA 14: Stonehenge and Normanton Ridges, which covers part of the western edge of the WHS due to additional integrity of surface landform and vegetation cover in contrast to current cutting ● Slight reduction in the visible extent of cutting from PRoW across elevated land on Oatlands Hill to the south-west which is beneficial for recreational users and a low number of residents	● Assumed no public access is a missed opportunity with north to south alignment of the proposed PRoW ● Subject to the OEMP, no public access may need additional fencing (signage) to prevent access and therefore more clutter in comparison to a more integrated access approach with GB4

Green Bridge (assumed no public access)	LVIA Benefits	LVIA Disbenefits
Option 2 Ch.6600-6749	● Sited in an area of high construction activity, therefore unlikely to result in any increase to predicted landscape and visual impacts during the construction phase ● Responds positively to published landscape guidance ● Improved north to south physical (and ecological) connectivity ● Reduces perceived scale, extent and severance of cutting between Western Portal and GB4 ● Very slight improvement for LLCA 15: Springbottom and Normanton Ridges, which covers this part of the WHS due to additional integrity of surface landform and vegetation cover in contrast to current cutting ● Slight reduction in the visible extent of cutting from more elevated open access land within the WHS to the east ● Improved landscape and visual connectivity in comparison to cantilevers	● Assumed no public access is a missed opportunity for increased recreational value in relation to surrounding open access land ● Subject to the OEMP, no public access may need additional fencing (signage) to prevent access and therefore more clutter in comparison to a more integrated access approach with GB4
Option 3 Ch.6800-6950 and Option 4 Ch. 6717-6867	● Sited in an area of high construction activity, therefore unlikely to result in any increase to predicted landscape and visual impacts during the construction phase ● Responds positively to published landscape guidance ● Improved north to south physical (and ecological) connectivity ● Reduces perceived scale, extent and severance of cutting between Western Portal and GB4 ● Very slight improvement for LLCA 15: Springbottom and Normanton Ridges, which covers this part of the WHS due to additional integrity of surface landform and vegetation cover in contrast to current cutting ● Slight reduction in the visible extent of cutting from more elevated open access land around the Winterbourne Stoke Group to the north-west; and ● Improved landscape and visual connectivity in comparison to cantilevers.	● Assumed no public access is a missed opportunity for increased recreational value in relation to surrounding open access land ● Subject to the OEMP, no public access may need additional fencing (signage) to prevent access and therefore more clutter in comparison to a more integrated access approach with GB4

Table 5: Summary of Initial Cultural Heritage Appraisal

Green Bridge Location	Benefits	Disbenefits	Mitigation
Option 1	- Combined with the DCO Green Bridge 4 (GB4) this additional green bridge increases physical and landscape connectivity between the Winterbourne Stoke Crossroads Barrow Group (AG12), to the north, and the Diamond Group (AG13) of monuments, to the south of the western approach cutting, bringing slight improvements above that of the scheme. This increases the physical and landscape connectivity, in combination with GB4, to c.300m across the western approach cutting, in comparison to the current planned 150m allowed for in the DCO application. - In particular, it re-establishes the physical and landscape connections between the upstanding earthwork longbarrow (NHLE 1011841) in the Winterbourne Stoke Crossroads Barrow Group (AG12) and the levelled henge monument (NHLE 1021349) and the levelled bowl barrow (NHLE 1011046), both in the Diamond Group (AG13). - It also enables the possibility of maintaining an historic turnpike routeway (established in 1760 as the Wilton Turnpike Trust) that follows the existing A360 road and currently forms the western boundary of the WHS.	- The construction of the bridge in this location may physically impact a scheduled monument, close to the western approach cutting – a linear boundary (NHLE 1010837) (Late Bronze Age Wessex linear land boundary) that currently lies within c.5m of the southern edge of the western approach cutting. - The construction of the bridge may increase the working space required to construct the bridge, as per the area defined for the construction of Green Bridge 4 in the DCO application. If this is the case, this has the potential to physically impact a known Late Bronze Age settlement that is situated underneath the current Longbarrow roundabout and other archaeological remains in this part of the WHS.	- At this location the requirements for bridge construction would have to be that the bridge is constructed within the existing western approach cutting footprint, as defined in the DCO application, in order to avoid physical impacts on the scheduled linear boundary, the Late Bronze Age settlement and other archaeological remains in this part of the WHS.
Option 2	- Combined with the DCO Green Bridge 4 (GB4) this additional green bridge increases physical and landscape connectivity between the Winterbourne Stoke Crossroads Barrow Group (AG12), to the north, and the Diamond Group (AG13) of monuments, to the south of the western approach cutting, bringing slight improvements above that of the scheme. This increases the physical and landscape connectivity, in combination with GB4, to c.300m across the western	- The construction of the bridge may increase the working space required to construct the bridge, as per the area defined for the construction of Green Bridge 4 in the DCO application. If this is the case, then this may remove a 4m diameter hengiform enclosure	- At this location the requirements for bridge construction would have to be that the bridge is constructed within the existing western approach cutting footprint, as defined in

Green Bridge Location	Benefits	Disbenefits	Mitigation
	approach cutting, in comparison to the current planned 150m allowed for in the DCO application. - In particular, it re-establishes the physical and landscape connections between 18 upstanding earthwork round barrows (NHLE 1012368) in the Winterbourne Stoke Crossroads Barrow Group (AG12) and the upstanding earthwork Longbarrow on Wilsford Down (NHLE 1010830) and the 7 levelled round barrows and a pond barrow on Wilsford Down (NHLE 1010834), in the Diamond Group (AG13).	(UID2177/7092), that contributes to the OUV of the WHS, that is situated 38m north of the western approach cutting (and this bridge location) and other archaeological remains in this part of the WHS.	the DCO application, in order to avoid physical impacts on the hengiform enclosure and other archaeological remains in this part of the WHS.
Option 3	- Combined with the DCO Green Bridge 4 (GB4) this additional green bridge increases physical and landscape connectivity, but in this position does not benefit the Winterbourne Stoke Crossroads Barrow Group (AG12), to the north of the western approach cutting, the Diamond Group (AG13) of monuments, to the south of the western approach cutting, or the Normanton Down Barrows (AG19) to the east of the western approach cutting. The bridge will increase the physical and landscape connectivity, in combination with GB4, to c.300m across the western approach cutting, in comparison to the current planned 150m allowed for in the DCO application. - The bridge, in this location, however, does benefit some discrete assets to the south of the western approach cutting that contribute to the OUV of the WHS, including a pond barrow south of the A303 and 400m west of Normanton Gorse containing the 'Wilsford Shaft' (NHLE 1010833), a bowl barrow 400m west of Normanton Gorse (NHLE 1010831) and a bowl barrow 350m south west of Normanton Gorse (NHLE 1013812), re-establishing the physical and landscape connections between these discrete assets and the Winterbourne Stoke Crossroads Barrow Group (AG12) to the northwest.	- The construction of the bridge may increase the working space required to construct the bridge, as per the area defined for the construction of Green Bridge 4 in the DCO application. If this is the case, then this would remove archaeological remains in this part of the WHS.	- At this location the requirements for bridge construction would have to be that the bridge is constructed within the existing western approach cutting footprint, as defined in the DCO application, in order to avoid physical impacts on archaeological remains in this part of the WHS.

Green Bridge Location	Benefits	Disbenefits	Mitigation
Option 4	- Combined with the DCO Green Bridge 4 (GB4) this additional green bridge increases physical and landscape connectivity between the Winterbourne Stoke Crossroads Barrow Group (AG12), to the north, and the Diamond Group (AG13) of monuments, to the south of the western approach cutting, bringing slight improvements above that of the scheme. This increases the physical and landscape connectivity, in combination with GB4, to c.300m across the western approach cutting, in comparison to the current planned 150m allowed for in the DCO application. - In particular, it re-establishes the physical and landscape connections between 18 upstanding earthwork round barrows (NHLE 1012368) in the Winterbourne Stoke Crossroads Barrow Group (AG12) and the upstanding earthwork Longbarrow on Wilsford Down (NHLE 1010830) and the 7 levelled round barrows and a pond barrow on Wilsford Down (NHLE 1010834), in the Diamond Group (AG13). It is noted, however, that it is positioned slightly further to the east than Option 2, making it slightly less beneficial in terms of connectivity between the groups north-south than this option, but slightly better than the Option 3 position.	- The construction of the bridge may increase the working space required to construct the bridge, as per the area defined for the construction of Green Bridge 4 in the DCO application. If this is the case, then this may remove a 4m diameter hengiform enclosure (UID2177/7092), that contributes to the OUV of the WHS, that is situated 38m north of the western approach cutting (and this bridge location) and other archaeological remains in this part of the WHS.	- At this location the requirements for bridge construction would have to be that the bridge is constructed within the existing western approach cutting footprint, as defined in the DCO application, in order to avoid physical impacts on the hengiform enclosure and other archaeological remains in this part of the WHS.

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12. Preliminary Location Selection

12.1. The initial feasibility study highlights Ch. 6717-6867 (Option 4) as being the location that best satisfies the technical requirements and does not create any materially new or materially different environmental effects. A Heritage Impact Assessment for an additional green bridge at this location has been completed and is included as Annex A.

13. Ongoing Activities

13.1. The main technical area to concentrate on is establishing the minimum separation distance that would be permitted between green bridges. To this end, a smoke dispersion study is about to commence and is due to report its findings in mid-February 2024. We will review the preliminary location of the additional green bridge in the light of these findings to understand if further possible locations need to be assessed from a technical, environmental and/or cultural heritage perspective.

14. Summary of Findings

14.1. The findings, to date, of the ongoing design development to incorporate the Cantilevers and additional green bridge are summarised as follows:

- Inclusion of the proposed Cantilevers in the Scheme would not introduce any materially new or materially different environmental effects
- Based on technical and safety criteria, the optimum location for an additional green bridge is Ch. 6717-6867 and at this location it would:
  - increase physical and landscape connectivity (combined with Green Bridge 4)
  - reduce the perceived scale, extent and severance of the cutting between Western Portal and GB4
- A smoke dispersion study is required to inform the selection of the optimum location for the additional green bridge
- The Outline HIA essentially finds that, although positive additions (in terms of addressing the visual and conceptual impacts of the western approach cutting raised by the 2022 Mission), the design developments would not change the assessments made in the Main HIA (2018).

14.2. An updated General Arrangement drawing showing the Cantilevers and additional green bridge is included in Annex C.

Technical Note

Project:	**A303 Amesbury to Berwick Down**				
Title:	**Design Developments 1 and 2: Cantilevers and Green Bridge 5 – Outline HIA**				
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Revision	Date	Prepared by	Reviewed by	Approved by
P01	29.01.2024	Neil Macnab	Chris Moore	Steve Finnie

1 Introduction

1.1 The Scheme, developed to application stage and through examination in public, conceals the new highway infrastructure in the western part of the WHS in a cutting (the Western Portal Approach Cutting) some 850m long, incorporating a 200m cut and cover canopy to conceal the bored tunnel portal and a 150m land bridge (Green Bridge Four), positioned to provide physical and landscape connectivity between key asset groups. National Highways has progressed the detailed design for the Scheme, incorporating refinements to provide better environmental outcomes. Two Design Developments are under consideration, focused on measures to address the visual and conceptual impacts of the Western Portal Approach Cutting raised in the Final Report on the fourth Advisory Mission conducted jointly by the World Heritage Centre / ICOMOS / ICCROM (Advisory Mission to Stonehenge, Avebury and Associated Sites (c.373bis)) 19-21 April 2022 ('the Fourth Mission') (UNESCO 2022a):

- Design Development 1: The Assessed Scheme with 3.5m cantilever canopies added to the top of the retained cutting wall of the Western Portal Approach Cutting. The canopies would support a rounded earthwork profile above, similar to the Scheme. The cantilever canopies would further reduce views into the cutting, views of the retaining wall and of traffic moving along the new road, as well as further aid integration into the landscape.
- Design Development 2: The Scheme with 3.5m cantilever canopies (as Design Development 1) and the addition of a second 150m wide green bridge, to be placed to provide additional physical and landscape connectivity, while also meeting requirements for safe distances from the tunnel portal and Green Bridge Four.

1.2 It is envisaged that both Design Developments would be developed and delivered as part of the next stage of the project – detailed design. Both Design Developments would retain the 200m cut and cover canopy at the western portal and the 150m Green Bridge Four (**see Figures 1 and 2**).

1.3 The impacts and effects of the Scheme on cultural heritage, including the Outstanding Universal Value (OUV), Integrity and Authenticity of the Stonehenge, Avebury and Associated Sites World Heritage Site (WHS), are considered in the Environmental Statement (ES) (National Highways 2018a) and accompanying Heritage Impact Assessment (HIA, described as the 'Main HIA' in this document) (National Highways 2018b).

1.4 The purpose of this Outline HIA is to consider the heritage impacts of the Design Developments, with reference to the Main HIA. The Main HIA and the ES contain full baseline information and descriptions of the development and context of the WHS, and of the Scheme; this Outline HIA focuses on the impacts of the two Design Developments under consideration on the OUV of the WHS, in comparison to those previously reported in the Main HIA.

2 Methodology and Study Area

2.1 The purpose of this Outline HIA is to assess the potential positive and negative impacts of the two Design Developments under consideration on the OUV of the WHS, with reference to the UNESCO ICCROM ICOMOS IUCN Guidance and Toolkit for Impact Assessments in a World Heritage Context (UNESCO 2022b; 'the 2022 UNESCO Guidance'). The assessment methodology applied in this Outline HIA follows that set out in the HIA Scoping Report (AECOM, Mace, WSP 2018), adapted slightly to include assessment tables corresponding to Tool 2 (Identifying Potential Impacts) and Tool 3 (Evaluating Potential Impacts) in the 2022 UNESCO Guidance. The methodology set out in the HIA Scoping Report was agreed with the A303 Heritage Monitoring Advisory Group (HMAG); the Third Advisory Mission (March 2018) concluded that, "The methodology outlined in Heritage Impact Assessment Scoping Report (AECOM, Mace, WSP, February 2018) is appropriate" (UNESCO 2018) and the Final Report on the Fourth Advisory Mission 19-21 April 2022 acknowledged the "thorough Heritage Impact Assessment processes" (UNESCO 2022a).

2.2 This Outline HIA assesses the effects of the two Design Developments under consideration on Asset Groups and individual ('discrete') heritage assets expressing Attributes of OUV; upon the Attributes of OUV, as described in the Statement of OUV; upon Integrity and Authenticity; and upon the OUV of the WHS as a whole.

3 Assets and Asset Groups affected by the Design Developments

3.1 Only a restricted number of Asset Groups that contribute to the OUV of the WHS, as defined in the Main HIA, would be affected by the Design Developments close to the Western Portal Approach Cutting. These are:

- AG12 – The Winterbourne Stoke Crossroads Barrows;
- AG13 – The Diamond Group; and
- AG19 – Normanton Down Barrows (including):
  - AG19A – Normanton Down barrow group – north;
  - AG19B – Normanton Down barrow group – central;
  - AG19C – Normanton Down barrow group – south-west; and
  - AG19D – Normanton Down barrow group – south-east.

3.2 Only a restricted number of isolated or discrete designated assets (scheduled monuments), as defined in the Main HIA, would be affected by the Design Developments. These include:

- Bowl barrow south of the A303 and north-west of Normanton Gorse (NHLE 1010832);
- Pond barrow south of the A303 and 400m west of Normanton Gorse containing the 'Wilsford Shaft' (NHLE 1010833);
- Bowl barrow 400m west of Normanton Gorse (NHLE 1010831);
- Bowl barrow 350m south-west of Normanton Gorse (NHLE 1013812); and
- Four bowl barrows 140m north of the A303 on Stonehenge Down (NHLE 1012394).

3.3 Only a restricted number of non-designated assets, as defined in the Main HIA, would be affected by the Design Developments. These include:

- An undated ring ditch north-east of Normanton Gorse (MWI75988) identified by geophysical survey;
- Hengiform enclosure MWI76819 north of the Western Portal approach cutting; and
- Scatters of struck flint, scattered Early Bronze Age pits and natural features containing flint (UID 2088).

3.4 The baseline conditions for all of the above assets and Asset Groups and their heritage significance (or value) remain unchanged and are as set out in the Main HIA.[1]

3.5 The baseline conditions with regards to long barrow groupings in the landscape; tourism and visitor experience; public understanding of OUV; public visibility of monuments; archaeoastronomical aspects; intangible associations and cultural influences remain unchanged and are as set out in the Main HIA.

4 Assessment Assumptions and Limitations

4.1 The following assumptions and limitations apply:

- Data used in this Outline HIA derives from the Main HIA; therefore, the assessment assumptions and limitations of the Main HIA also apply to this Outline HIA;
- The assessment of the impacts from the two Design Developments under consideration are based on a series of design assumptions, as follows:

[1] The Historic Environment Record (HER) data used in compiling the baseline information was provided in March 2018. Updated datasets were provided in December 2021 and in October 2023 and compared against the 2018 dataset to identify additions to the HER database since compilation of the baseline. The additions to the HER, in the western part of the WHS, include heritage assets identified by the archaeological evaluations in connection with the DCO Assessed Scheme (and considered previously in the Main HIA). Comparison of the updated HER datasets against the 2018 baseline has not identified any new heritage assets, in the western part of the WHS, that would be adversely impacted by the Assessed Scheme or the two Design Developments under consideration.

- The horizontal and lateral alignment of the road within the WHS for the construction of the two Design Developments under consideration would be unchanged from that assessed in the Main HIA;
- Green Bridge Four would be retained in the same position as assessed in the Main HIA, and Green Bridge Four would be of the same dimensions, with the same lighting assumptions;
- The land take required for the construction of the cantilever canopies under Design Development 1 would be unchanged from that assessed in the Main HIA;
- For Design Development 2, additional land take required for construction of the additional green bridge is assumed to be identical in extent to that required to construct Green Bridge Four;
- The topography of the existing landform within the WHS would be replicated across the top of the additional green bridge to assist with topographic and landscape integration;
- The two Design Developments under consideration would not require ventilation shafts, or additional ancillary infrastructure within the WHS;
- The lighting strategy and signage assumptions would be unchanged from that assessed in the Main HIA, with no permanent surface lighting associated with the proposals within the WHS and the new Longbarrow Junction unlit;
- The lighting strategy within the WHS would be unchanged from that previously assessed, apart from that required for GB5, which would be the same as for Green Bridge Four;
- The landscape design would be unchanged from the Assessed Scheme, with chalk grassland established to the north and south of the retained cutting, including over the proposed cantilever canopies, across the green bridges, and above the tunnel portal and cut and cover canopy; and
- Air quality, traffic flows and volumes, and traffic noise arising from the Design Developments would be similar to that predicted in the Main ES.

5 Mitigation

5.1 Archaeological evaluation of the area affected by the Western Portal Approach Cutting has identified archaeological remains within the construction footprint for the two Design Developments under consideration (Highways England [National Highways] 2019a; 2019b, 2019c; 2019d). Mitigation through Plough Zone Artefact Sampling and Archaeological Excavation and Recording (AER) prior to construction is provided for under the Detailed Archaeological Mitigation Strategy (DAMS, see Site 24 (Highways England [National Highways] 2020)). These proposed mitigation measures would be extended to include the small amount of additional land take required for the construction of the additional green bridge.

