

A303 Amesbury to Berwick Down

TR010025

8.47 Outline Environmental Management Plan Annex A.4 - Illustrated Examples of Key Design Elements

APFP Regulation 5(2)(q)

Planning Act 2008

The Infrastructure Planning (Examination Procedure) Rules 2010

August 2019



Infrastructure Planning

Planning Act 2008

The Infrastructure Planning (Examination Procedure)

Rules 2010

A303 Amesbury to Berwick Down

Development Consent Order 20[**]

Outline Environmental Management Plan Annex A.4 - Illustrated Examples of Key Design Elements

Regulation Number:	Regulation 5(2)(q)
Planning Inspectorate Scheme Reference	TR010025
Application Document Reference	8.47
Author:	A303 Amesbury to Berwick Down Project Team, Highways England

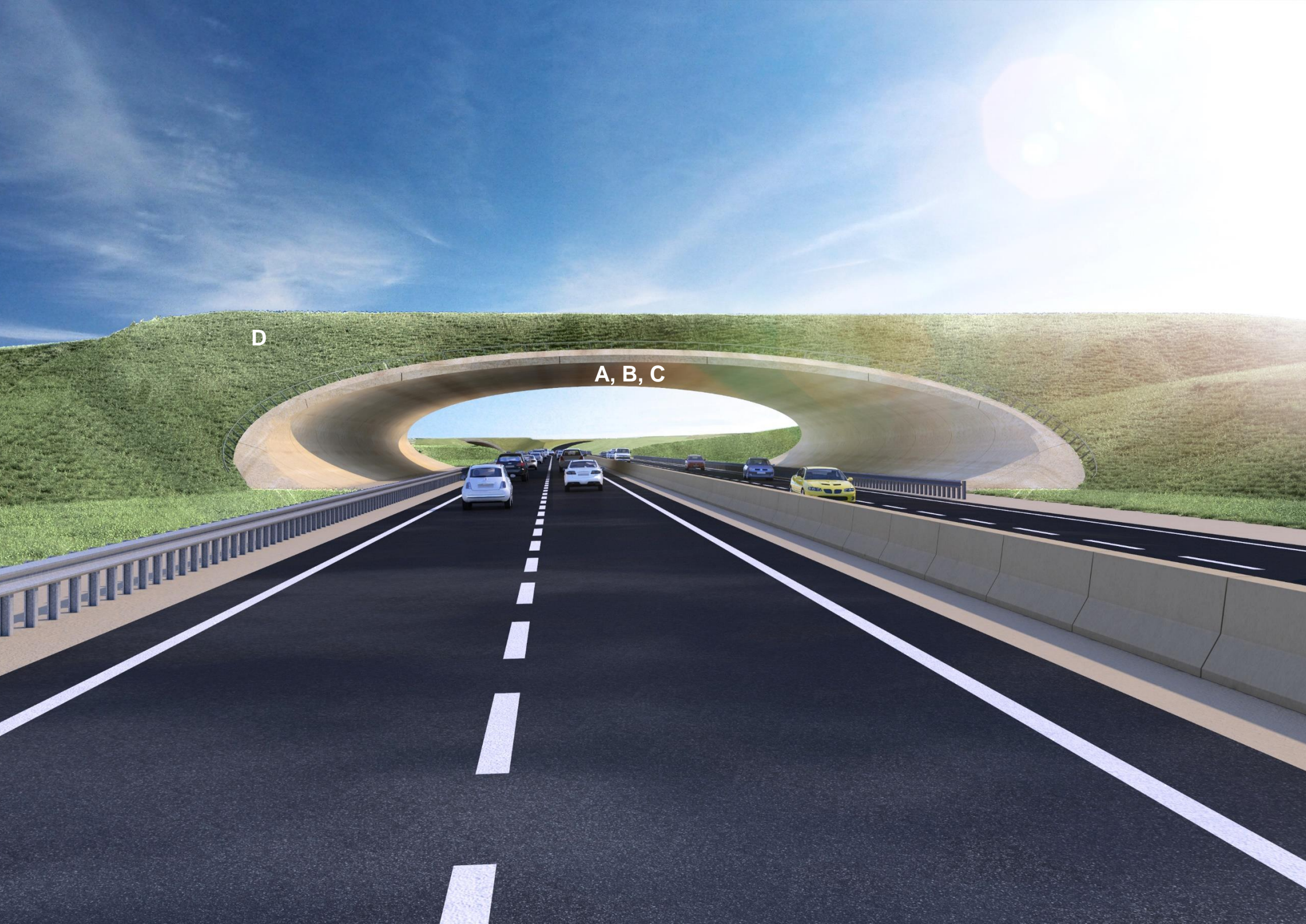
Version	Date	Status of Version
Rev 0	09/08/2019	Deadline 7 Issue

1 Introduction

This document presents illustrations which show how key elements of the Scheme could look, when designed in compliance with the Vision, Design Principles and Commitments presented in the OEMP. It should be noted that the illustrations do not show all potential aspects of the design at every location, but focus primarily on the principal structural components in order to illustrate how those are controlled by the Vision, Design Principles and Design Commitments.