5.2 Other design mitigation as put forward in the ES remains unchanged, including that associated with the tunnel portal cut and cover canopy, landscape design, lighting and signage.

6 Impacts of the Design Developments under consideration

Design Development 1 – addition of Cantilever Canopies

6.1 Design Development 1 would retain the horizontal and lateral alignment and construction footprint of the Western Portal Approach Cutting as for the Assessed Scheme. The addition of the 3.5m cantilever canopies ('the Cantilevers'), along the top of the retained cutting walls, would reduce the width of the exposed cutting by c. 25%, reducing the visible cutting from 28.1m to 21.1m. This reduces views into the cutting, views of the retaining walls and improves landscape integration. No additional land take would be required for the construction of the Cantilevers, compared to that assessed in the Main HIA. There would be no change to the archaeological mitigation requirements from that required in advance of the construction of the Western Portal Approach Cutting (as set out in the DAMS, Site 24). The rounded earthwork profile above the cantilever canopies would form part of the chalk grassland landscape mitigation design and further aid in landscape integration.

6.2 For Design Development 1, this Outline HIA assesses the changes arising from the Assessed Scheme (including Green Bridge Four and the 200m canopy over the western portal entrance) with the addition of the Cantilevers.

Design Development 2 – addition of Cantilevers and Green Bridge 5

6.3 Design Development 2 would combine Design Development 1 with the addition of a second 150m green bridge up to (i.e., less than) 150m wide. This would reduce the width of the open retained cutting within the WHS by 25% (through the addition of the Cantilevers) and reduce its length by up to 17.5% (through the addition of a second green bridge), from 850m to 700m. The additional green bridge would cover an area of over 3,000 square metres, meaning that the two Design Developments combined would reduce the total exposed area of the cutting by 38.2%, further addressing visual impacts and impacts on the conceptual understanding of the WHS and its landscape. Additional land take would be required for the construction of the additional green bridge. It is assumed that this would be of the same order as that required for Green Bridge Four. Archaeological mitigation works, as required in advance of the construction of the Western Portal Approach Cutting (DAMS, Site 24), would also be required in advance of construction of the additional green bridge.

6.4 For Design Development 2, this Outline HIA assesses the changes arising from the Assessed Scheme (including Green Bridge Four and the 200m canopy over the western portal entrance) with the addition of the Cantilevers and the additional green bridge. The position of the additional green bridge would be optimised between Green Bridge Four and the Western Tunnel Portal, considering the OUV of the WHS, as well as operational safety requirements governing the minimum separation distance required between bridges and the tunnel portal, during detailed design. As assessed in this Outline HIA, Design Development 2 would retain Green Bridge Four between chainages 6+415 and 6+565 (as assessed in the Main HIA), with the additional green bridge assumed to be positioned between chainages 6+717 and 6+867.

Changes to Asset Groups and Discrete Assets conveying Attributes of OUV

6.5 **Tables 1 and 2** below have been developed with reference to the **2022 UNESCO Guidance Tool 2 (Identifying Potential Impacts)**. **Table 1** below discusses the impacts / changes to Asset Groups conveying attributes of OUV with Design

Developments 1 and 2 constructed and in place. **Table 2** below discusses the impacts / changes to discrete assets conveying Attributes of OUV, with Design Developments 1 and 2 constructed and in place. In all cases, the physical fabric of the identified assets would not be impacted.

Technical Note

AECOM + mace + WSP

Table 1 Changes to Asset Groups conveying attributes of OUV due to construction of Design Developments 1 and 2 (based on Tool 2 in the 2022 UNESCO Guidance)

Elements that contribute to conveying the OUV of the WHS		**Elements of the Action / Change that have the potential to cause an impact**	
		Design Development 1: addition of Cantilevers	**Design Development 2: addition of Cantilevers and Green Bridge 5**
Asset Groups		Assessed Scheme in the Main HIA with the addition of 3.5m cantilever canopies added to the top of the retained cutting walls in the Western Portal Approach Cutting.	Assessed Scheme in the Main HIA with the addition of 3.5m cantilever canopies added to the top of the retained cutting walls in the Western Portal Approach Cutting, plus the addition of a second 150m wide green bridge.
AG12	Winterbourne Stoke Crossroads Barrows	Design Development 1 would retain the alignment and construction footprint of the Assessed Scheme in the Main HIA, with Green Bridge Four providing physical and landscape connectivity between the Winterbourne Stoke Crossroads Barrows (AG12), the Diamond Group (AG13) to the south and the more distant North Kite Enclosure and Lake Barrow Group (AG16), further to the south. Addition of the 3.5m cantilevers under Design Development 1 would reduce the width of the exposed cutting by c. 25%; this would further soften the cutting and aid in landscape integration in views towards the Diamond Group (AG13). There would be no substantive change, however, to the landscape setting of the Winterbourne Stoke Crossroads Barrows (AG12) due to Design Development 1, compared to that assessed in the Main HIA.	Design Development 2, combining the addition of 3.5m cantilevers with a second 150m green bridge , would reduce the width of the open retained cutting within the WHS by 25% and its length by 17.5%. The additional green bridge, located between chainages 6+717 and 6+867, would help to provide physical and landscape connectivity between the Winterbourne Stoke long barrow in AG12 towards the Normanton Down Barrows (AG19), and between the northern elements of AG12 and the eastern elements of AG13. The Cantilevers and the additional green bridge would reduce the visual impacts of the exposed cutting, including views across it and of the retaining walls. The cutting, though reduced substantially in its exposure (by 38.2%), would remain. Design Development 2 would provide additional mitigation which would further soften the exposed cutting, reducing visual impacts and further aiding physical, topographic and landscape integration, but would not change the impacts as assessed in the Main HIA on AG12.

Technical Note

AECOM + mace + WSP

Elements that contribute to conveying the OUV of the WHS		Elements of the Action / Change that have the potential to cause an impact	
		Design Development 1: addition of Cantilevers	**Design Development 2: addition of Cantilevers and Green Bridge 5**
AG13	**The Diamond Group**	Design Development 1 would retain the alignment and construction footprint of the assessed Assessed Scheme in the Main HIA, with Green Bridge Four providing physical and landscape connectivity between the Diamond Group (AG13) and the Winterbourne Stoke Crossroads Barrows (AG12), to the north. Addition of the 3.5m cantilevers under Design Development 1 would reduce the width of the exposed cutting by c. 25%; this would further soften the cutting and aid in landscape integration in views towards the Winterbourne Stoke Crossroads Barrows (AG12). There would be no substantive change, however, to the landscape setting of the Diamond Group (AG13) due to Design Development 1, compared to that assessed in the Main HIA.	Design Development 2, combining the addition of 3.5m cantilevers with a second 150m green bridge, would reduce the width of the open retained cutting within the WHS by 25% and its length up to 17.5%. The additional green bridge, between chainages 6+717 to 6+867, would provide additional landscape connectivity in views between the Diamond Group (AG13) and discrete asset NHLE 1012394 - four bowl barrows 140m north of the A303 on Stonehenge Down, and between the northern elements of AG12 and the eastern elements of AG13. The cantilevers and the additional green bridge would reduce the visual impacts of the exposed cutting, including views across it and of the retaining walls. Design Development 2 would provide additional mitigation which would further soften the exposed cutting, reducing visual impacts and further aiding physical, topographic and landscape integration, but would not change the impacts as assessed in the Main HIA on AG13.
AG19	**Normanton Down Barrows**	The northern part of the AG19 Normanton Down Barrows would have long distance views to the west down the course of the dualled A303 carriageway in the Western Portal Approach Cutting. Addition of the 3.5m cantilevers under Design Development 1 would reduce the width of the exposed cutting by c. 25%, this would aid landscape integration, however, the cutting and Green Bridge Four would remain visible in long views to the west. There would be no substantive change to the landscape setting of the Asset Group AG19 due to Design Development 1, any improvement would be marginal compared to that assessed in the Main HIA.	Construction of Design Development 2, combining the addition of 3.5m cantilevers with a second 150m green bridge would reduce the width of the open retained cutting within the WHS by 25% and its length by up to 17.5%. The additional green bridge, between chainages 6+717 and 6+867, would help to reduce the extent of open retained cut visible in long views towards AG12 Winterbourne Stoke Crossroads Barrows, from the northern part of AG19, any improvement would be marginal compared to that assessed in the Main HIA.

Technical Note

AECOM + mace + WSP

Elements that contribute to conveying the OUV of the WHS		Elements of the Action / Change that have the potential to cause an impact	
		Design Development 1: addition of Cantilevers	**Design Development 2: addition of Cantilevers and Green Bridge 5**
AG19A	**Normanton Down Barrows– north**	The AG19A barrows would have long distance views to the west down the course of the dualled A303 carriageway. Addition of the 3.5m cantilevers under Design Development 1 would reduce the width of the exposed cutting by c. 25%, this would aid landscape integration, although the cutting and Green Bridge 4 would remain visible in long views to the west. There would be no substantive change to the landscape setting of the Asset Group AG19A due to Design Development 1, any improvement would be marginal compared to that assessed in the Main HIA.	Construction of Design Development 2, combining the addition of 3.5m cantilevers with a second 150m green bridge , would reduce the width of the open retained cutting within the WHS by 23% and its length by up to 17.5%. The additional green bridge between chainages 6+717 and 6+867 would help to reduce the extent of open retained cut visible in long views between AG19A and AG12 Winterbourne Stoke Crossroads Barrows, any improvement would be marginal compared to that assessed in the Main HIA.
AG19B	**Normanton Down Barrows – central**	With the construction of Design Development 1, the cantilevers would reduce the width of the exposed cutting by approximately 25% and aid landscape integration. However, there would be no substantive change to the landscape setting of the Asset Group due to Design Development 1, any improvement would be marginal compared to that assessed in the Main HIA.	Construction of Design Development 2, combining the addition of 3.5m cantilevers with a second 150m green bridge would reduce the width of the open retained cutting within the WHS by 25% and its length by up to 17.5%. Although the addition of the cantilever canopies and the additional green bridge between chainages 6+717 and 6+867 would help to reduce the extent of open retained cut visible in long views from monuments within AG19B towards AG12 Winterbourne Stoke Crossroads Barrows, any improvement would be marginal compared to that assessed in the Main HIA.
AG19C	**Normanton Down Barrows – south-west**	The cantilevers would reduce the width of the exposed cutting by approximately 25% and aid landscape integration. However, there would be no substantive change to the landscape setting of the Asset Group due to Design Development 1, any improvement would be marginal compared to that assessed in the Main HIA.	Construction of Design Development 2, combining the addition of 3.5m cantilevers with a second 150m green bridge would reduce the width of the open retained cutting within the WHS by 25% and its length by up to 17.5%. Although the addition of the cantilever canopies and the additional green bridge between chainages 6+717 and 6+867 would help to reduce, the extent of open retained cut visible in long views from monuments within AG19C towards AG12 Winterbourne Stoke Crossroads Barrows, any improvement would be marginal compared to that assessed in the Main HIA.

Technical Note

AECOM + mace + WSP

Elements that contribute to conveying the OUV of the WHS		Elements of the Action / Change that have the potential to cause an impact	
		Design Development 1: addition of Cantilevers	**Design Development 2: addition of Cantilevers and Green Bridge 5**
AG19D	**Normanton Down Barrows – south-east**	Although the cantilevers would reduce the width of the exposed cutting by approximately 25% and aid landscape integration, the change in views from AG19D would be tempered by distance from the changes. There would be no substantive change to the landscape setting of the Asset Group due to construction of Design Development 1, any improvement would be marginal compared to that assessed in the Main HIA.	Construction of Design Development 2, combining the addition of 3.5m cantilevers with a second 150m green bridge, would reduce the width of the open retained cutting within the WHS by 25% and its length by up to 17.5%. Although the addition of the cantilever canopies and the additional green bridge between chainages 6+717 and 6+867 would help to reduce the extent of open retained cut visible in long views from monuments within AG19D towards AG12 Winterbourne Stoke Crossroads Barrows, these changes would be tempered by distance and any improvement would be marginal compared to that assessed in the Main HIA.

AECOM + mace + WSP

Table 2: Changes to Discrete Assets conveying attributes of OUV due to construction of Design Developments 1 and 2 (based on Tool 2 in the 2022 UNESCO Guidance)

Elements that contribute to conveying the OUV of the WHS		**Elements of the Action / Change that have the potential to cause an impact**	
		Design Development 1: the addition of Cantilevers	**Design Development 2: the addition of Cantilevers and Green Bridge 5**
Discrete assets		**Assessed Scheme as assessed in the Main HIA with the addition of 3.5m cantilever canopies added to the top of the retained cutting walls in the Western Portal Approach Cutting.**	**Assessed Scheme as assessed in the Main HIA with the addition of 3.5m cantilever canopies added to the top of the retained cutting walls in the Western Portal Approach Cutting, plus the addition of a second 150m wide green bridge (GB5).**
Discrete asset	**NHLE 1010832 - Bowl barrow south of the A303 and north west of Normanton Gorse**	Under the Assessed Scheme, views to AG12 Winterbourne Stoke Crossroads Barrows and the AG13 Diamond Group would be unbroken by the cutting, though long-distance views towards AG12 and AG13 looking west out of the WHS would include the presence of the cutting and Green Bridge Four. The design of the cutting, Green Bridge Four and chalk grassland mitigation would soften this impact. Addition of the 3.5m cantilevers under Design Development 1 would reduce the width of the exposed cutting by c. 25%, this would aid landscape integration. However, any improvement would be marginal compared to that assessed in the Main HIA.	Construction of Design Development 2, combining the addition of 3.5m cantilevers with a second 150m green bridge , would reduce the width of the open retained cutting within the WHS by 25% and its length by up to 17.5%. Although long distance views towards AG12 and AG13 looking west out of the WHS would include the presence of the cutting, the addition of the cantilevers and the additional green bridge located between chainages 6+717 and 6+867 would reduce and soften the extent of open retained cut visible in long views. However, any improvement would be marginal compared to that assessed in the Main HIA.
Discrete asset	**NHLE 1010833 -** Pond barrow south of the A303 and 400m west of Normanton Gorse containing the 'Wilsford Shaft'	The asset is located c. 90m south-west of the start of the western portal cut and cover canopy and 70m south of the proposed cutting. Design Development 1 would retain the alignment of the Assessed Scheme, Green Bridge Four and the 200m cut and cover canopy at the western tunnel portal. Although the cutting would continue physically to divide the asset from the AG12 Winterbourne Stoke Crossroads Barrows, the addition of the cantilevers under Design Development 1 would reduce the width of the open retained cutting by 25% and soften the extent of cut visible in long views, reducing and aiding	The asset is located c. 90m south-west of the start of the western portal cut and cover canopy and 70m south of the proposed cutting. Design Development 2 would retain the Assessed Scheme alignment, Green Bridge Four and the 200m canopy at the western tunnel portal. Construction of Design Development 2, combining the addition of 3.5m cantilevers with a second 150m green bridge, would reduce the width of the open retained cutting within the WHS by 25% and its length by up to 17.5%. Although the cutting would continue physically to divide the asset from the AG12 Winterbourne Stoke Crossroads Barrows, the addition of

Elements that contribute to conveying the OUV of the WHS		Elements of the Action / Change that have the potential to cause an impact	
		Design Development 1: the addition of Cantilevers	**Design Development 2: the addition of Cantilevers and Green Bridge 5**
		landscape integration. This would be a positive change; however, this would not substantively change the impacts on this discrete asset compared to that assessed in the Main HIA.	the cantilevers and the additional green bridge located between chainages 6+717 and 6+867 would provide additional landscape connectivity approximately 350m from the asset (in addition to Green Bridge Four approximately 650m away) and reduce and soften the extent of open retained cut visible in long views to and from the asset.
Discrete asset	**NHLE 1012394 - Four bowl barrows 140m north of the A303 on Stonehenge Down**	The addition of the cantilevers under Design Development 1 would reduce and soften the extent of open retained cut visible in long views, reducing the width of the open retained cutting by 25% and aiding landscape integration. Although this would be a positive change, Design Development 1 would not substantively change the impacts on this discrete asset as assessed in the Main HIA.	Construction of Design Development 2, combining the addition of 3.5m cantilevers with a second 150m green bridge, would reduce the width of the open retained cutting within the WHS by 25% and its length by up to 17.5%. Although the cutting would continue physically to divide the asset from the AG12 Winterbourne Stoke Crossroads Barrows, the addition of the cantilevers and the additional green bridge located between chainages 6+717 and 6+867 would help to provide additional landscape connectivity less than 300m north-west of the asset (in addition to Green Bridge Four approximately 600m away) and reduce and soften the extent of open retained cut visible in long views to and from the asset.
Discrete asset	**NHLE 1010831 - Bowl barrow 400m west of Normanton Gorse**	Design Development 1 would retain the Assessed Scheme alignment, Green Bridge Four and the 200m cut and cover canopy at the western tunnel portal. Addition of the cantilevers would reduce and soften the extent of open retained cut visible in long views and aid landscape integration. Although this would be a positive change, Design Development 1 would not substantively change the impacts on this discrete asset as assessed in the Main HIA.	Construction of Design Development 2, combining the addition of 3.5m cantilevers with a second 150m green bridge, would reduce the width of the open retained cutting within the WHS by 25% and its length by up to 17.5%. Although the cutting would continue physically to divide the asset from the AG12 Winterbourne Stoke Crossroads Barrows, the addition of the cantilevers and the additional green bridge located between chainages 6+717 and 6+867 would provide additional landscape connectivity approximately 250m north-west of the asset (in addition to Green Bridge Four approximately 600m away) and reduce and soften the extent of open retained cut visible in long views to and from the asset.

Elements that contribute to conveying the OUV of the WHS		Elements of the Action / Change that have the potential to cause an impact	
		Design Development 1: the addition of Cantilevers	**Design Development 2: the addition of Cantilevers and Green Bridge 5**
Discrete asset	**NHLE 1013812 - Bowl barrow 350m south-west of Normanton Gorse**	Design Development 1 would retain the Assessed Scheme alignment, Green Bridge Four and the 200m cut and cover canopy at the western tunnel portal. The barrows' relationship with AG13 the Diamond Group would remain un-interrupted and would be improved by the greatly reduced road infrastructure. Although the cutting would continue physically to divide the asset from the AG12 Winterbourne Stoke Crossroads Barrows, connectivity with this Asset Group would continue to be maintained by Green Bridge Four and the 200m canopy at the western tunnel portal. Addition of the cantilevers would reduce and soften the extent of open retained cut visible in long views from the asset towards AG13 and discrete assets south of the cutting and aid landscape integration. Although this would be a positive change, the improvement would be marginal compared to that assessed in the Main HIA.	Design Development 2 would retain the Assessed Scheme alignment, Green Bridge Four and the 200m cut and cover canopy at the western tunnel portal. Construction of Design Development 2, combining the addition of 3.5m cantilevers with a second 150m green bridge, would reduce the width of the open retained cutting within the WHS by 25% and its length by up to 17.5%. Although the cutting would continue physically to divide the asset from the AG12 Winterbourne Stoke Crossroads Barrows, the addition of the cantilevers and the additional green bridge located between chainages 6+717 and 6+867 would provide additional landscape connectivity and reduce and soften the extent of open retained cut visible in long views towards AG13 and discrete assets south of the cutting.

Changes to non-designated assets

6.6 The following discusses impacts / changes to non-designated assets, as assessed in the Main HIA.

- An undated ring ditch north-west of Normanton Gorse (MWI75988) – this would not be impacted by construction of the Assessed Scheme. There would be no change from the assessment in the Main HIA due to construction of either of Design Developments 1 and 2.
- Hengiform enclosure (MWI76819), north of the Western Portal approach cutting – this would not be impacted by construction of the Assessed Scheme. There would be no change from the assessment in the Main HIA due to construction of either of Design Developments 1 and 2.
- Scatters of struck flint, scattered Early Bronze Age pits and natural features containing flint (UID 2088) – there would be no change from the assessment in the Main HIA due to construction of Design Development 1: these archaeological remains are assessed as being of Medium value. The Assessed Scheme would remove the remains within the construction footprint of the cutting. Construction would be preceded by Archaeological Excavation and Recording as set out in the DAMS, during the preliminary works phase, in advance of construction. Construction of Design Development 2 would require a small additional land take to accommodate the additional GB5, resulting in a small increase in the area over which any archaeological remains would be removed within the construction footprint of the cutting, and a small increase in the area within which Archaeological Excavation and Recording as set out in the DAMS would be required in advance of construction.

6.7 **Tables 3 - 10** below have been developed in line with the **2022 UNESCO Guidance Tool 3 (Evaluating Potential Impacts)**.

6.8 In all cases, the physical fabric of archaeological assets would not be impacted.

6.9 **Tables 3 and 4** below summarise the anticipated impacts of the Assessed Scheme with Design Development 1 constructed and in place, on Asset Groups (**Table 3**) and discrete assets (**Table 4**) conveying Attributes of OUV.

6.10 **Tables 5 and 6** summarise the anticipated impacts of the Assessed Scheme with Design Development 2 constructed and in place, on Asset Groups (**Table 5**) and discrete assets (**Table 6**) conveying Attributes of OUV.

6.11 For comparison, **Tables 7 and 8** summarise the anticipated impacts of the Assessed Scheme without the Design Developments under consideration (as assessed in the Main HIA) on Asset Groups (**Table 7**) and discrete assets (**Table 8**) conveying Attributes of OUV; and **Tables 9 and 10** summarise the impacts of the Existing A303 (as assessed in the Main HIA) on Asset Groups (**Table 9**) and discrete assets (**Table 10**) conveying Attributes of OUV.

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Table 3: Evaluating Potential Impacts: Design Development 1 on Asset Groups conveying Attributes of OUV (based on Tool 3 in the 2022 UNESCO Guidance)

Element of Proposed Action	**Design Development 1 - Assessed Scheme as assessed in the Main HIA with the addition of 3.5m cantilever canopies added to the top of the retained cutting walls in the Western Portal Approach Cutting**								
Attribute	**Description of Potential Impact**	**Frequency of Action**	**Duration of Action**	**Reversibility of Action**	**Reversibility of Change to the Attribute**	**Longevity of Change to the Attribute**	**Degree of Change to the Attribute**	**Quality of Change to the Attribute**	**Evaluation of Impact**
AG12 - Winterbourne Stoke Crossroads Barrows	Reduction in width of exposed cutting by c. 25% would aid landscape integration. There would be no substantive change to the landscape setting of the Winterbourne Stoke Crossroads Barrows AG12 compared to the Assessed Scheme.	Continuous	Long term	Irreversible	Irreversible	Permanent change	Negligible (positive) change over the Assessed Scheme	Minor (negative) and Major (positive) change (no change from Assessed Scheme)	Moderate beneficial (Moderate positive)
AG13 - The Diamond Group	Reduction in width of exposed cutting by c. 25% would aid landscape integration. There would be no substantive change to the landscape setting of the Diamond Group AG13 compared to the Assessed Scheme.	Continuous	Long term	Irreversible	Irreversible	Permanent change	Negligible (positive) change over the Assessed Scheme	Moderate (negative) and Minor (positive) change (no change from Assessed Scheme)	Slight adverse (Minor negative)
AG19 - Normanton Down Barrows	Reduction in width of exposed cutting by c. 25% would aid landscape integration. The cutting and Green Bridge Four would	Continuous	Long term	Irreversible	Irreversible	Permanent change	Negligible positive change over the Assessed Scheme	Minor (negative), Minor and Moderate (positive)	Moderate beneficial (Moderate positive)

Element of Proposed Action	Design Development 1 - Assessed Scheme as assessed in the Main HIA with the addition of 3.5m cantilever canopies added to the top of the retained cutting walls in the Western Portal Approach Cutting								
Attribute	**Description of Potential Impact**	**Frequency of Action**	**Duration of Action**	**Reversibility of Action**	**Reversibility of Change to the Attribute**	**Longevity of Change to the Attribute**	**Degree of Change to the Attribute**	**Quality of Change to the Attribute**	**Evaluation of Impact**
	remain visible in long views to the west. There would be no substantive change to the landscape setting of the Asset Group AG19, compared to the Assessed Scheme.							change (no change from Assessed Scheme)	
AG19A - Normanton Down Barrows North	Reduction in width of exposed cutting by c. 25% would aid landscape integration. The cutting and Green Bridge Four would remain visible in long views to the west. There would be no substantive change to the landscape setting of the Asset Group AG19A compared to the Assessed Scheme.	Continuous	Long term	Irreversible	Irreversible	Permanent change	Negligible positive change over the Assessed Scheme	Minor (negative) change and Major (positive) change (no change from Assessed Scheme)	Slight beneficial (Minor positive)
AG19B - Normanton Down barrows Central	Reduction in width of exposed cutting by approximately 25% would aid landscape integration. There would be no substantive change to the landscape setting of the Asset Group AG19B compared to the Assessed Scheme.	Continuous	Long term	Irreversible	Irreversible	Permanent change	Negligible positive change over the Assessed Scheme	Moderate (positive) change (no change from Assessed Scheme)	Large beneficial (Major positive)

Element of Proposed Action	Design Development 1 - Assessed Scheme as assessed in the Main HIA with the addition of 3.5m cantilever canopies added to the top of the retained cutting walls in the Western Portal Approach Cutting								
Attribute	**Description of Potential Impact**	**Frequency of Action**	**Duration of Action**	**Reversibility of Action**	**Reversibility of Change to the Attribute**	**Longevity of Change to the Attribute**	**Degree of Change to the Attribute**	**Quality of Change to the Attribute**	**Evaluation of Impact**
AG19C - Normanton Down barrows South-west	Reduction in width of exposed cutting by approximately 25% would aid landscape integration. There would be no substantive change to the landscape setting of the Asset Group AG19C compared to the Assessed Scheme.	Continuous	Long term	Irreversible	Irreversible	Permanent change	Negligible positive change over the Assessed Scheme	Minor (positive) change (no change from Assessed Scheme)	Large beneficial (Major positive)
AG19D - Normanton Down barrows South-east	Reduction in width of exposed cutting by approximately 25% would aid landscape integration. The change in views from AG19D would be tempered by distance from the changes. There would be no substantive change to the landscape setting of the Asset Group AG19D compared to the Assessed Scheme.	Continuous	Long term	Irreversible	Irreversible	Permanent change	Negligible positive change over the Assessed Scheme	Minor (positive) change (no change from Assessed Scheme)	Moderate beneficial (Moderate positive)

Table 4: Evaluating Potential Impacts: Design Development 1 on discrete designated assets conveying Attributes of OUV (based on Tool 3 in the 2022 UNESCO Guidance)

Element of Proposed Action	Design Development 1 – Assessed Scheme in the Main HIA with the addition of 3.5m cantilever canopies added to the top of the retained cutting walls in the Western Portal Approach Cutting								
Attribute	**Description of Potential Impact**	**Frequency of Action**	**Duration of Action**	**Reversibility of Action**	**Reversibility of Change to the Attribute**	**Longevity of Change to the Attribute**	**Degree of Change to the Attribute**	**Quality of Change to the Attribute**	**Evaluation of Impact**
NHLE 1010832 - Bowl barrow south of the A303 and north west of Normanton Gorse	Reduction in width of exposed cutting by c. 25% would aid landscape integration. Any improvement would be marginal compared to the Assessed Scheme.	Continuous	Long term	Irreversible	Irreversible	Permanent change	Negligible positive change over the Assessed Scheme	Negligible (negative) and Minor (positive) change (no change from Assessed Scheme)	Slight adverse (Minor negative)
NHLE 1010833 - Pond barrow south of the A303 and 400m west of Normanton Gorse containing the 'Wilsford Shaft'	Reduction in width of exposed cutting by 25% would aid landscape integration	Continuous	Long term	Irreversible	Irreversible	Permanent change	Negligible positive change over the Assessed Scheme	Negligible (negative) and Minor (positive) change (no change from Assessed Scheme)	Slight adverse (Minor negative)
NHLE 1010831 - Bowl barrow 400m west of Normanton Gorse	Reduction in width of exposed cutting by 25% would aid landscape integration	Continuous	Long term	Irreversible	Irreversible	Permanent change	Negligible positive change over the Assessed Scheme	Moderate (negative) and Moderate (positive) change (no change from Assessed Scheme)	Neutral

Technical Note

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Element of Proposed Action	Design Development 1 – Assessed Scheme in the Main HIA with the addition of 3.5m cantilever canopies added to the top of the retained cutting walls in the Western Portal Approach Cutting								
Attribute	**Description of Potential Impact**	**Frequency of Action**	**Duration of Action**	**Reversibility of Action**	**Reversibility of Change to the Attribute**	**Longevity of Change to the Attribute**	**Degree of Change to the Attribute**	**Quality of Change to the Attribute**	**Evaluation of Impact**
NHLE 1013812 - Bowl barrow 350m south-west of Normanton Gorse	Reduction in width of exposed cutting by 25% would aid landscape integration	Continuous	Long term	Irreversible	Irreversible	Permanent change	Negligible positive change over the Assessed Scheme	Moderate (negative) and Major (positive) change (no change from Assessed Scheme)	Neutral
NHLE 1012394 - Four bowl barrows 140m north of the A303 on Stonehenge Down	Reduction in width of exposed cutting by 25% would aid landscape integration	Continuous	Long term	Irreversible	Irreversible	Permanent change	Negligible positive change over the Assessed Scheme	Minor (negative) and Major (positive) change (no change from Assessed Scheme)	Moderate beneficial (Moderate positive)

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Table 5: Evaluating Potential Impacts: Design Development 2 on Asset Groups Conveying Attributes of OUV (based on Tool 3 in the 2022 UNESCO Guidance)

Element of Proposed Action	**Design Development 2: Assessed Scheme as assessed in the Main HIA with the addition of 3.5m cantilever canopies added to the top of the retained cutting walls in the Western Portal Approach Cutting, plus the addition of a second 150m wide green bridge.**								
Attribute	**Description of Potential Impact**	**Frequency of Action**	**Duration of Action**	**Reversibility of Action**	**Reversibility of Change to the Attribute**	**Longevity of Change to the Attribute**	**Degree of Change to the Attribute**	**Quality of Change to the Attribute**	**Evaluation of Impact**
AG12 - Winterbourne Stoke Crossroads Barrows	Reduction in width of exposed cutting by 25% and its length by 17.5%. GB5 would provide physical and landscape connectivity between the Winterbourne Stoke long barrow in AG12 towards the Normanton Down Barrows (AG19).	Continuous	Long term	Irreversible	Irreversible	Permanent change	Negligible positive change over the Assessed Scheme	Minor (negative) and Major (positive) change (no change from Assessed Scheme)	Moderate beneficial (Moderate positive)
AG13 - The Diamond Group	Reduction in width of exposed cutting by 25% and its length up to 17.5%. GB5 would provide additional landscape connectivity in views between the Diamond Group (AG13) and four bowl barrows 140m north of the A303 on Stonehenge Down (NHLE 1012394).	Continuous	Long term	Irreversible	Irreversible	Permanent change	Negligible positive change over the Assessed Scheme	Moderate (negative) and Minor (positive) change (no change from Assessed Scheme)	Slight adverse (Minor negative)

Technical Note

AECOM + mace + WSP

Element of Proposed Action	Design Development 2: Assessed Scheme as assessed in the Main HIA with the addition of 3.5m cantilever canopies added to the top of the retained cutting walls in the Western Portal Approach Cutting, plus the addition of a second 150m wide green bridge.								
Attribute	**Description of Potential Impact**	**Frequency of Action**	**Duration of Action**	**Reversibility of Action**	**Reversibility of Change to the Attribute**	**Longevity of Change to the Attribute**	**Degree of Change to the Attribute**	**Quality of Change to the Attribute**	**Evaluation of Impact**
AG19 - Normanton Down Barrows	Reduction in width of exposed cutting by 25% and its length by up to 17.5%. GB5 would reduce the extent of open retained cut visible in long views towards AG12 Winterbourne Stoke Crossroads Barrows.	Continuous	Long term	Irreversible	Irreversible	Permanent change	Negligible positive change over the Assessed Scheme	Minor (negative), Minor and Moderate (positive) change (no change from Assessed Scheme)	Moderate beneficial (Moderate positive)
AG19A - Normanton Down Barrows North	Reduction in width of exposed cutting by 25% and its length by up to 17.5%. GB5 would reduce the extent of open retained cut visible in long views towards AG12 Winterbourne Stoke Crossroads Barrows.	Continuous	Long term	Irreversible	Irreversible	Permanent change	Negligible positive change over the Assessed Scheme	Minor (negative) and Major (positive) change (no change from Assessed Scheme)	Slight beneficial (Minor positive)
AG19B - Normanton Down barrows Central	Reduction in width of exposed cutting by 25% and its length by up to 17.5%. GB5 would reduce the extent of open retained cut visible in long views towards AG12 Winterbourne Stoke Crossroads Barrows.	Continuous	Long term	Irreversible	Irreversible	Permanent change	Negligible positive change over the Assessed Scheme	Moderate Positive Change (no change from Assessed Scheme)	Large beneficial (Major positive)

Technical Note

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Element of Proposed Action	Design Development 2: Assessed Scheme as assessed in the Main HIA with the addition of 3.5m cantilever canopies added to the top of the retained cutting walls in the Western Portal Approach Cutting, plus the addition of a second 150m wide green bridge.								
Attribute	**Description of Potential Impact**	**Frequency of Action**	**Duration of Action**	**Reversibility of Action**	**Reversibility of Change to the Attribute**	**Longevity of Change to the Attribute**	**Degree of Change to the Attribute**	**Quality of Change to the Attribute**	**Evaluation of Impact**
AG19C - Normanton Down barrows South-west	Reduction in width of exposed cutting by 25% and its length by up to 17.5%. GB5 would reduce the extent of open retained cut visible in long views towards AG12 Winterbourne Stoke Crossroads Barrows.	Continuous	Long term	Irreversible	Irreversible	Permanent change	Negligible positive change over the Assessed Scheme	Minor Positive Change (no change from Assessed Scheme)	Large beneficial (Major positive)
AG19D - Normanton Down barrows South-east	Reduction in width of exposed cutting by 25% and its length by up to 17.5%. GB5 would reduce the extent of open retained cut visible in long views towards AG12 Winterbourne Stoke Crossroads Barrows.	Continuous	Long term	Irreversible	Irreversible	Permanent change	Negligible positive change over the Assessed Scheme	Minor Positive Change (no change from Assessed Scheme)	Moderate beneficial (Moderate positive)

Table 6: Evaluating Potential Impacts: Design Development 2 on Discrete Assets Conveying Attributes of OUV (based on Tool 3 in the 2022 UNESCO Guidance)

Element of Proposed Action	**Design Development 2: Assessed Scheme in the Main HIA with the addition of 3.5m cantilever canopies added to the top of the retained cutting walls in the Western Portal Approach Cutting, plus the addition of a second 150m wide green bridge.**								
Attribute	**Description of Potential Impact**	**Frequency of Action**	**Duration of Action**	**Reversibility of Action**	**Reversibility of Change to the Attribute**	**Longevity of Change to the Attribute**	**Degree of Change to the Attribute**	**Quality of Change to the Attribute**	**Evaluation of Impact**
NHLE 1010832 - Bowl barrow south of the A303 and north west of Normanton Gorse	Reduction in width of exposed cutting by 25% and its length by up to 17.5% would reduce and soften extent of open retained cut visible in long views.	Continuous	Long term	Irreversible	Irreversible	Permanent change	Negligible positive change over the Assessed Scheme	Negligible (negative) and Minor (positive) change (no change from Assessed Scheme)	Slight adverse (Minor negative)
NHLE 1010833 - Pond barrow south of the A303 and 400m west of Normanton Gorse containing the 'Wilsford Shaft'	Reduction in width of exposed cutting by 25% and length by up to 17.5% would provide additional landscape connectivity approximately 300m from the asset and reduce and soften the extent of open retained cut visible in long views.	Continuous	Long term	Irreversible	Irreversible	Permanent change	Negligible positive change over the Assessed Scheme	Negligible (negative) and Minor (positive) change (no change from Assessed Scheme)	Slight adverse (Minor negative)

Technical Note

AECOM + mace + WSP

Element of Proposed Action	Design Development 2: Assessed Scheme in the Main HIA with the addition of 3.5m cantilever canopies added to the top of the retained cutting walls in the Western Portal Approach Cutting, plus the addition of a second 150m wide green bridge.								
Attribute	**Description of Potential Impact**	**Frequency of Action**	**Duration of Action**	**Reversibility of Action**	**Reversibility of Change to the Attribute**	**Longevity of Change to the Attribute**	**Degree of Change to the Attribute**	**Quality of Change to the Attribute**	**Evaluation of Impact**
NHLE 1010831 - Bowl barrow 400m west of Normanton Gorse	Reduction in width of exposed cutting by 25% and length by up to 17.5% would provide additional landscape connectivity less than 300m north-west of the asset and reduce and soften the extent of open retained cut visible in long views.	Continuous	Long term	Irreversible	Irreversible	Permanent change	Negligible positive change over the Assessed Scheme	Moderate (negative) and Major (positive) change (no change from Assessed Scheme)	Neutral
NHLE 1013812 - Bowl barrow 350m south-west of Normanton Gorse	Reduction in width of exposed cutting by 25% and its length by up to 17.5% would provide additional landscape connectivity approximately 400m north-west of the site and reduce and soften the extent of open retained cut visible in long views.	Continuous	Long term	Irreversible	Irreversible	Permanent change	Negligible positive change over the Assessed Scheme	Moderate (negative) and Major (positive) change (no change from Assessed Scheme)	Neutral

Technical Note

AECOM + mace + WSP

Element of Proposed Action	Design Development 2: Assessed Scheme in the Main HIA with the addition of 3.5m cantilever canopies added to the top of the retained cutting walls in the Western Portal Approach Cutting, plus the addition of a second 150m wide green bridge.								
Attribute	**Description of Potential Impact**	**Frequency of Action**	**Duration of Action**	**Reversibility of Action**	**Reversibility of Change to the Attribute**	**Longevity of Change to the Attribute**	**Degree of Change to the Attribute**	**Quality of Change to the Attribute**	**Evaluation of Impact**
NHLE 1012394 - Four bowl barrows 140m north of the A303 on Stonehenge Down	Reduction in width of exposed cutting by 25% and its length by up to 17.5% would provide additional landscape connectivity and reduce and soften the extent of open retained cut visible in long views towards AG13 and discrete assets south of the cutting.	Continuous	Long term	Irreversible	Irreversible	Permanent change	Negligible positive change over the Assessed Scheme	Minor (negative) and Major (positive) change (no change from Assessed Scheme)	Moderate beneficial (Moderate positive)