Each illustration is accompanied by a summary of the key components of the Vision, Design Principles and Design Commitments relevant to that element. The Vision and Design Principles have driven the development of the DCO Design and will continue to inform the detailed design pursuant to the Vision. The Design Principles are discussed in Chapter 4 and presented in Table 4.1 of the OEMP. Design Commitments represent specific items that have already been agreed with relevant consultees as appropriate and are committed components of the Scheme and its construction. The Design Commitments are included in Table 3.2b of the OEMP with a D- precursor (e.g. D-CH1). The text accompanying the illustrations is taken directly from the OEMP as follows, and includes each item's respective reference for ease of identification:

- Vision - from Section 4.2 of the OEMP;
- Design Principles - from Table 4.1 of the OEMP;
- Design Commitments - from Table 3.2(b) of the OEMP



D

A, B, C

Green Bridges 1 and 2

(Illustration shows Green Bridge 2)

Vision

4.2.6 (b) Integration and Connectivity.

The detailed design should show careful and sensitive alignment of the proposed road in relation to cultural and ecological designations, landform, vegetation and features, so that the Scheme reflects the beauty of the natural, built and historic environment through which it passes. The earthworks design should reflect the rolling landform through its gradients and profiling, to reduce the visibility of the road. New structures should respond to the landform to maximise their concealment. The landscape and ecological design should maintain connectivity for existing habitats, re-establish landcover whilst giving due consideration to the aims and objectives of the WHS Management Plan.

4.2.6 (c) High quality and imaginative design.

The engineering and architectural design of the Scheme should create a clear design rationale and its context using a co-ordinated palette of materials and finishes, with imaginative design features, e.g. green bridges.

4.2.6 (d) Unity and elegance.

All structures and features should be considered holistically, to deliver a unified approach sympathetic to their scale, form and mass and opportunities that minimises their visual impact. This should include all highway furniture and hard landscape features. Where highways furniture and structures are visible, they should be elegant and sympathetic to their setting for both the road user and those within the wider landscape. Road signage should be designed for minimal impact, ensuring no unnecessary clutter, while ensuring the route is safe.

4.2.9 (c) Increase access across the landscape.

The Scheme should enhance recreational opportunities across the western section and between the WHS via new routes

Key Principles

- A. P-PWS01 Any new infrastructure (and associated elements) to be designed to be sympathetic with the surrounding landscape.
- B. P-PWS02 All external scheme components to use a common materials palette; applying to colour, surface finish and texture. The colours to be in keeping with the surrounding landscape, and to echo local materials. The design should adopt an earthy tone to create spaces which are warm and natural in appearance.

Key Commitments

- C. D-BIO3 Green bridges shall be designed and delivered having regard to the guidance in the report: Natural England (2015), Commissioned Report NECR181, Green Bridges, Literature Review.
- D. MW- LAN5 Earthworks shall be rounded at changes in grade and direction to provide a natural appearance and reflect the surrounding topography.

G, H

F

C, D, E

A, B

I



Green Bridge 4

(Illustration shows looking east)

Vision

4.2.6 (a) Respecting and Responding to the Historic Landscape.

The detailed design should take full account of the character of the unique historic landscape in which it sits. This includes the OUV of the WHS, the inter-visibility between monuments, heritage assets and the relationship between the WHS, its immediate setting and wider landscape. The Scheme should show due consideration of the objectives of the WHS Management Plan, to ensure that visibility of the Scheme is minimised, the design is elegant and impacts positively on the user experience within the WHS.

4.2.6 (b) Integration and Connectivity.

The detailed design should show careful and sensitive alignment of the proposed road in relation to cultural and ecological designations, landform, vegetation and features, so that the Scheme reflects the beauty of the natural, built and historic environment through which it passes. The earthworks design should reflect the rolling landform through its gradients and profiling, to reduce the visibility of the road. New structures should respond to the landform to maximise their concealment. The landscape and ecological design should maintain connectivity for existing habitats, re-establish landcover whilst giving due consideration to the aims and objectives of the WHS Management Plan.

4.2.6 (c) High quality and imaginative design.

the engineering and architectural design of the Scheme should create a clear design rationale and its context using a co-ordinated palette of materials and finishes, with imaginative design features, e.g. green bridges.

4.2.10 (a) Sustain the OUV of the WHS.

The Scheme should maximise the concealment of structures and features outside of the tunnel from the wider landscape through their siting in the landscape in relation to existing ground levels, choice of materials and colour tone of the finishes. New landscaping and earthworks should not seek to imitate the monuments within the WHS landscape. The dark skies environment should be improved by avoiding road lighting wherever practicable and by the Scheme alignment having regard to Solstice alignments.

4.2.10 (b) Due consideration of the objectives and policies of the WHS Management Plan.

This should include delivering non-motorised users (NMU) opportunities, the re-use of the existing A303 and connection to existing byways. The Scheme should acknowledge the potential for future access within the WHS, e.g. the reconnection of the Avenue.

Key Principles

- A. P-PWS02 All external scheme components to use a common materials palette; applying to colour, surface finish and texture. The colours to be in keeping with the surrounding landscape, and to echo local materials. The design should adopt an earthy tone to create spaces which are warm and natural in appearance.
- B. P-PWS03 The surface finish of the western cutting retaining walls (within the WHS) to be in keeping with the character of the surrounding landscape.

Key Commitments

- C. D-CH4 Green Bridge Four shall be 145m – 149.9m wide. The restricted byway shall be constructed to be suitable for use by any vehicle or tractor trailer combinations with a gross vehicle weight of a maximum of 44 tonnes, in accordance with Road Vehicle (Construction and Use) Regulations 1986 (as amended).
- D. D-CH10 Lighting under Green Bridge Four will only occur between dawn and dusk, be dimmer controlled, and will be designed to minimise light spill outside of the bridge footprint
- E. D-CH11 No road lighting of the Scheme during operation except under Green Bridge Four and Countess Roundabout and within the tunnel.
- F. D-CH23 On Green Bridge Four, the finished ground level shall replicate the existing ground levels, subject to the limits of deviation.
- G. D-CH24 Boundary fencing and gates in the WHS shall be visually recessive and have a low reflectivity finish.
- H. D-CH25 The top of new highway boundary fencing within the western cutting shall be no higher than the ground level at the top of the cutting alongside which the fencing runs.
- I. D-NOI1 The Contractor shall provide a thin surfacing solution on the mainline of the new A303 and its associated slip roads



F, G, I

A, E

C, D, J

B

H

Tunnel West Portal Approach

Vision

4.2.6 (a) Respecting and Responding to the Historic Landscape.

The detailed design should take full account of the character of the unique historic landscape in which it sits. This includes the OUV of the WHS, the inter-visibility between monuments, heritage assets and the relationship between the WHS, its immediate setting and wider landscape. The Scheme should show due consideration of the objectives of the WHS Management Plan, to ensure that visibility of the Scheme is minimised, the design is elegant and impacts positively on the user experience within the WHS.

4.2.6 (b) Integration and Connectivity.

The detailed design should show careful and sensitive alignment of the proposed road in relation to cultural and ecological designations, landform, vegetation and features, so that the Scheme reflects the beauty of the natural, built and historic environment through which it passes. The earthworks design should reflect the rolling landform through its gradients and profiling, to reduce the visibility of the road. New structures should respond to the landform to maximise their concealment. The landscape and ecological design should maintain connectivity for existing habitats, re-establish landcover whilst giving due consideration to the aims and objectives of the WHS Management Plan.

4.2.6 (c) High quality and imaginative design.

The engineering and architectural design of the Scheme should create a clear design rationale and its context using a co-ordinated palette of materials and finishes, with imaginative design features, e.g. green bridges.

4.2.6 (d) Unity and elegance.

All structures and features should be considered holistically, to deliver a unified approach sympathetic to their scale, form and mass and opportunities that minimises their visual impact. This should include all highway furniture and hard landscape features. Where highways furniture and structures are visible, they should be elegant and sympathetic to their setting for both the road user and those within the wider landscape. Road signage should be designed for minimal impact, ensuring no unnecessary clutter, while ensuring the route is safe.

4.2.10 (a) Sustain the OUV of the WHS.