Table 7: Evaluating Potential Impacts: Assessed Scheme on Asset Groups Conveying Attributes of OUV (based on Tool 3 in the 2022 UNESCO Guidance)

Element of Proposed Action	**Assessed Scheme: Western Portal Approach Cutting c. 850m long, incorporating a 200m cut and cover canopy to conceal the western bored tunnel portal and a 150m land bridge (Green Bridge Four), positioned to provide physical and landscape connectivity between key asset groups**								
Attribute	**Description of Potential Impact**	**Frequency of Action**	**Duration of Action**	**Reversibility of Action**	**Reversibility of Change to the Attribute**	**Longevity of Change to the Attribute**	**Degree of Change to the Attribute**	**Quality of Change to the Attribute**	**Evaluation of Impact**
AG12 - Winterbourne Stoke Crossroads Barrows	Removal of existing surface A303 and concealing of new highway infrastructure in a retained cutting would restore visual connectivity between AG12 and AG13 Diamond Group and other asset groups and discrete assets south of the new highway alignment. Green Bridge Four would maintain physical connectivity between AG12 and AG13.	Continuous	Long term	Irreversible	Irreversible	Permanent change	Minor (negative) and Major (positive) change	Negative and Positive change	Moderate beneficial (Moderate positive)
AG13 - The Diamond Group	Removal of existing surface A303 and concealing of new highway infrastructure in a retained cutting would restore visual connectivity between AG13 and AG12 Winterbourne Stoke Barrow Group and	Continuous	Long term	Irreversible	Irreversible	Permanent change	Moderate (negative) and Minor (positive) change	Negative and Positive change	Slight adverse (Minor negative)

Element of Proposed Action	Assessed Scheme: Western Portal Approach Cutting c. 850m long, incorporating a 200m cut and cover canopy to conceal the western bored tunnel portal and a 150m land bridge (Green Bridge Four), positioned to provide physical and landscape connectivity between key asset groups								
Attribute	**Description of Potential Impact**	**Frequency of Action**	**Duration of Action**	**Reversibility of Action**	**Reversibility of Change to the Attribute**	**Longevity of Change to the Attribute**	**Degree of Change to the Attribute**	**Quality of Change to the Attribute**	**Evaluation of Impact**
	other asset groups and discrete assets south of the new highway alignment. Green Bridge Four would maintain physical connectivity between AG13 and AG12.								
AG19 - Normanton Down Barrows	Removal of existing surface A303 road and replacement with a tunnel and conversion to a restricted byway would physically reunite the numerous monuments within the group with those in the northern part of the WHS. Access would be enhanced, although westwards of the tunnel portal where the road would run in cutting, severance would persist.	Continuous	Long term	Irreversible	Irreversible	Permanent change	Minor (negative and positive) and Moderate (positive) change	Negative and Positive change	Moderate beneficial (Moderate positive)

Element of Proposed Action	Assessed Scheme: Western Portal Approach Cutting c. 850m long, incorporating a 200m cut and cover canopy to conceal the western bored tunnel portal and a 150m land bridge (Green Bridge Four), positioned to provide physical and landscape connectivity between key asset groups								
Attribute	**Description of Potential Impact**	**Frequency of Action**	**Duration of Action**	**Reversibility of Action**	**Reversibility of Change to the Attribute**	**Longevity of Change to the Attribute**	**Degree of Change to the Attribute**	**Quality of Change to the Attribute**	**Evaluation of Impact**
AG19A - Normanton Down Barrows North	AG19A to the north of the A303 on Stonehenge Down (NHLE 1012369) would have long distance views to the west down the course of the dualled A303 carriageway. The tunnel's western portal is located c.580m away. Lighting would be hooded and directional to minimise light spill from the western portal mouth. Views of traffic would not be available, while traffic noise would be very greatly reduced due to the tunnelled section of the Assessed Scheme and deep cutting.	Continuous	Long term	Irreversible	Irreversible	Permanent change	Minor (negative) and Major (positive) change.	Negative and Positive change.	Slight beneficial (Minor positive)
AG19B - Normanton Down barrows Central	Removal of the visual and audible impacts of traffic would benefit the setting of the group as a whole. Views from numerous individual monuments would be	Continuous	Long term	Irreversible	Irreversible	Permanent change	Moderate change	Positive Change	Large beneficial (Major positive)

Element of Proposed Action	Assessed Scheme: Western Portal Approach Cutting c. 850m long, incorporating a 200m cut and cover canopy to conceal the western bored tunnel portal and a 150m land bridge (Green Bridge Four), positioned to provide physical and landscape connectivity between key asset groups								
Attribute	**Description of Potential Impact**	**Frequency of Action**	**Duration of Action**	**Reversibility of Action**	**Reversibility of Change to the Attribute**	**Longevity of Change to the Attribute**	**Degree of Change to the Attribute**	**Quality of Change to the Attribute**	**Evaluation of Impact**
	improved, and compromised sightlines restored.								
AG19C - Normanton Down barrows South-west	Removal of the visual and audible impacts of traffic would benefit the setting of these elements of AG19. Views from numerous individual monuments would be improved, and compromised sightlines restored.	Continuous	Long term	Irreversible	Irreversible	Permanent change	Minor change	Positive Change	Large beneficial (Major positive)
AG19D - Normanton Down barrows South-east	These elements of AG19 would also benefit from the removal of the visual and audible impacts of traffic and the restoration of sightlines. However, these benefits would be tempered by distance.	Continuous	Long term	Irreversible	Irreversible	Permanent change	Minor change	Positive Change	Moderate beneficial (Moderate positive)

Table 8: Evaluating Potential Impacts: Assessed Scheme on Discrete Assets Conveying Attributes of OUV (based on Tool 3 in the 2022 UNESCO Guidance)

Element of Proposed Action	**Assessed Scheme: Western Portal Approach Cutting c. 850m long, incorporating a 200m cut and cover canopy to conceal the western bored tunnel portal and a 150m land bridge (Green Bridge Four), positioned to provide physical and landscape connectivity between key asset groups**								
Attribute	**Description of Potential Impact**	**Frequency of Action**	**Duration of Action**	**Reversibility of Action**	**Reversibility of Change to the Attribute**	**Longevity of Change to the Attribute**	**Degree of Change to the Attribute**	**Quality of Change to the Attribute**	**Evaluation of Impact**
NHLE 1010832 - Bowl barrow south of the A303 and north west of Normanton Gorse	The 200m long cut and cover canopy would reduce the visibility of the tunnel portal and the cutting in views to the west but would not exclude long distance views of the cutting and Green Bridge Four completely. Physical connectivity would be maintained by the grassed canopy. Views to the Winterbourne Stoke Crossroads Barrows (AG12) and the Diamond Group (AG13) would be unbroken by the cutting. The design of the cutting, Green Bridge Four and chalk grassland mitigation would soften this impact. The chalk grassland mitigation would ensure that the new infrastructure integrates quickly in to the landscape.	Continuous	Long term	Irreversible	Irreversible	Permanent change	Negligible (negative) and minor (positive) change	Negative and Positive change	Slight adverse (Minor negative)

Element of Proposed Action	Assessed Scheme: Western Portal Approach Cutting c. 850m long, incorporating a 200m cut and cover canopy to conceal the western bored tunnel portal and a 150m land bridge (Green Bridge Four), positioned to provide physical and landscape connectivity between key asset groups								
Attribute	**Description of Potential Impact**	**Frequency of Action**	**Duration of Action**	**Reversibility of Action**	**Reversibility of Change to the Attribute**	**Longevity of Change to the Attribute**	**Degree of Change to the Attribute**	**Quality of Change to the Attribute**	**Evaluation of Impact**
NHLE 1010833 - Pond barrow south of the A303 and 400m west of Normanton Gorse containing the 'Wilsford Shaft'	The asset is located c. 70m south of the proposed cutting. The cutting would physically divide this barrow from the Winterbourne Stoke Crossroads Barrows (AG12), but physical connectivity would be maintained with this Asset Group by Green Bridge Four situated to the west. Views to Winterbourne Stoke Crossroads Barrows (AG12) and the Diamond Group (AG13) would be unbroken by the cutting. The chalk grassland mitigation to the north and south of the cutting would ensure the new infrastructure integrates into the landscape but would be visible from the monument itself.	Continuous	Long term	Irreversible	Irreversible	Permanent change	Negligible (negative) and minor (positive) change	Negative and Positive change	Slight adverse (Minor negative)

Element of Proposed Action	Assessed Scheme: Western Portal Approach Cutting c. 850m long, incorporating a 200m cut and cover canopy to conceal the western bored tunnel portal and a 150m land bridge (Green Bridge Four), positioned to provide physical and landscape connectivity between key asset groups								
Attribute	**Description of Potential Impact**	**Frequency of Action**	**Duration of Action**	**Reversibility of Action**	**Reversibility of Change to the Attribute**	**Longevity of Change to the Attribute**	**Degree of Change to the Attribute**	**Quality of Change to the Attribute**	**Evaluation of Impact**
NHLE 1010831 - Bowl barrow 400m west of Normanton Gorse	The course of the A303 would be slightly closer to the monument. The cutting would physically divide this barrow from the Winterbourne Stoke Crossroads Barrows (AG12), although physical connectivity would be maintained by Green Bridge Four situated to the north-west. Views of traffic would be removed, and traffic noise would be reduced.	Continuous	Long term	Irreversible	Irreversible	Permanent change	Moderate (negative) and Minor (positive) change	Negative and Positive change	Neutral
NHLE 1013812 - Bowl barrow 350m south-west of Normanton Gorse	The course of the A303 would be slightly closer: the western end of the canopy is located c. 260m to the north-west. The cutting would physically divide this barrow from the Winterbourne Stoke Crossroads Barrows (AG12), but physical connectivity would be maintained by Green Bridge Four situated to the north-west. Views to	Continuous	Long term	Irreversible	Irreversible	Permanent change	Moderate (negative) and Minor (positive) change	Negative and Positive change	Neutral

Element of Proposed Action	Assessed Scheme: Western Portal Approach Cutting c. 850m long, incorporating a 200m cut and cover canopy to conceal the western bored tunnel portal and a 150m land bridge (Green Bridge Four), positioned to provide physical and landscape connectivity between key asset groups								
Attribute	**Description of Potential Impact**	**Frequency of Action**	**Duration of Action**	**Reversibility of Action**	**Reversibility of Change to the Attribute**	**Longevity of Change to the Attribute**	**Degree of Change to the Attribute**	**Quality of Change to the Attribute**	**Evaluation of Impact**
	Winterbourne Stoke Crossroads Barrows (AG12) and the Diamond Group (AG13) would be unbroken by the cutting, while the chalk grassland mitigation to the north and south of the cutting would ensure that the new infrastructure integrates into the landscape.								
NHLE 1012394 - Four bowl barrows 140m north of the A303 on Stonehenge Down	The Assessed Scheme would bring the road into cutting and would be slightly further away than the present A303: the western end of the proposed canopy would be located c.185m to the south. The barrows' relationship with the Winterbourne Stoke Crossroads Barrows (AG12) would remain un-interrupted and would be improved by the greatly reduced road infrastructure that would be visible. Views towards	Continuous	Long term	Irreversible	Irreversible	Permanent change	Minor (negative) and Major (positive) change	Negative and Positive change	Moderate beneficial (Moderate positive)

Element of Proposed Action	Assessed Scheme: Western Portal Approach Cutting c. 850m long, incorporating a 200m cut and cover canopy to conceal the western bored tunnel portal and a 150m land bridge (Green Bridge Four), positioned to provide physical and landscape connectivity between key asset groups								
Attribute	**Description of Potential Impact**	**Frequency of Action**	**Duration of Action**	**Reversibility of Action**	**Reversibility of Change to the Attribute**	**Longevity of Change to the Attribute**	**Degree of Change to the Attribute**	**Quality of Change to the Attribute**	**Evaluation of Impact**
	and from the Diamond Group (AG13) and Normanton Down would also be improved. The cutting would physically divide the barrows from the Diamond Group (AG13) and the western part of the Normanton Down Barrows (AG19D) and isolated barrows to the south, but connectivity would be maintained by Green Bridge Four and the cut and cover canopy. Traffic would be removed from the barrows' setting. Light spill is avoided and traffic noise would also be reduced.								

Table 9: Evaluating Potential Impacts: Existing A303 on Asset Groups Conveying Attributes of OUV (based on Tool 3 in the 2022 UNESCO Guidance)

	The Existing A303								
Attribute	**Description of Potential Impact**	**Frequency of Action**	**Duration of Action**	**Reversibility of Action**	**Reversibility of Change to the Attribute**	**Longevity of Change to the Attribute**	**Degree of Change to the Attribute**	**Quality of Change to the Attribute**	**Evaluation of Impact**
AG12 - Winterbourne Stoke Crossroads Barrows	The A303 runs directly to the south of AG12 Winterbourne Stoke Crossroads Barrows, with the A360 directly to the west, severing the group from the landscape to the south and west, dividing the monuments from others and disrupting inter-visibility with the Diamond Group (AG13) and the Normanton Down Barrows (AG19).	Continuous	Long term	Irreversible	Irreversible	Permanent change	Moderate	Negative	Large adverse (Major negative)
AG13 - The Diamond Group	The A303 and A360 physically sever the Diamond Group (AG13) from the landscape to the north and west. The A303 interrupts and detracts from northward views towards the	Continuous	Long term	Irreversible	Irreversible	Permanent change	Moderate	Negative	Large adverse (Major negative)

	The Existing A303								
Attribute	**Description of Potential Impact**	**Frequency of Action**	**Duration of Action**	**Reversibility of Action**	**Reversibility of Change to the Attribute**	**Longevity of Change to the Attribute**	**Degree of Change to the Attribute**	**Quality of Change to the Attribute**	**Evaluation of Impact**
	Winterbourne Stoke Crossroads Barrows (AG12), which are dominated by moving traffic and prominent road signage.								
AG19 - Normanton Down Barrows	The A303 runs across the northern part of the Normanton Down Barrows (AG19), dividing a cluster of three upstanding barrows (AG19A) from all others. It is extremely close to these monuments. The setting of the Normanton Down Barrows (AG19) is heavily compromised by traffic noise and visual intrusion. The magnitude of these impacts generally lessens with distance to the south.	Continuous	Long term	Irreversible	Irreversible	Permanent change	Moderate	Negative	Large adverse (Major negative)
AG19A - Normanton Down Barrows North	See above	Continuous	Long term	Irreversible	Irreversible	Permanent change	Moderate	Negative	Large adverse (Major negative)

	The Existing A303								
Attribute	**Description of Potential Impact**	**Frequency of Action**	**Duration of Action**	**Reversibility of Action**	**Reversibility of Change to the Attribute**	**Longevity of Change to the Attribute**	**Degree of Change to the Attribute**	**Quality of Change to the Attribute**	**Evaluation of Impact**
AG19B - Normanton Down barrows Central	See above	Continuous	Long term	Irreversible	Irreversible	Permanent change	Moderate	Negative	Large adverse (Major negative)
AG19C - Normanton Down barrows South-west	See above	Continuous	Long term	Irreversible	Irreversible	Permanent change	Moderate	Negative	Large adverse (Major negative)
AG19D - Normanton Down barrows South-east	See above	Continuous	Long term	Irreversible	Irreversible	Permanent change	Moderate	Negative	Large adverse (Major negative)

Table 10: Evaluating Potential Impacts: Existing A303 on Discrete Assets Conveying Attributes of OUV (based on Tool 3 in the 2022 UNESCO Guidance)

	The Existing A303								
Attribute	**Description of Potential Impact**	**Frequency of Action**	**Duration of Action**	**Reversibility of Action**	**Reversibility of Change to the Attribute**	**Longevity of Change to the Attribute**	**Degree of Change to the Attribute**	**Quality of Change to the Attribute**	**Evaluation of Impact**
NHLE 1010832 - Bowl barrow south of the A303 and north west of Normanton Gorse	The current A303 is situated on an embankment c. 56m to the north of the barrow. The road and its traffic are the dominant element in the setting, creating physical severance from the monuments to the north, interrupting sightlines in this direction, notably towards the Winterbourne Stoke Crossroads Barrows (AG12), and being a highly audible element.	Continuous	Long term	Irreversible	Irreversible	Permanent change	Moderate	Negative	Large adverse (Major negative)

	The Existing A303								
Attribute	**Description of Potential Impact**	**Frequency of Action**	**Duration of Action**	**Reversibility of Action**	**Reversibility of Change to the Attribute**	**Longevity of Change to the Attribute**	**Degree of Change to the Attribute**	**Quality of Change to the Attribute**	**Evaluation of Impact**
NHLE 1010833 - Pond barrow south of the A303 and 400m west of Normanton Gorse containing the 'Wilsford Shaft'	Although the pond barrow south of the A303 which contained the Wilsford Shaft has been subject to excavation, the site is marked by a slight depression, but lacks any greater surface prominence. The form of the shaft survives as a buried feature. It is currently impacted by visual and aural intrusion from the existing A303, which lies c.150m to the north-west on an embankment.	Continuous	Long term	Irreversible	Irreversible	Permanent change	Moderate	Negative	Large adverse (Major negative)

	The Existing A303								
Attribute	**Description of Potential Impact**	**Frequency of Action**	**Duration of Action**	**Reversibility of Action**	**Reversibility of Change to the Attribute**	**Longevity of Change to the Attribute**	**Degree of Change to the Attribute**	**Quality of Change to the Attribute**	**Evaluation of Impact**
NHLE 1010831 - Bowl barrow 400m west of Normanton Gorse	This barrow has no surface expression, but its location is inter-visible with the Normanton Down Barrows (AG19), the Winterbourne Stoke Crossroads Barrows (AG12) and the Diamond Group (AG13), as well as surrounding discrete barrows. Its setting is currently impacted by the proximity of the existing A303, which is on embankment and situated c.250m to the north.	Continuous	Long term	Irreversible	Irreversible	Permanent change	Minor	Negative	Moderate adverse (Moderate negative)

	The Existing A303								
Attribute	**Description of Potential Impact**	**Frequency of Action**	**Duration of Action**	**Reversibility of Action**	**Reversibility of Change to the Attribute**	**Longevity of Change to the Attribute**	**Degree of Change to the Attribute**	**Quality of Change to the Attribute**	**Evaluation of Impact**
NHLE 1013812 - Bowl barrow 350m south-west of Normanton Gorse	The barrow has no surface expression, but its location is inter-visible with the westerly Normanton Down Barrows (AG19), the Winterbourne Stoke Crossroads Barrows (AG12) and the Diamond Group (AG13), as well as surrounding discrete barrows. The setting is currently impacted by the proximity of the existing A303, which is on embankment and situated c. 335m to the north-west.	Continuous	Long term	Irreversible	Irreversible	Permanent change	Minor	Negative	Moderate adverse (Moderate negative)

	The Existing A303								
Attribute	**Description of Potential Impact**	**Frequency of Action**	**Duration of Action**	**Reversibility of Action**	**Reversibility of Change to the Attribute**	**Longevity of Change to the Attribute**	**Degree of Change to the Attribute**	**Quality of Change to the Attribute**	**Evaluation of Impact**
NHLE 1012394 - Four bowl barrows 140m north of the A303 on Stonehenge Down	The monuments lack surface expression and have no intrinsic visual interest, but the four barrows have a clear group setting, as well as a wider archaeological and visual relationship with the Winterbourne Stoke Crossroads Barrows (AG12) and, to the south of the A303, with monuments including the Diamond Group (AG13) and Normanton Down Barrows (AG19) and other discrete assets. The setting of these barrows is currently impacted by visual and aural intrusion from the existing A303, c.130m to the south.	Continuous	Long term	Irreversible	Irreversible	Permanent change	Moderate	Negative	Large adverse (Major negative)

7 Impact assessment on the Attributes which convey the OUV of the WHS, Integrity and Authenticity

7.1 The Design Developments focus on measures to reduce the extent of exposed cutting within the WHS in the western tunnel approaches. The impact of this section of the Assessed Scheme on the Attributes of OUV of the WHS is considered in section 11 of the Main HIA:

[11.1.13] […] Placing the road in a deep cutting is designed to help to conceal the new highway infrastructure in the landscape, and conceal the sight and sound of high-speed traffic in views across this part of the WHS. The approach cutting would not be lit and the deep cutting would help conceal vehicle lights. The 150m wide Green Bridge Four would maintain connectivity between assets and Asset Groups, concealing more of the dual carriageway, reducing severance and lessening the visual presence of the retained cutting. Green Bridge Four would enhance both visual and physical links between barrow groups, other archaeological features and their settings. It would provide an improved opportunity for exploration of the WHS and movement through the landscape, enhancing visitors' experience and understanding of the WHS.

[11.1.14] The rounded upper slopes of the cutting would be grassed and chalk grassland mitigation beyond the retained cutting and across Green Bridge 4 would soften key views of the cutting from Asset Groups and landscape viewpoints. The chalk grassland mitigation would also visually aid the integration of the new infrastructure within the landscape. The fencing for the green bridges and the cutting have been designed in order to minimise the experience of severance in the landscape.

[11.1.15] There would be the following effects on Attributes of OUV:

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

The alignment of the western approach road has been selected to avoid known heritage assets and Asset Groups. Archaeological field evaluations have shown there are no ceremonial or funerary monuments and few other archaeological remains that would be affected by construction of the western approach road. However, the western approach road would not avoid possible impacts on archaeological remains. The potential loss of archaeological remains would be mitigated through a programme of archaeological fieldwork and recording prior to construction.

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

The removal of the existing highway infrastructure (the surface route A303) and placing of the approach road in a cutting would remove a major impediment to the appreciation of the landscape setting of the monuments while the 150m Green Bridge Four would maintain landscape connectivity within this part of the WHS. There would be particular benefits to the setting of the Winterbourne Stoke Crossroads Barrows (AG12) due to the removal of the existing A303 and Longbarrow Roundabout from immediately adjacent to this Asset Group. However, the deep cutting does introduce new infrastructure close to some isolated assets and Asset Groups, including the

concentration of long barrows associated with the Wilsford/Normanton dry valley complex.

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

The alignment of the western approach road has been selected to avoid intrusion of the highway infrastructure and traffic, and associated light pollution into the midwinter solstice alignment. There would be no effect on this Attribute of OUV.

(5) The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other.

and

(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 removal of the existing highway infrastructure (the surface route A303) and placing of the approach road in cutting would remove the severance of the existing road between monument groups. New severance, through the construction of the cutting would be introduced, however, this severance and intrusion has been minimised through the careful design of the upper slopes of the cutting and the addition of chalk grassland mitigation to the north and south to integrate the cutting into the landscape. The severance would be further mitigated by the placing of a 150m long Green Bridge Four which would maintain landscape connectivity within this part of the WHS and in particular, maintain the physical landscape connection and views between the Winterbourne Stoke Crossroads Barrows (AG12) and the Diamond Group (AG13), reducing the impact of the cutting on these Asset Groups and the OUV of the WHS.

(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.

The existing A303 presents a prominent intrusion, in particular on the setting of the prominent Winterbourne Stoke Crossroads Barrows (AG12). The removal of the surface infrastructure would enhance the setting of the monuments, returning a more tranquil and authentic environment for people to appreciate and enjoy.

In summary, the western approach road would remove the existing severance due to the surface A303. The new severance due to the cutting would be mitigated through careful design and the provision of Green Bridge Four.

7.2 The following sections consider the Design Developments in relation to the Attributes of OUV, Integrity and Authenticity of the WHS.

<u>Design Development 1 - 3.5m cantilever canopies</u>

7.3 Provision of the 3.5m cantilevers would reduce the width of the open retained cutting by approximately 23%. The cantilevers would retain the rounded upper slopes of the cutting, these would be grassed and, together with the chalk grassland mitigation beyond the retained cutting and across Green Bridge Four, would soften key views of

the cutting from Asset Groups and landscape viewpoints. This would aid landscape integration of the cutting in views both across the cutting north-south and in longer distance, oblique views, and would strengthen and enhance the mitigation provided under the Assessed Scheme by the landscape design and Green Bridge Four. This would benefit Attributes 5 and 6 of the OUV of the WHS and the Integrity of the WHS. However, it is assessed that any improvement would not be sufficiently substantive to alter the effects of the Assessed Scheme, as assessed in the Main HIA, on the Attributes of OUV, and the Integrity and Authenticity of the WHS.

Design Development 2 - Additional 150m Green Bridge 5

7.4 Provision of a second 150m land bridge (GB5), with the 3.5m cantilever canopies, would reduce the extent of the open retained cutting in the WHS by a further 17%. Green Bridge Four would be retained between chainage 6+415 and 6+565, as per the Assessed Scheme, with the additional green bridge placed between Green Bridge Four and the tunnel portal between chainages 6+717 and 6+867. The additional landscape and visual connectivity would benefit Attributes 3, 5 and 6, and would serve to further mitigate the negative impact of the cutting on the Integrity of the WHS.

Cumulative impacts

7.5 There would be no additional cumulative or in combination effects on the Attributes of OUV, Integrity or Authenticity of the WHS arising from the construction of Design Development 1 and 2.

8 Conclusions

8.1 The potential overall impacts and effects of the Assessed Scheme on individual Attributes of OUV, taking into account the results of the detailed assessments from the Main HIA, and the changes due to construction of Design Developments 1 and 2 tabulated above, are considered in **Tables 11 and 12** below, based on Tool 3 of the 2022 UNESCO Guidance.

8.2 The changes arising from implementation of Design Developments 1 and 2 would affect only the Western Portal Approach Cutting. In this section of the Assessed Scheme, the residual adverse effects on the Attributes of OUV, Integrity and Authenticity of the WHS would be changed. Introduction of the 3.5m cantilevers under Design Development 1 would be beneficial due to the reduction in width of the open retained cutting, but the severance due to the cutting would remain: there would be no substantive change compared to the Assessed Scheme. Design Development 2, combining the cantilevers with a second 150m green bridge, would provide similar benefits in terms of enhanced landscape and visual connectivity.

8.3 Although Design Developments 1 and 2 would both introduce positive changes, the relative scale of these changes, as part of the Assessed Scheme as a whole, would be very minor. There would be negligible positive change and enhancements (very minor changes to key archaeological settings) to AG12 Winterbourne Stoke Crossroads Barrows, AG13 the Diamond Group and AG19 Normanton Down Barrows and five discrete designated assets in the vicinity of the Western Portal Approach Cutting. These are marginal improvements compared to the Assessed Scheme in the Main HIA.

8.4 The Main HIA takes account of both positive and negative impacts to arrive at an overall conclusion regarding the effect of the Assessed Scheme, on the Attributes of

OUV and the Integrity and Authenticity of the WHS. In making this balanced judgement, a precautionary approach has been adopted so as to avoid overstating positive impacts and beneficial effects where these arise.

8.5 The Main HIA concludes a residual effect overall on the WHS, taking into account the residual effects on the Attributes of OUV, Integrity and Authenticity of the WHS of Slight Beneficial. Design Developments 1 and 2 would not change the adverse residual effects relating to the construction of the eastern portal and approach cutting. Although the positive changes arising from Design Developments 1 and 2 would improve the performance of the Assessed Scheme overall, in terms of its effects on individual assets and relationships between Asset Groups, the improvement would be marginal and not sufficient to change the residual overall effect of the Assessed Scheme, which is assessed in the Main HIA as Slight Beneficial.

8.6 The conclusions of the Main HIA, including how the Assessed Scheme fulfils aspects of the 2015 WHS Management Plan's Vision, Aims and Policies, would be unchanged due to construction of Design Developments 1 and 2.

8.7 For the purposes of comparison, **Table 13** presents a summary assessment of the significance of effect of the existing A303, and the anticipated significance of effect of the Assessed Scheme (including Design Developments 1 and 2) on the Attributes of OUV, Integrity and Authenticity of the WHS.

Technical Note

AECOM + mace + WSP

Table 11: Evaluating Potential Impacts: Design Development 1 on the Attributes of OUV, Integrity and Authenticity of the WHS (based on Tool 3 in the 2022 UNESCO Guidance)

Element of Proposed Action	**Design Development 1 – Assessed Scheme in the Main HIA with the addition of 3.5m cantilever canopies added to the top of the retained cutting walls in the Western Portal Approach Cutting**								
Attribute	**Description of Potential Impact**	**Frequency of Action**	**Duration of Action**	**Reversibility of Action**	**Reversibility of Change to the Attribute**	**Longevity of Change to the Attribute**	**Degree of Change to the Attribute**	**Quality of Change to the Attribute**	**Evaluation of Impact**
1. Stonehenge itself as a globally famous and iconic monument	Removal of the existing surface A303 would significantly enhance the setting of the Stonehenge monument, providing the opportunity to reconnect it physically and visually with the wider WHS to the south. There would be no substantive change to the impact on this attribute of OUV due to the addition of cantilever canopies under Design Development 1 compared to the Assessed Scheme.	Continuous	Long term	Irreversible	Irreversible	Permanent change	Negligible change over the Assessed Scheme	Major positive change (no change from Assessed Scheme)	Very Large Beneficial (Major positive)

Element of Proposed Action	Design Development 1 – Assessed Scheme in the Main HIA with the addition of 3.5m cantilever canopies added to the top of the retained cutting walls in the Western Portal Approach Cutting								
Attribute	**Description of Potential Impact**	**Frequency of Action**	**Duration of Action**	**Reversibility of Action**	**Reversibility of Change to the Attribute**	**Longevity of Change to the Attribute**	**Degree of Change to the Attribute**	**Quality of Change to the Attribute**	**Evaluation of Impact**
2. The physical remains of the Neolithic and Bronze Age funerary and ceremonial monuments and associated sites	Removal of the existing surface A303 would reduce physical and contextual severance and visual impacts on a number of assets. Construction of the Assessed Scheme would result in the loss of any archaeological remains within the construction footprint, however, the Assessed Scheme has been developed to avoid known concentrations of archaeological remains that make a significant contribution to the OUV of the WHS. Addition of cantilever canopies under Design Development 1 would not require additional land take. There would be no substantive change to the impact on this attribute of OUV due to Design Development 1 compared to the Assessed Scheme.	Continuous	Long term	Irreversible	Irreversible	Permanent change	Negligible change over the Assessed Scheme	Negligible negative change (no change from Assessed Scheme)	Slight adverse (Minor negative)

Element of Proposed Action	Design Development 1 – Assessed Scheme in the Main HIA with the addition of 3.5m cantilever canopies added to the top of the retained cutting walls in the Western Portal Approach Cutting								
Attribute	**Description of Potential Impact**	**Frequency of Action**	**Duration of Action**	**Reversibility of Action**	**Reversibility of Change to the Attribute**	**Longevity of Change to the Attribute**	**Degree of Change to the Attribute**	**Quality of Change to the Attribute**	**Evaluation of Impact**
3. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape	Removal of the A303 across much of the WHS would enable the physical reconnection of significant monuments to the wider landscape and improve people's ability to appreciate and understand the conceptual connections between the various monuments and the wider topographic landscape. The new dual carriageway and tunnel portal in the west would adversely affect the current character and appreciation of the relationships between monuments and the landscape, with the deep cutting severing the physical relationship and topographic linkages and affecting the integrity of physical relationships between the monuments. The Assessed Scheme design incorporates a canopy at the western portal and Green Bridge Four to help conceal the western tunnel portal and approach cutting.	Continuous	Long term	Irreversible	Irreversible	Permanent change	Negligible change over the Assessed Scheme	Negligible negative change (no change from Assessed Scheme)	Slight adverse (Minor negative)

Technical Note

AECOM + mace + WSP

Element of Proposed Action	Design Development 1 – Assessed Scheme in the Main HIA with the addition of 3.5m cantilever canopies added to the top of the retained cutting walls in the Western Portal Approach Cutting								
Attribute	**Description of Potential Impact**	**Frequency of Action**	**Duration of Action**	**Reversibility of Action**	**Reversibility of Change to the Attribute**	**Longevity of Change to the Attribute**	**Degree of Change to the Attribute**	**Quality of Change to the Attribute**	**Evaluation of Impact**
	Green Bridge Four would maintain north-south connectivity and establishment of chalk grassland across and around the bridge and canopy would visually aid integration within the landscape. Addition of cantilever canopies under Design Development 1 would result in a reduction in width of exposed cutting by c. 23% from 28.1m to 21.1m and aid landscape integration, however, there would be no substantive change to the impact on this attribute of OUV compared to the Assessed Scheme.								

Element of Proposed Action	Design Development 1 – Assessed Scheme in the Main HIA with the addition of 3.5m cantilever canopies added to the top of the retained cutting walls in the Western Portal Approach Cutting								
Attribute	**Description of Potential Impact**	**Frequency of Action**	**Duration of Action**	**Reversibility of Action**	**Reversibility of Change to the Attribute**	**Longevity of Change to the Attribute**	**Degree of Change to the Attribute**	**Quality of Change to the Attribute**	**Evaluation of Impact**
4. The design of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the skies and astronomy	The removal of the existing A303 to the south of Stonehenge would benefit this Attribute of OUV through the removal of traffic and modern road infrastructure from views towards the winter solstice sunset. No lighting is proposed for the Assessed Scheme. It is designed to reduce light pollution with the use of cuttings, canopies and green bridges. There would therefore be no risk of roadside or tunnel approach lighting affecting the experience of the winter solstice sunset. Glow from vehicular lights in the Western Portal Approach Cutting is not anticipated due to the deep cutting. Addition of cantilevers under Design Development 1, would potentially further reduce this. There would be no substantive change to the impact on this attribute of OUV compared to the Assessed Scheme.	Continuous	Long term	Irreversible	Irreversible	Permanent change	Negligible change over the Assessed Scheme	Major positive change (no change from Assessed Scheme)	Very Large Beneficial (Major positive)

Element of Proposed Action	Design Development 1 – Assessed Scheme in the Main HIA with the addition of 3.5m cantilever canopies added to the top of the retained cutting walls in the Western Portal Approach Cutting								
Attribute	**Description of Potential Impact**	**Frequency of Action**	**Duration of Action**	**Reversibility of Action**	**Reversibility of Change to the Attribute**	**Longevity of Change to the Attribute**	**Degree of Change to the Attribute**	**Quality of Change to the Attribute**	**Evaluation of Impact**
5. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other	The construction of the western portal and approach roads would affect the relationships between a number of discrete monuments and Asset Groups, adversely affecting the integrity of physical relationships between the Normanton Down Barrows (AG19) and the Winterbourne Stoke Crossroads Barrows (AG12) and the Diamond Group (AG13), as well as visual and physical relationships between other dispersed barrows and associated monuments. These include the relationships between the concentration of long barrows associated with the Wilsford/Normanton dry valley complex. The benefits associated with the removal of the A303 are lessened by the impacts associated with the construction of the new dual carriageway in cutting particularly at the western end. Embedded design in the form of the western portal	Continuous	Long term	Irreversible	Irreversible	Permanent change	Negligible change over the Assessed Scheme	Negligible positive change (no change from Assessed Scheme)	Slight beneficial (Minor positive)

Element of Proposed Action	Design Development 1 – Assessed Scheme in the Main HIA with the addition of 3.5m cantilever canopies added to the top of the retained cutting walls in the Western Portal Approach Cutting								
Attribute	**Description of Potential Impact**	**Frequency of Action**	**Duration of Action**	**Reversibility of Action**	**Reversibility of Change to the Attribute**	**Longevity of Change to the Attribute**	**Degree of Change to the Attribute**	**Quality of Change to the Attribute**	**Evaluation of Impact**
	canopy and Green Bridge Four enable physical connections to be maintained and to a certain extent mitigated. The addition of cantilevers under Design Development 1 would further aid landscape integration, however, there would be no substantive change to the impact on this attribute of OUV compared to the Assessed Scheme.								
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 construction of the new road and tunnel portals within the western part of the WHS would have some adverse effects on the setting of a number of assets including the Normanton Down Barrows (AG19), the Winterbourne Stoke Crossroads Barrows (AG12), the Diamond Group (AG13) and several discrete Neolithic and Bronze Age barrows. The relationships between the concentration of long barrows associated with the Wilsford/Normanton dry valley complex would also be adversely impacted. The addition of cantilevers under	Continuous	Long term	Irreversible	Irreversible	Permanent change	Negligible change over the Assessed Scheme	Negligible positive change (no change from Assessed Scheme)	Slight beneficial (Minor positive)

Element of Proposed Action	Design Development 1 – Assessed Scheme in the Main HIA with the addition of 3.5m cantilever canopies added to the top of the retained cutting walls in the Western Portal Approach Cutting								
Attribute	**Description of Potential Impact**	**Frequency of Action**	**Duration of Action**	**Reversibility of Action**	**Reversibility of Change to the Attribute**	**Longevity of Change to the Attribute**	**Degree of Change to the Attribute**	**Quality of Change to the Attribute**	**Evaluation of Impact**
	Design Development 1 would further aid landscape integration, however, there would be no substantive change to the impact on this attribute of OUV compared to the Assessed Scheme.								
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	Removing the A303 from the key views which have inspired artists and others over centuries, including present-day visitors and those for whom the property has spiritual associations, would be a beneficial change. The addition of cantilevers under Design Development 1 would further aid landscape integration, however, there would be no substantive change to the impact on this attribute of OUV compared to the Assessed Scheme.	Continuous	Long term	Irreversible	Irreversible	Permanent change	Negligible change over the Assessed Scheme	Negligible positive change (no change from Assessed Scheme)	Slight beneficial (Minor positive)
Integrity	Removal of the existing A303 would address a longstanding threat to the Integrity of the WHS. However, construction and operation of new areas of dual carriageway and portals would introduce additional adverse impacts and degrade the	Continuous	Long term	Irreversible	Irreversible	Permanent change	Negligible change over the Assessed Scheme	Negligible positive change (no change from Assessed Scheme)	Slight beneficial (Minor positive)

Element of Proposed Action	Design Development 1 – Assessed Scheme in the Main HIA with the addition of 3.5m cantilever canopies added to the top of the retained cutting walls in the Western Portal Approach Cutting								
Attribute	**Description of Potential Impact**	**Frequency of Action**	**Duration of Action**	**Reversibility of Action**	**Reversibility of Change to the Attribute**	**Longevity of Change to the Attribute**	**Degree of Change to the Attribute**	**Quality of Change to the Attribute**	**Evaluation of Impact**
	Integrity of the WHS by partially severing physical relationships between important Asset Groups such as the Winterbourne Stoke Crossroads Barrows (AG12) and the Diamond Group (AG13), including the concentration of long barrows associated with the Wilsford/Normanton dry valley complex; and severing the landscape in this area, dividing a dry river valley in the western tunnel approaches east of the current A360. The Assessed Scheme design incorporates a canopy at the western portal and Green Bridge Four to help conceal the portal and approach cutting; Green Bridge Four would also maintain connectivity and establishment of chalk grassland across and around the bridge and canopy would visually aid integration within the landscape. The addition of cantilevers under Design Development 1 would aid landscape integration, however, there would be no substantive change to the impact on this attribute of OUV compared to the Assessed Scheme.								

Element of Proposed Action	Design Development 1 – Assessed Scheme in the Main HIA with the addition of 3.5m cantilever canopies added to the top of the retained cutting walls in the Western Portal Approach Cutting								
Attribute	**Description of Potential Impact**	**Frequency of Action**	**Duration of Action**	**Reversibility of Action**	**Reversibility of Change to the Attribute**	**Longevity of Change to the Attribute**	**Degree of Change to the Attribute**	**Quality of Change to the Attribute**	**Evaluation of Impact**
Authenticity	In terms of the form and design of assets and the inter-relationships between those assets, the Assessed Scheme avoids physical impacts on major assets associated with the OUV of the WHS where possible and as presently known. Archaeological excavation of the footprint of the western tunnel approach road would be undertaken in advance of construction. The Assessed Scheme would have a mixture of positive and negative impacts on the designed relationships between assets; it would therefore both strengthen and degrade this aspect of Authenticity. Addition of cantilevers under Design Development 1 would not require additional land take. There would be no substantive change to the impact on this attribute of OUV due to Design Development 1 compared to the Assessed Scheme.	Continuous	Long term	Irreversible	Irreversible	Permanent change	Negligible change over the Assessed Scheme	Negligible positive change (no change from Assessed Scheme)	Slight beneficial (Minor positive)

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Table 12: Evaluating Potential Impacts: Design Development 2 on Attributes of OUV, Integrity and Authenticity of the WHS (based on Tool 3 in the 2022 UNESCO Guidance)

Element of Proposed Action	**Design Development 2: Assessed Scheme in the Main HIA with the addition of 3.5m cantilever canopies added to the top of the retained cutting walls in the Western Portal Approach Cutting, plus the addition of a second 150m wide green bridge.**								
Attribute	**Description of Potential Impact**	**Frequency of Action**	**Duration of Action**	**Reversibility of Action**	**Reversibility of Change to the Attribute**	**Longevity of Change to the Attribute**	**Degree of Change to the Attribute**	**Quality of Change to the Attribute**	**Evaluation of Impact**
1. Stonehenge itself as a globally famous and iconic monument	Removal of the existing surface A303 would significantly enhance the setting of the Stonehenge monument, providing the opportunity to reconnect it physically and visually with the wider WHS to the south. There would be no substantive change to the impact on this attribute of OUV due to the addition of cantilever canopies and the additional green bridge under Design Development 2 compared to the Assessed Scheme.	Continuous	Long term	Irreversible	Irreversible	Permanent change	Negligible change over the Assessed Scheme	Major positive change (no change from Assessed Scheme)	Very Large Beneficial (Major positive)
2. The physical remains of the Neolithic and Bronze Age funerary and ceremonial monuments and associated sites	Removal of the existing surface A303 would reduce physical and contextual severance and visual impacts on a number of assets. Construction of the Assessed Scheme would result in the loss of any archaeological remains	Continuous	Long term	Irreversible	Irreversible	Permanent change	Negligible change over the Assessed Scheme	Negligible negative change (no change from Assessed Scheme)	Slight adverse (Minor negative)

Element of Proposed Action	Design Development 2: Assessed Scheme in the Main HIA with the addition of 3.5m cantilever canopies added to the top of the retained cutting walls in the Western Portal Approach Cutting, plus the addition of a second 150m wide green bridge.								
Attribute	**Description of Potential Impact**	**Frequency of Action**	**Duration of Action**	**Reversibility of Action**	**Reversibility of Change to the Attribute**	**Longevity of Change to the Attribute**	**Degree of Change to the Attribute**	**Quality of Change to the Attribute**	**Evaluation of Impact**
	within the construction footprint, however, the Assessed Scheme has been developed to avoid known concentrations of archaeological remains that make a significant contribution to the OUV of the WHS. Addition of a second green bridge under Design Development 2 would require a small area of additional land take, however, there would be no substantive change to the impact on this attribute of OUV due to Design Development 2 compared to the Assessed Scheme.								
3. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape	Removal of the A303 across much of the WHS would enable the physical reconnection of significant monuments to the wider landscape and improve people's ability to appreciate and understand the conceptual connections between the various monuments and the wider topographic landscape. The	Continuous	Long term	Irreversible	Irreversible	Permanent change	Negligible change over the Assessed Scheme	Negligible negative change (no change from Assessed Scheme)	Slight adverse (Minor negative)

Element of Proposed Action	Design Development 2: Assessed Scheme in the Main HIA with the addition of 3.5m cantilever canopies added to the top of the retained cutting walls in the Western Portal Approach Cutting, plus the addition of a second 150m wide green bridge.								
Attribute	**Description of Potential Impact**	**Frequency of Action**	**Duration of Action**	**Reversibility of Action**	**Reversibility of Change to the Attribute**	**Longevity of Change to the Attribute**	**Degree of Change to the Attribute**	**Quality of Change to the Attribute**	**Evaluation of Impact**
	new dual carriageway and tunnel portal in the west would adversely affect the current character and appreciation of the relationships between monuments and the landscape, with the deep cutting severing the physical relationship and topographic linkages and affecting the integrity of physical relationships between the monuments. The Assessed Scheme design incorporates a canopy at the western portal and Green Bridge Four to help conceal the western tunnel portal and approach cutting. Green Bridge Four would maintain north-south connectivity and establishment of chalk grassland across and around the bridge and canopy would visually aid integration within the landscape. Addition of cantilevers and a second green bridge under Design Development 2 reduce the								

Element of Proposed Action	Design Development 2: Assessed Scheme in the Main HIA with the addition of 3.5m cantilever canopies added to the top of the retained cutting walls in the Western Portal Approach Cutting, plus the addition of a second 150m wide green bridge.								
Attribute	**Description of Potential Impact**	**Frequency of Action**	**Duration of Action**	**Reversibility of Action**	**Reversibility of Change to the Attribute**	**Longevity of Change to the Attribute**	**Degree of Change to the Attribute**	**Quality of Change to the Attribute**	**Evaluation of Impact**
	extent of open retained cut visible in long views. However, there would be no substantive change to the impact on this attribute of OUV compared to the Assessed Scheme.								
4. The design of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the skies and astronomy	The removal of the existing A303 to the south of Stonehenge would benefit this Attribute of OUV through the removal of traffic and modern road infrastructure from views towards the winter solstice sunset. No lighting is proposed for the Assessed Scheme. It is designed to reduce light pollution with the use of cuttings, canopies and green bridges. There would therefore be no risk of roadside or tunnel approach lighting affecting the experience of the winter solstice sunset. Glow from vehicular lights in the Western Portal Approach Cutting is not anticipated due to the deep cutting. The addition of cantilevers and a	Continuous	Long term	Irreversible	Irreversible	Permanent change	Negligible change over the Assessed Scheme	Major positive change (no change from Assessed Scheme)	Very Large Beneficial (Major positive)

Element of Proposed Action	Design Development 2: Assessed Scheme in the Main HIA with the addition of 3.5m cantilever canopies added to the top of the retained cutting walls in the Western Portal Approach Cutting, plus the addition of a second 150m wide green bridge.								
Attribute	**Description of Potential Impact**	**Frequency of Action**	**Duration of Action**	**Reversibility of Action**	**Reversibility of Change to the Attribute**	**Longevity of Change to the Attribute**	**Degree of Change to the Attribute**	**Quality of Change to the Attribute**	**Evaluation of Impact**
	second green bridge under Design Development 2 would further reduce this, however, there would be no substantive change to the impact on this attribute of OUV compared to the Assessed Scheme.								
5. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other	The construction of the western portal and approach roads would affect the relationships between a number of discrete monuments and Asset Groups, adversely affecting the integrity of physical relationships between the Normanton Down Barrows (AG19) and the Winterbourne Stoke Crossroads Barrows (AG12) and the Diamond Group (AG13), as well as visual and physical relationships between other dispersed barrows and associated monuments. These include the relationships between the concentration of long barrows associated with the Wilsford/Normanton dry	Continuous	Long term	Irreversible	Irreversible	Permanent change	Negligible change over the Assessed Scheme	Negligible positive change (no change from Assessed Scheme)	Slight beneficial (Minor positive)

Element of Proposed Action	Design Development 2: Assessed Scheme in the Main HIA with the addition of 3.5m cantilever canopies added to the top of the retained cutting walls in the Western Portal Approach Cutting, plus the addition of a second 150m wide green bridge.								
Attribute	**Description of Potential Impact**	**Frequency of Action**	**Duration of Action**	**Reversibility of Action**	**Reversibility of Change to the Attribute**	**Longevity of Change to the Attribute**	**Degree of Change to the Attribute**	**Quality of Change to the Attribute**	**Evaluation of Impact**
	valley complex. The benefits associated with the removal of the A303 are lessened by the impacts associated with the construction of the new dual carriageway in cutting particularly at the western end. Embedded design in the form of the western portal canopy and Green Bridge Four enable physical connections to be maintained and to a certain extent mitigated. The addition of cantilevers and GB5 under Design Development 2 would further aid landscape integration and connectivity, however, there would be no substantive change to the impact on this attribute of OUV compared to the Assessed Scheme.								
6. The disposition, physical remains and settings of the key Neolithic and Bronze Age	The construction of the new road and tunnel portals within the western part of the WHS would have some adverse effects on the setting of a number of assets including the Normanton	Continuous	Long term	Irreversible	Irreversible	Permanent change	Negligible change over the Assessed Scheme	Negligible positive change (no change from Assessed Scheme)	Slight beneficial (Minor positive)

Element of Proposed Action	Design Development 2: Assessed Scheme in the Main HIA with the addition of 3.5m cantilever canopies added to the top of the retained cutting walls in the Western Portal Approach Cutting, plus the addition of a second 150m wide green bridge.								
Attribute	**Description of Potential Impact**	**Frequency of Action**	**Duration of Action**	**Reversibility of Action**	**Reversibility of Change to the Attribute**	**Longevity of Change to the Attribute**	**Degree of Change to the Attribute**	**Quality of Change to the Attribute**	**Evaluation of Impact**
funerary, ceremonial and other monuments and sites of the period, which together form a landscape without parallel	Down Barrows (AG19), the Winterbourne Stoke Crossroads Barrows (AG12), the Diamond Group (AG13) and several discrete Neolithic and Bronze Age barrows. The relationships between the concentration of long barrows associated with the Wilsford/Normanton dry valley complex would also be adversely impacted. The addition of cantilevers and GB5 under Design Development 2 would further aid landscape integration and connectivity, however, there would be no substantive change to the impact on this attribute of OUV compared to the Assessed Scheme.								
7. The influence of the remains of the Neolithic and Bronze Age funerary and ceremonial monuments and their	Removing the A303 from the key views which have inspired artists and others over centuries, including present-day visitors and those for whom the property has spiritual associations, would be a	Continuous	Long term	Irreversible	Irreversible	Permanent change	Negligible change over the Assessed Scheme	Negligible positive change (no change from Assessed Scheme)	Slight beneficial (Minor positive)

Element of Proposed Action	Design Development 2: Assessed Scheme in the Main HIA with the addition of 3.5m cantilever canopies added to the top of the retained cutting walls in the Western Portal Approach Cutting, plus the addition of a second 150m wide green bridge.								
Attribute	**Description of Potential Impact**	**Frequency of Action**	**Duration of Action**	**Reversibility of Action**	**Reversibility of Change to the Attribute**	**Longevity of Change to the Attribute**	**Degree of Change to the Attribute**	**Quality of Change to the Attribute**	**Evaluation of Impact**
landscape setting on architects, artists, historians, archaeologists and others	beneficial change. The addition of cantilevers and GB5 under Design Development 2 would further aid landscape integration, however, there would be no substantive change to the impact on this attribute of OUV compared to the Assessed Scheme.								
Integrity	Removal of the existing A303 would address a longstanding threat to the Integrity of the WHS. However, construction and operation of new areas of dual carriageway and portals would introduce additional adverse impacts and degrade the Integrity of the WHS by partially severing physical relationships between important Asset Groups such as the Winterbourne Stoke Crossroads Barrows (AG12) and the Diamond Group (AG13), including the concentration of long barrows associated with the Wilsford/Normanton dry	Continuous	Long term	Irreversible	Irreversible	Permanent change	Negligible change over the Assessed Scheme	Negligible positive change (no change from Assessed Scheme)	Slight beneficial (Minor positive)

Element of Proposed Action	Design Development 2: Assessed Scheme in the Main HIA with the addition of 3.5m cantilever canopies added to the top of the retained cutting walls in the Western Portal Approach Cutting, plus the addition of a second 150m wide green bridge.								
Attribute	**Description of Potential Impact**	**Frequency of Action**	**Duration of Action**	**Reversibility of Action**	**Reversibility of Change to the Attribute**	**Longevity of Change to the Attribute**	**Degree of Change to the Attribute**	**Quality of Change to the Attribute**	**Evaluation of Impact**
	valley complex; and severing the landscape in this area, dividing a dry river valley in the western tunnel approaches east of the current A360. The Assessed Scheme design incorporates a canopy at the western portal and Green Bridge Four to help conceal the portal and approach cutting; Green Bridge Four would also maintain connectivity and establishment of chalk grassland across and around the bridge and canopy would visually aid integration within the landscape. The addition of cantilevers and a second green bridge under Design Development 2 would aid landscape integration, however, there would be no substantive change to the impact on this attribute of OUV compared to the Assessed Scheme.								

Element of Proposed Action	Design Development 2: Assessed Scheme in the Main HIA with the addition of 3.5m cantilever canopies added to the top of the retained cutting walls in the Western Portal Approach Cutting, plus the addition of a second 150m wide green bridge.								
Attribute	**Description of Potential Impact**	**Frequency of Action**	**Duration of Action**	**Reversibility of Action**	**Reversibility of Change to the Attribute**	**Longevity of Change to the Attribute**	**Degree of Change to the Attribute**	**Quality of Change to the Attribute**	**Evaluation of Impact**
Authenticity	In terms of the form and design of assets and the inter-relationships between those assets, the Assessed Scheme avoids physical impacts on major assets associated with the OUV of the WHS where possible and as presently known. Archaeological excavation of the footprint of the western tunnel approach road would be undertaken in advance of construction. The Assessed Scheme would have a mixture of positive and negative impacts on the designed relationships between assets; it would therefore both strengthen and degrade this aspect of Authenticity. Addition of cantilevers and a second green bridge under Design Development 2 would not require additional land take. There would be no substantive change to the impact on this attribute of OUV due to Design	Continuous	Long term	Irreversible	Irreversible	Permanent change	Negligible change over the Assessed Scheme	Negligible positive change (no change from Assessed Scheme)	Slight beneficial (Minor positive)

Technical Note

AECOM + mace + WSP

Element of Proposed Action	Design Development 2: Assessed Scheme in the Main HIA with the addition of 3.5m cantilever canopies added to the top of the retained cutting walls in the Western Portal Approach Cutting, plus the addition of a second 150m wide green bridge.								
Attribute	**Description of Potential Impact**	**Frequency of Action**	**Duration of Action**	**Reversibility of Action**	**Reversibility of Change to the Attribute**	**Longevity of Change to the Attribute**	**Degree of Change to the Attribute**	**Quality of Change to the Attribute**	**Evaluation of Impact**
	Development 2 compared to the Assessed Scheme.								

Technical Note

AECOM + mace + WSP

Table 13: Summary of assessment of significance of effect of existing A303 and anticipated significance of effect of the Assessed Scheme (including Design Developments 1 and 2) on Attributes of OUV, Integrity and Authenticity

Attribute of Outstanding Universal Value	Impact of existing A303	Effect of existing A303	Impact of Assessed Scheme	Effect of Assessed Scheme	Impact of Assessed Scheme including Design Development 1	Effect of Assessed Scheme including Design Development 1	Impact of Assessed Scheme including Design Development 2	Effect of Assessed Scheme including Design Development 2
1. Stonehenge itself as a globally famous and iconic monument	Moderate Negative	Large Adverse	Major Positive	Very Large Beneficial	Major Positive	Very Large Beneficial	Major Positive	Very Large Beneficial
2. The physical remains of the Neolithic and Bronze Age funerary and ceremonial monuments and associated sites	Moderate Negative	Large Adverse	Negligible Negative Change	Slight Adverse	Negligible Negative Change	Slight Adverse	Negligible Negative Change	Slight Adverse
3. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape	Minor Negative	Moderate Adverse	Negligible Negative Change	Slight Adverse	Negligible Negative Change	Slight Adverse	Negligible Negative Change	Slight 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	Moderate Positive Change	Large Beneficial	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	Negligible Positive Change	Slight Beneficial	Negligible Positive Change	Slight Beneficial

Technical Note

AECOM + mace + WSP

Attribute of Outstanding Universal Value	Impact of existing A303	Effect of existing A303	Impact of Assessed Scheme	Effect of Assessed Scheme	Impact of Assessed Scheme including Design Development 1	Effect of Assessed Scheme including Design Development 1	Impact of Assessed Scheme including Design Development 2	Effect of Assessed Scheme including Design Development 2
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	Negligible Positive Change	Slight Beneficial	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	Negligible Positive Change	Slight Beneficial	Negligible Positive Change	Slight Beneficial
Integrity	Major Negative	Large Adverse	Negligible Positive Change	Slight Beneficial	Negligible Positive Change	Slight Beneficial	Negligible Positive Change	Slight Beneficial
Authenticity	Negligible Negative	Slight Adverse	Negligible Positive Change	Slight Beneficial	Negligible Positive Change	Slight Beneficial	Negligible Positive Change	Slight Beneficial

9 References

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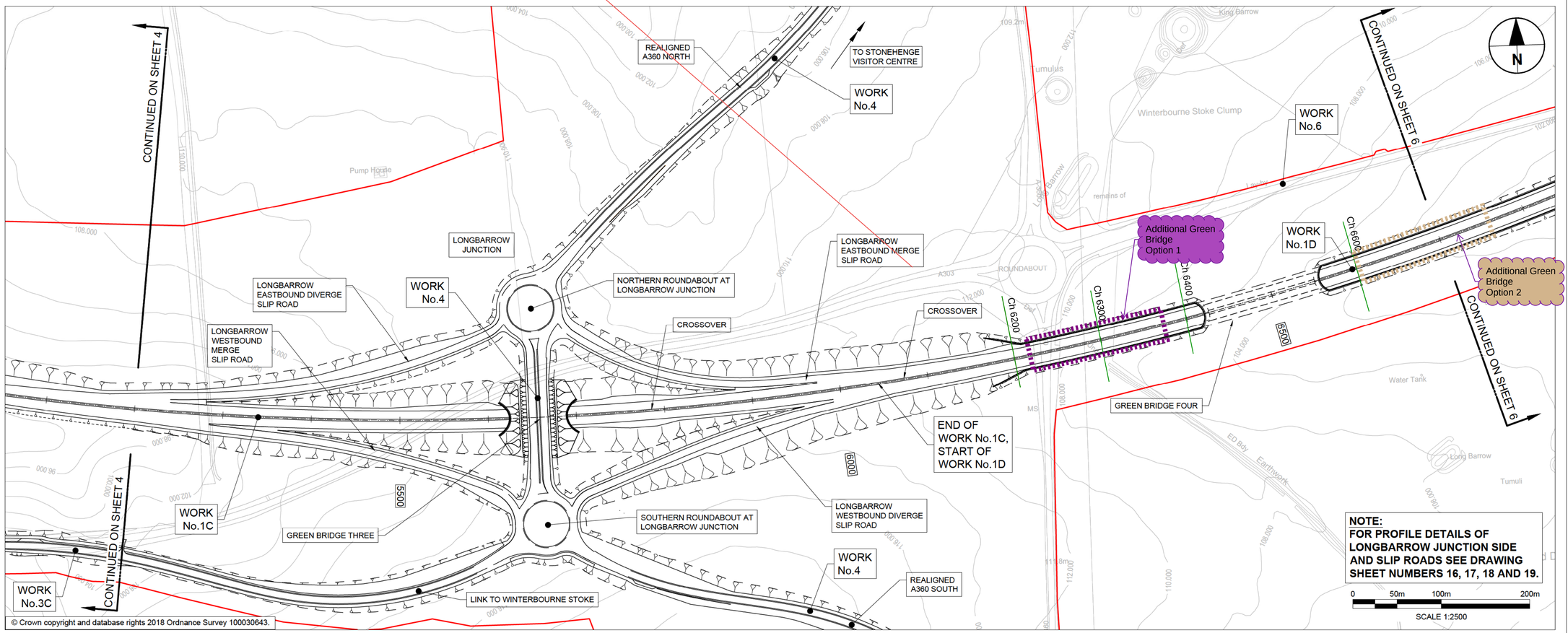
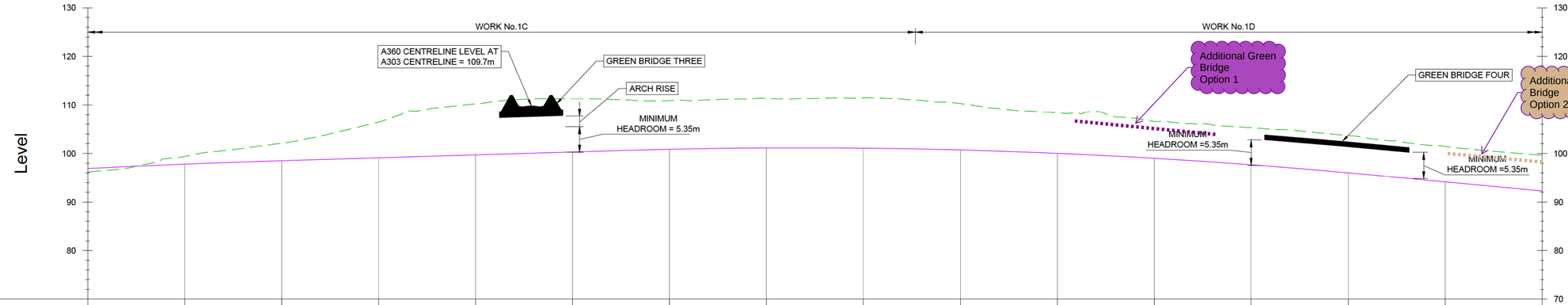


NOTES:

1. ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.
2. THESE ENGINEERING SECTION DRAWINGS SHOULD BE READ IN CONJUNCTION WITH THE KEY PLAN AND ALONGSIDE OTHER PLANS AND DOCUMENTS IN THE DEVELOPMENT CONSENT ORDER APPLICATION, IN PARTICULAR THE WORKS PLANS AND SCHEDULE 1 (AUTHORISED DEVELOPMENT) TO THE DEVELOPMENT CONSENT ORDER.
3. WORK No. REFERENCES ARE DETAILED IN SCHEDULE 1 (AUTHORISED DEVELOPMENT) TO THE DEVELOPMENT CONSENT ORDER.
4. THE DESIGN SHOWN ON THESE ENGINEERING SECTION DRAWINGS IS ILLUSTRATIVE AND WILL BE SUBJECT TO DETAILED DESIGN DEVELOPMENT; ANY CHANGES WILL BE LIMITED TO BEING WITHIN THE ORDER LIMITS AND ANY OTHER CONSTRAINTS INCLUDED IN THE DEVELOPMENT CONSENT ORDER.

LEGEND:

- THE SCHEME (SHOWN FOR ILLUSTRATIVE PURPOSES ONLY)
- PROPOSED VERTICAL DESIGN LEVEL
- EXISTING GROUND LEVEL
- ORDER LIMITS
- ### ROAD NAMES
- 00 1000 CHAINAGE (MEASURED DISTANCE ALONG THE SCHEME LENGTH)



DATUM = 70

PROPOSED LEVELS	96.913	97.810	98.507	99.107	99.707	100.307	100.865	101.140	101.092	100.721	100.028	99.013	97.674	96.013	94.151	92.287
EXISTING LEVELS	96.183	99.383	102.126	106.491	110.214	111.269	110.889	111.328	111.460	110.295	108.363	106.582	105.331	103.693	101.450	99.628
LEVEL DIFFERENCE (m)	0.749	-1.572	-3.609	-7.346	-10.516	-10.958	-10.028	-10.200	-10.367	-9.576	-8.333	-7.580	-7.642	-7.664	-7.320	-7.358
HORIZONTAL GEOMETRY		Curve R = 3470.00 L = 1881.68														
VERTICAL GEOMETRY		Crest Curve K Value = 500.00 L = 349.90		Straight Grad = 0.60% L = 350.67						Crest Curve K Value = 310.00 L = 764.09					Straight Grad = -1.86% L = 233.59	
CHAINAGE	5200	5300	5400	5500	5600	5700	5800	5900	6000	6100	6200	6300	6400	6500	6600	6700

0 10m 20m 40m(V)
0 50m 100m 200m(H)
SCALE 1:500 V SCALE 1:2500 H

MAINLINE LONGITUDINAL SECTION - CH 5200 TO CH 6700

KEYPLAN

	By	Check	Date	Suffix
SUBMITTED FOR DEVELOPMENT CONSENT ORDER APPLICATION	MH	TE	OCT 2018	P02
Revision Details				

highways england

Purpose of Issue: DCO APPLICATION

Project Title: A303 Amesbury to Berwick Down

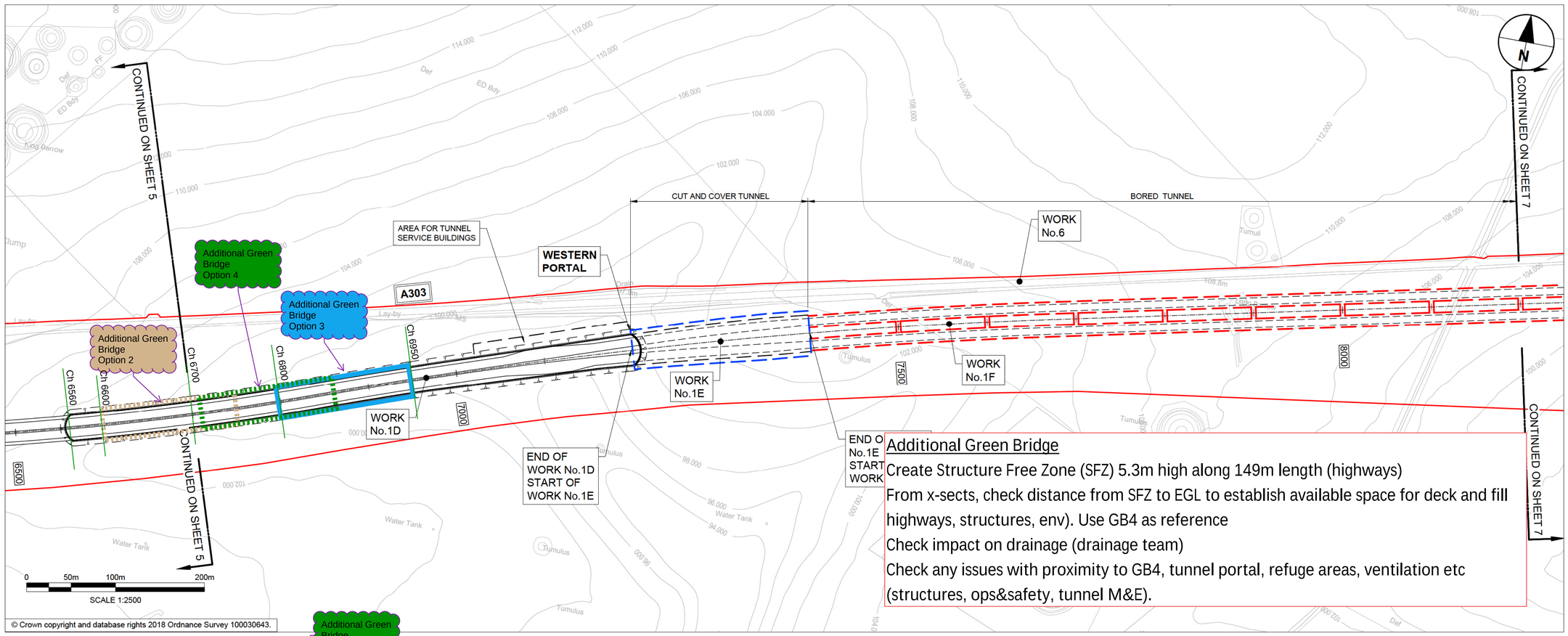
Drawing Title: ENGINEERING SECTION DRAWINGS (PLAN AND PROFILES) REGULATION 5(2)(o) & 6(2) SHEET 5 OF 24

Highways England Project Office
Temple Quay House
2 The Square, Temple Quay
Bristol, BS1 6HA

Scale @ A1: 1:2500 (H), 1:500 (V), AS SHOWN

Application Document Number: TR010025 - 2.7

Rev: P02



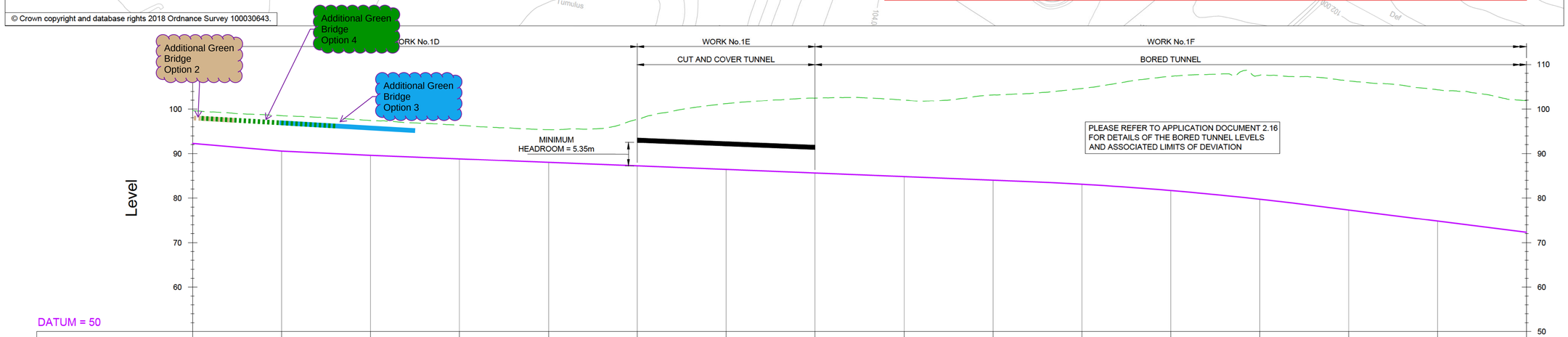
Additional Green Bridge

Create Structure Free Zone (SFZ) 5.3m high along 149m length (highways)

From x-sects, check distance from SFZ to EGL to establish available space for deck and fill highways, structures, env). Use GB4 as reference

Check impact on drainage (drainage team)

Check any issues with proximity to GB4, tunnel portal, refuge areas, ventilation etc (structures, ops&safety, tunnel M&E).



DATUM = 50

PROPOSED LEVELS	92.287	90.563	89.621	88.820	88.019	87.218	86.417	85.617	84.816	84.015	83.100	81.690	79.753	77.338	74.838	72.338
EXISTING LEVELS	99.628	98.498	97.437	96.349	95.360	97.646	101.205	102.473	102.047	103.177	104.648	107.343	107.596	106.360	104.353	101.954
LEVEL DIFFERENCE (m)	-7.358	-7.939	-7.801	-7.523	-7.356	-10.445	-14.788	-16.858	-17.226	-19.174	-21.530	-25.657	-27.842	-28.974	-29.507	-29.564
HORIZONTAL GEOMETRY	Curve R = 3470.00 L = 1881.68					Curve R = 6000.00 L = 831.82						Straight L = 972.42				
VERTICAL GEOMETRY	Straight Grad = -1.86% L = 233.59	Sag Curve K Value = 100.00 L = 106.40				Straight Grad = -0.80% L = 781.00						Crest Curve K Value = 190.00 L = 322.88		Straight Grad = -2.50% L = 971.92		
CHAINAGE	6700	6800	6900	7000	7100	7200	7300	7400	7500	7600	7700	7800	7900	8000	8100	8200

0 10m 20m 40m(V)
0 50m 100m 200m(H)
SCALE 1:500 V SCALE 1:2500 H

MAINLINE LONGITUDINAL SECTION - CH 6700 TO CH 8200

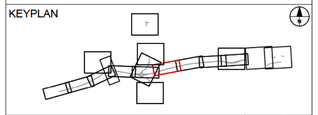
NOTES:

1. ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.
2. THESE ENGINEERING SECTION DRAWINGS SHOULD BE READ IN CONJUNCTION WITH THE KEY PLAN AND ALONGSIDE OTHER PLANS AND DOCUMENTS IN THE DEVELOPMENT CONSENT ORDER APPLICATION, IN PARTICULAR THE WORKS PLANS AND SCHEDULE 1 (AUTHORISED DEVELOPMENT) TO THE DEVELOPMENT CONSENT ORDER.
3. WORK No. REFERENCES ARE DETAILED IN SCHEDULE 1 (AUTHORISED DEVELOPMENT) TO THE DEVELOPMENT CONSENT ORDER.
4. THE DESIGN SHOWN ON THESE ENGINEERING SECTION DRAWINGS IS ILLUSTRATIVE AND WILL BE SUBJECT TO DETAILED DESIGN DEVELOPMENT; ANY CHANGES WILL BE LIMITED TO BEING WITHIN THE ORDER LIMITS AND ANY OTHER CONSTRAINTS INCLUDED IN THE DEVELOPMENT CONSENT ORDER.

LEGEND:

- THE SCHEME (SHOWN FOR ILLUSTRATIVE PURPOSES ONLY)
- PROPOSED VERTICAL DESIGN LEVEL
- EXISTING GROUND LEVEL
- ORDER LIMITS
- ### ROAD NAMES
- 00 1000 CHAINAGE (MEASURED DISTANCE ALONG THE SCHEME LENGTH)
- INDICATIVE CUT/COVER TUNNEL OUTLINE
- INDICATIVE BORED TUNNEL OUTLINE

KEYPLAN



Revision Details	By / Check	Date	Suffix
SUBMITTED FOR DEVELOPMENT CONSENT ORDER APPLICATION	MH / TE	OCT 2018	P02

highways england

Purpose of Issue

DCO APPLICATION

Project Title

A303
Amesbury to Berwick Down

Drawing Title

ENGINEERING SECTION DRAWINGS (PLAN AND PROFILES) REGULATION 5(2)(o) & 6(2) SHEET 6 OF 24

Highways England Project Office
Temple Quay House
2 The Square, Temple Quay
Bristol, BS1 6HA

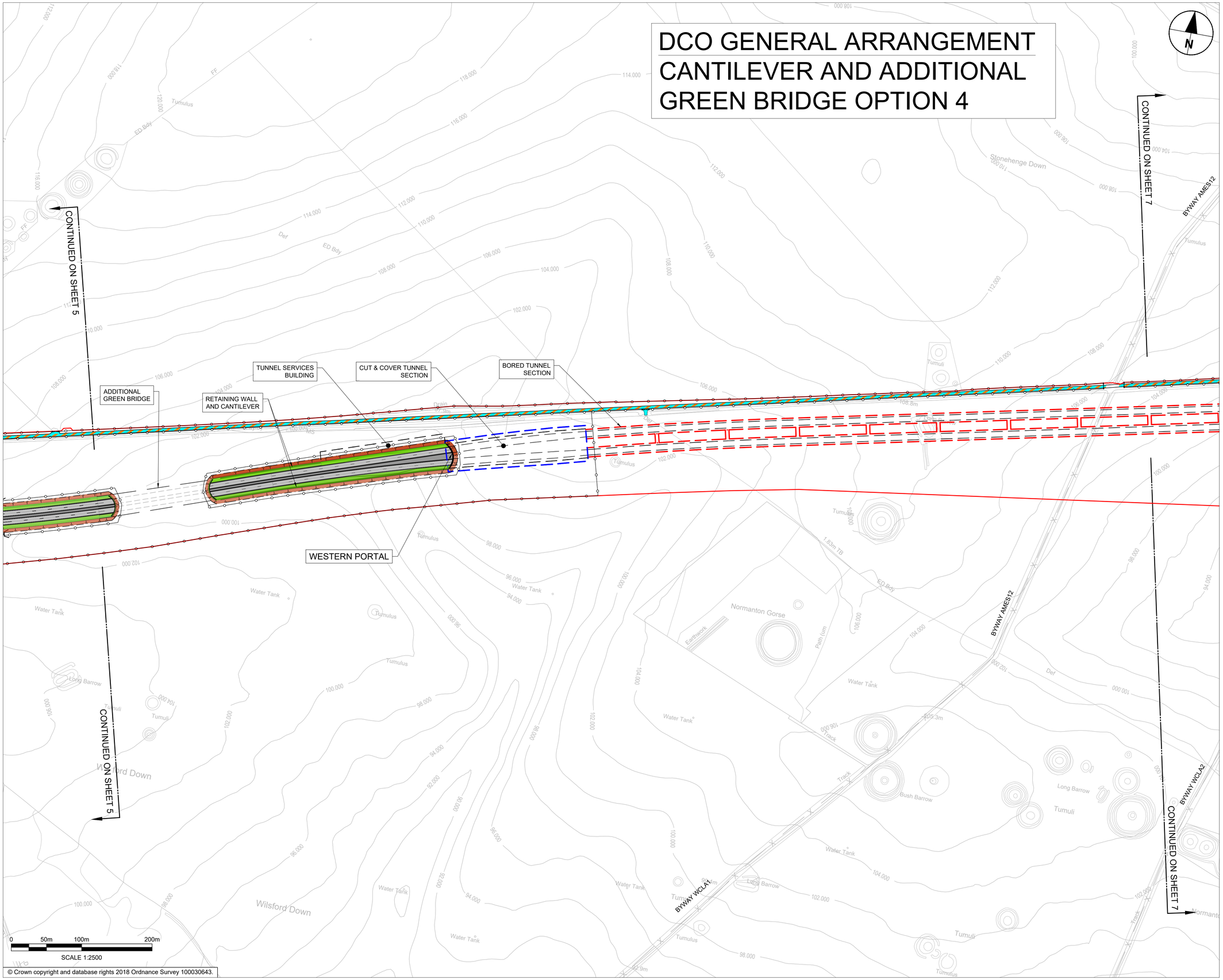
Scale @ A1

1:2500 (H), 1:500 (V), AS SHOWN

Application Document Number: TR010025 - 2.7

Rev: P02

DCO GENERAL ARRANGEMENT CANTILEVER AND ADDITIONAL GREEN BRIDGE OPTION 4



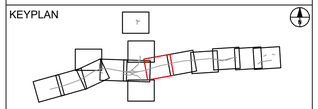
NOTES:

1. ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.
2. FOR ENVIRONMENTAL DETAILS REFER TO THE ENVIRONMENTAL MASTERPLAN AND ASSOCIATED DRAWINGS / DOCUMENTS.
3. THE DESIGN OF THE SCHEME IS SHOWN HERE FOR ILLUSTRATIVE PURPOSES ONLY AND WILL BE SUBJECT TO DETAILED DESIGN DEVELOPMENT IN ACCORDANCE WITH THE PROVISIONS OF THE DEVELOPMENT CONSENT ORDER.

LEGEND:

- ORDER LIMITS
- AREA EXCLUDED FROM ORDER LIMITS
- PROPOSED ENVIRONMENTAL BUND
- PROPOSED PERMANENT FENCELINE
- PROPOSED BORED TUNNEL SECTION
- PROPOSED CUT/COVER SECTION
- PROPOSED HEDGE
- PROPOSED RESTRICTED BYWAY AND PRIVATE MEANS OF ACCESS
- PROPOSED RESTRICTED BYWAY
- PROPOSED PRIVATE MEANS OF ACCESS
- PROPOSED BYWAY OPEN TO ALL TRAFFIC
- PROPOSED BRIDLEWAY
- PROPOSED CYCLEWAY
- PROPOSED SHARED USE CYCLE TRACK
- EXISTING PUBLIC RIGHTS OF WAY
- PROPOSED EARTHWORKS (EMBANKMENT)
- PROPOSED EARTHWORKS (CUTTING)
- PROPOSED VERGE
- PROPOSED RETAINED CUT AND CANTILEVER
- PROPOSED CARRIAGEWAY
- PROPOSED DRAINAGE TREATMENT AREA
- PROPOSED LANDSCAPE REPROFILING
- 118.000 EXISTING CONTOUR
- PROPOSED SITE COMPOUND
- PROPOSED VARIABLE MESSAGE SIGN

KEYPLAN



SUBMITTED FOR DEVELOPMENT CONSENT ORDER APPLICATION	ES / TE	OCT.2018	P02
SUBMITTED FOR DCO EXAMINATION	AV / TH	SEP.2019	P03
Revision Details	By / Check	Date	Suffix

highways england

Purpose of Issue

DCO EXAMINATION

Project Title

A303
Amesbury to Berwick Down

Drawing Title

GENERAL ARRANGEMENT DRAWINGS
REGULATION 5(2)(o)
SHEET 6 OF 15

Highways England Project Office
Temple Quay House
2 The Square, Temple Quay
Bristol, BS1 6HA

Scale @ A1

1:2500

Application Document Number

TR010025 - 2.9

Rev

P03

ENGLISH HERITAGE

Mr H Reed
Senior International Policy Adviser, Cultural Diplomacy
Department for Culture, Media and Sport
100 Parliament Street
London
SW1A 2BQ

19 January 2024

Dear Mr H Reed

Re: HMAG A303 Stonehenge Design Modifications

I am responding to your email of 2nd January asking for comments on the Design Modifications on the western end of the A303 Stonehenge road scheme being drawn up by National Highways (NH).

Introduction

English Heritage are part of the Heritage Monitoring Advisory Group (HMAG) as one of the major heritage managers, landowners and conservation bodies in the Stonehenge and Avebury and Associated sites World Heritage site (WHS). English Heritage became a charitable trust in 2015 and Stonehenge and its Visitor Centre play a major role in supporting the charity.

As you will be aware members of HMAG were hosted by National Highways in Bristol on Monday 8th January when we were shown a Virtual Reality (VR) version of the proposed changes alongside a PowerPoint presentation.

It was made very clear to us that this was a draft presentation and that a final version would not be available before the deadline for comments back to ICOMOS on 1st February along with the State of Conservation report. As a result, the comments below are based on the draft version of the modifications.

Design Modifications:

Cantilevers:

We have been informed that NH are finalising a short Environmental Impact Assessment statement (heritage only) and a brief Heritage Impact Assessment (HIA) statement explaining the cantilevers. This is being worked on and will reflect UNESCO's new guidance but is only available in draft form at present.

ENGLISH HERITAGE

In their draft HIA NH state that they do not consider that there will be any material difference in the assessment of impacts concerning the cantilevers, and they concluded that 'no new or materially different environmental effects would arise from the inclusion of the Cantilevers'.

English Heritage comments:

We note the size of the cut is the same with the cantilevers and therefore the removal of buried archaeology will be the same as the original proposed cut if cantilevers are constructed.

The cantilevers are designed to narrow the visual impact on the WHS. Looking at the VR version of how they will appear if the topsoil/grass is continued to the edge of the cantilever they do make the cut look smaller visually which is beneficial. There will be slightly less impact on the Outstanding Universal Version (OUV) of the WHS and the monuments in this area. We were informed that there will be minimal change in terms of noise abatement which will be controlled more by the acoustic properties of the walling at the design phase.

Therefore, we acknowledge that there is no further harm to the buried archaeology but a small visual and auditory improvement.

Extra Green Bridge:

The other element of the modifications is a possible extra green bridge at the western end between the current proposed green bridge and the western portal. Unlike the planned green bridge this would not have an access across it but would provide another visual link across the landscape.

English Heritage Comments:

This is difficult to assess without further detail. The proposed green bridge would be up to 150 metres in width. We consider however that any further green covering of the cut at the western end will partially block the impact of moving traffic through the open landscape which will give some added benefit.

Conclusions:

We are pleased to see that National Highways have responded to the recommendations by ICOMOS following its last mission in April 2022. We also hope that NH will continue to engage HMAG with the design process as the scheme progresses.

ENGLISH HERITAGE

English Heritage would like to see more detailed designs on how the traffic movements work at the western end of the tunnel directing visitors to the Stonehenge Visitor Centre before finalising our conclusions on the modifications to the western end of the scheme in the WHS.

English Heritage remain convinced however that the current proposed A303 road scheme has the potential to transform the Stonehenge part of the World Heritage Site landscape. Provided that the design development continues to be sensitive and appropriate to the WHS setting, the scheme could greatly enhance the Outstanding Universal Value of the World Heritage Site whilst simultaneously improving the setting of Stonehenge itself, and people's experience of it.

Yours sincerely,

Dr Heather Sebire

Senior Property Curator (Stonehenge)

1st Floor Fermentation North, Finzels Reach, Hawkins Lane, Bristol, BS1 6JQ
0117 975 0700 english-heritage.org.uk

Historic England

Henry Reed
Department for Culture, Media & Sport
100 Parliament Street
London
SW1A 2BQ

19 January 2024

Dear Mr Reed

Engagement of the Heritage Monitoring and Advisory Group with the A303 Stonehenge Scheme

Thank you for your email of 02 January 2024. We note that the Department for Culture, Media and Sport (DCMS) has requested *'HMAG's engagement with and consideration of the potential modifications to the A303 scheme, in order to effectively respond to the concerns and recent decisions of the World Heritage Committee'*.

As a member of HMAG (the Heritage Monitoring and Advisory Group for the A303 Stonehenge scheme), Historic England's comments are requested on these *'potential modifications'* by 19 January 2024. We understand that our comments will inform the *'comprehensive information package'* requested by the World Heritage Committee for submission by 01 February 2024.

Heritage Monitoring and Advisory Group (HMAG)
HMAG advises National Highways on the requirements with regard to the historic environment impacts of the project's design, assessment, implementation and mitigation where it relates to the WHS, ensuring the protection of its Outstanding Universal Value (OUV).

Whilst Historic England is a member of HMAG, HMAG does not itself represent Historic England nor vice versa and neither can bind the other (see Historic England's Written Representations during the Examination, Section 2.21).

Possible Cantilevers and Additional Green Bridge
Following the presentations from National Highways to HMAG on 06 December 2023 and 08 January 2024, Historic England understands that two additional design elements are being explored. The information presented indicates that these comprise:

- The potential to add cantilevers 3.5m wide to the western section of the open cutting within the WHS; and
- The potential to add a further green bridge between Green Bridge 4 and the end of the Western Portal canopy. Historic England understands that the area of the cutting within which this bridge could potentially be located (addressing engineering and safety requirements) is still being considered.

In addition to the presentations, HMAG was given an opportunity to view a version of the Virtual Reality model of the scheme with the potential cantilevers and additional green bridge incorporated.

Historic England is also aware that National Highways is in the process of undertaking both environmental assessment (EIA) and heritage impact assessment (HIA) processes for the potential cantilevers and additional green bridge. These are critical exercises that will indicate how the additional design elements could contribute to the mitigation of impacts, alongside the existing mitigation embedded within the design of the scheme. They will also help to shape the potential additions to achieve maximum effect.

Since the HIA is not yet available for review, Historic England has not been able to refer to it in providing these comments. We look forward to seeing the initial iteration of the HIA in due course, along with additional detailing on the potential designs.

Historic England Comments

Historic England welcomes the consideration of further design details and is pleased to have the opportunity to engage. Overall, based on the information currently available, we consider that both the potential cantilevers and additional green bridge would be enhancements to the design of the scheme.

Potential Cantilevers

Historic England's view at this stage is that the potential cantilevers would visually reduce the extent of the open cutting as seen from areas within the WHS. This opinion was formed having used the Virtual Reality model as a tool to visualise the difference the cantilevers would make in views both at a distance and at closer range to the carriageway from within the WHS. The model demonstrated that the cantilevers could contribute positively to the overall objectives to further reduce the visibility of the cutting walls, the carriageway and of traffic on it, by shading and/or narrowing what is visible in such views.

We noted that the addition of cantilevers would not appear, from the information provided, to result in any alteration in relation to two aspects of the design previously negotiated through the DCO process. No additional land take would be required, therefore no further archaeological mitigation would be required. Similarly, no additional fencing would be required.

Potential Additional Green Bridge

Historic England's view at this stage is that the incorporation of a second green bridge has potential to deliver additional mitigation, similar to that which Green Bridge 4 was designed to contribute to the scheme. The principal effect that Green Bridge 4 was designed to mitigate was the impact upon Attribute 5 of the WHS' OUV: "The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other" (Stonehenge, Avebury and Associated Sites World Heritage Site Management Plan, page 32).

An additional green bridge could contribute to mitigation of the visual effects of the open cutting within the settings of individual monuments and barrow groups by reinstating a further section of the landform. The bridge could therefore also form a further point of reconnection between the north and south parts of the WHS.

In the absence, currently, of confirmation of the exact location of any additional green bridge, and its width, Historic England's comments are based on the principle. It will be important to see additional design details to demonstrate that the reconnection within the landscape would be meaningful. Similarly additional detail would help demonstrate how the potential reinstatement of the landform could be most effective in contributing further to the visual mitigation of the effect of the open cutting through the landscape.

Conclusion

Historic England believes that the potential addition of cantilevers to the design of the walls of the western cutting, and the incorporation of an additional green bridge beyond the western portal, would be enhancements to the design of the scheme.

We consider that both options have the potential to contribute positively to the further mitigation of the effects of the open cutting at the western end of the WHS. Both options have potential to reduce the visual impacts of the western cutting when viewed from within the surrounding landscape of the WHS, particularly from key locations associated with important barrow groups and individual monuments.

Whilst our comments are subject to the design detailing of these potential additional elements to ensure that the mitigation that could be delivered is maximised, the iterative HIA process should both inform design development and support decision making in this regard.

Historic England hopes that the above comments will assist DCMS in its continued dialogue with the World Heritage Centre and the Advisory Bodies. We will be pleased to continue to engage with any further conversations.

Yours sincerely,

Dr Helen Woodhouse FSA
Senior International Adviser
Helen.Woodhouse@HistoricEngland.org.uk

Stonehenge.A303@nationaltrust.org.uk

22 January 2024

National Trust

Henry Reed
Department for Culture, Media & Sport
100 Parliament Street
London
SW1A 2BQ

[via email]

Dear Mr Reed

A303 (Amesbury to Berwick Down) Development Consent Order 2023

REQUEST FOR COMMENTS FROM HMAG ORGANISATIONS ON NATIONAL HIGHWAYS POTENTIAL DESIGN MODIFCATIONS (January 2024)

We have set out below our response to your request of 2 January 2024 inviting members of the Heritage Monitoring Advisory Group (HMAG) to provide comments to you in consideration of the potential design modifications on the 'A303 Stonehenge' scheme presented to us by National Highways. Those modifications being proposed in response to the concerns of the UNESCO World Heritage Committee as set out in their decision 45 COM 7B.62.

Background

The National Trust welcomes the opportunity to comment on the potential modifications presented to us. We take our role as custodians of the Stonehenge Landscape very seriously and therefore attach great value to its standing as a World Heritage Site (WHS) and to the opinions of the World Heritage Committee. Finding a solution to the existing, damaging, surface road is complex, as UNESCO has acknowledged in its reports. The existing A303 severely damages the World Heritage Site, impacting hundreds of ancient monuments. The road severs the landscape, is an obstacle to exploring the site and is dangerous to visitors. It has a major adverse impact on the Outstanding Universal Value of the site. The current situation cannot continue. Many prominent voices, including UNESCO and its advisory bodies, have called for the removal of the current road, but for over 30 years these attempts have stalled. As in our previous submissions, we call on all parties to work together to agree practical solutions to the points raised by 45 COM 7B.62.

National Trust
South West Region
Tisbury Hub
Place Farm Courtyard
Court Street
Tisbury
Wiltshire
SP3 6LW

Chair: René Olivieri CBE
Regional Director: Rebecca Burton

Registered office:
Heelis, Kemble Drive, Swindon
Wiltshire SN2 2NA
Registered charity number 205846

www.nationaltrust.org.uk

Potential modifications

The potential modifications presented to us are in relation to the design of the western tunnel approach within the World Heritage Site, namely the introduction of:

- 3.5 meter-wide grassed cantilevers running the perimeter of the cutting ("cantilevers")
- an additional green bridge of approximately 150 metres in width spanning the cutting ("Green Bridge 5"), similar in design to Green Bridge 4

Based on the overview of the proposed modifications provided to us by National Highways we consider that in the area of the WHS in the environs of the western portal and approach, should these modifications be implemented, the reduction of the visible area of the cutting that would be achieved by the cantilevers, together with that afforded by Green Bridge 5, would beneficially impact on views across the landscape, and would allow further visual and physical connection between monuments that convey the attributes of Outstanding Universal Value (OUV) of the WHS.

Further information and consultation

If these potential modifications were taken forward further information and consultation would be required. We understand that National Highways are in the process of preparing a summary Environmental Impact Assessment (EIA) and Heritage Impact Assessment (HIA) to consider the effects of the potential modifications.

The provisions of the Development Consent Order afford for consultation with the Stakeholder Design & Consultation Group (SDCG), and the Heritage Monitoring Advisory Group (HMAG). Such consultation would help to ensure the potential modifications were appropriately designed (and in the case of Green Bridge 5 located) to secure maximum benefit to the WHS.

Summary

In summary we consider the potential modifications could further minimise the residual adverse impacts of the scheme on the OUV of the WHS. And we would urge all parties to continue to engage in proactive dialogue and work together to explore and agree potential design modifications deliverable within the scope of the Development Consent Order to address any remaining concerns.

We are content for DCMS to transmit this letter to the World Heritage Centre, should that be helpful.

Yours sincerely

Dr Nicola Snashall MCIfA

Archaeologist (Stonehenge & Avebury WHS)

Wiltshire Council

18th January 2024

Henry Reed
Senior International Policy Adviser
Cultural Diplomacy
100 Parliament Street
London
SW1A 2BQ

Natural and Historic
Environment Service
Wiltshire Council
County Hall
Bythesea Road
Trowbridge
Wiltshire
BA14 8JN

Dear Mr Reed,

Many thanks for seeking my views on the proposed modifications. My response presented here is a quick overview from my professional opinion on heritage matters as an individual member of Heritage Monitoring and Advisory Group (HMAG) as requested. This is not the formal corporate view of Wiltshire Council.

At this stage my professional opinion has been guided by a limited amount of information about the proposed modifications. Mainly this has been from presentations in December and January from National Highways (which included the virtual reality model) and provision of the slide pack used for the presentations. Therefore, what I can usefully say at this stage is constrained by the provision of only limited detailed design information and the absence of a detailed Heritage Impact Assessment (HIA) setting out the impact of the modification on the Outstanding Universal Value (OUV) of the World Heritage Site (WHS).

The proposed modifications are comprised of two separate elements, the Cantilevers and an additional Green Bridge

Cantilevers

The proposed cantilevers are 3.5m wide and would run on both sides of the cutting for the full length of the cutting from the western portal to the western edge of the WHS. This would reduce the width of the visible cutting from 28m to 21m, representing a reduction in width of 25%. It is likely that the visibility of the cutting retaining walls will be reduced but this is hard to assess without further design details being available.

Additional Green Bridge

An additional Green Bridge is also proposed of up to 150m wide, reducing the length of the open cutting and connecting the landscape north and south of it. This would clearly be beneficial to some degree, but the location of this feature will be critical to maximising its benefit. Its location is yet to be decided but it is constrained by engineering safety issues

requiring a minimum separation from the Green Bridge already in the Scheme and which is in a location that cannot now be adjusted.

It is clear to me that both Cantilever and an additional Green Bridge would bring their own but complementary benefits to the OUV of the WHS without the requirement for widening the proposed cutting further. The combination and culminative effect of the two would be the most beneficial rather than using one or other of the options.

In conclusion, there is no doubt to me that the proposed modifications are a positive way forward and will have a beneficial impact to some degree on the OUV of monuments in the vicinity of the Scheme's proposed western portal and cutting. Cantilevers combined with a further Green Bridge will bring the most benefits as currently proposed. However, the extent of the benefits cannot be judged without the HIA assessment and with the limited design information currently available. It is possible to conclude that the benefits are a partial response to the concerns raised by the World Heritage Committee. I would encourage National Highways to provide more detail of these modifications and continue to work collaboratively with HMAG and other Scheme partners to make further improvements for the benefit of the WHS and its OUV.

I trust these brief comments are clear and helpful. Please do get back to me if you require any clarification.

Yours sincerely,

Melanie Pomeroy-Kellinger BA MA MCIfA FSA
Archaeology, Landscape and Design Manager