The Scheme should maximise the concealment of structures and features outside of the tunnel from the wider landscape through their siting in the landscape in relation to existing ground levels, choice of materials and colour tone of the finishes. New landscaping and earthworks should not seek to imitate the monuments within the WHS landscape. The dark skies environment should be improved by avoiding road lighting wherever practicable and by the Scheme alignment having regard to Solstice alignments.

4.2.10 (b) Due consideration of the objectives and policies of the WHS Management Plan.

This should include delivering non-motorised users (NMU) opportunities, the re-use of the existing A303 and connection to existing byways. The Scheme should acknowledge the potential for future access within the WHS, e.g. the reconnection of the Avenue.

4.2.10 (c) Deliver a high quality user experience.

The Scheme design should include architectural detailing and a choice of materials to enhance the user experience and become a new point of reference while travelling along the A303, whilst being safe and easy to navigate.

Key Principles

- A. P-PWS04 The tunnel to be designed to enhance the user experience and become a new point of reference when travelling along the A303.
- B. P-PWS02 All external scheme components to use a common materials palette; applying to colour, surface finish and texture. The colours to be in keeping with the surrounding landscape, and to echo local materials. The design should adopt an earthy tone to create spaces which are warm and natural in appearance. The final details will be developed in consultation with the SDCG and will be subject to onsite trial panels.

Key Commitments

- C. D-CH5 The new A303 within the WHS western approach shall be in cutting to a minimum 7m depth with retaining walls. The front face of the retaining walls shall have a backwards incline from vertical of no shallower than 1 in 10.
- D. D-CH5 Approximately 2.5m of the top of each side of the cutting shall be formed of grassed slopes at approximately 1 in 2
- E. D-CH9 Tunnel portal lighting will be designed to minimise light spill outside of the portals' footprint
- F. D-CH13 No tunnel ventilation shafts within the WHS
- G. D-CH16. The opening height of the portal entrances to the tunnel shall be no more than that required to satisfy the requirements of Design Standards TD 27 (DMRB 6.1). and BD 78 (DMRB 2.9).
- H. D-CH8 At the western end of the Scheme within the WHS no signs shall be set higher than the existing ground level on the lower of the adjacent sides of the cutting and the signs shall not be lit.
- I. D-CH28 There shall be no permanent raised earthworks within the WHS other than that required for the construction of the Countess Flyover.
- J. D-CH21 Looking from above, the tops of the cutting retaining walls shall be set parallel to the adjacent carriageway alignment.



B, C, D, E

A

F

G

Tunnel West Portal

Vision

4.2.6 (a) Respecting and Responding to the Historic Landscape.

The detailed design should take full account of the character of the unique historic landscape in which it sits. This includes the OUV of the WHS, the inter-visibility between monuments, heritage assets and the relationship between the WHS, its immediate setting and wider landscape. The Scheme should show due consideration of the objectives of the WHS Management Plan, to ensure that visibility of the Scheme is minimised, the design is elegant and impacts positively on the user experience within the WHS.

4.2.6 (b) Integration and Connectivity.

The detailed design should show careful and sensitive alignment of the proposed road in relation to cultural and ecological designations, landform, vegetation and features, so that the Scheme reflects the beauty of the natural, built and historic environment through which it passes. The earthworks design should reflect the rolling landform through its gradients and profiling, to reduce the visibility of the road. New structures should respond to the landform to maximise their concealment. The landscape and ecological design should maintain connectivity for existing habitats, re-establish landcover whilst giving due consideration to the aims and objectives of the WHS Management Plan.

4.2.6 (c) High quality and imaginative design.

the engineering and architectural design of the Scheme should create a clear design rationale and its context using a co-ordinated palette of materials and finishes, with imaginative design features, e.g. green bridges.

4.2.6 (d) Unity and elegance.

All structures and features should be considered holistically, to deliver a unified approach sympathetic to their scale, form and mass and opportunities that minimises their visual impact. This should include all highway furniture and hard landscape features. Where highways furniture and structures are visible, they should be elegant and sympathetic to their setting for both the road user and those within the wider landscape. Road signage should be designed for minimal impact, ensuring no unnecessary clutter, while ensuring the route is safe.

4.2.6 (e) User experience and safety.

The Scheme should improve the accessibility of the landscape to local communities, visitors and tourists through new recreational routes and crossings of the proposed road. The Scheme should aim to provide enjoyment and excitement for the road user, using materials and design features which engage with their sense of place and history of the landscape, whilst ensuring the road is easy to navigate through safe and secure infrastructure. The tunnel should enhance the user experience and become a new point of reference when travelling along the A303.

4.2.10 (a) Sustain the OUV of the WHS.

The Scheme should maximise the concealment of structures and features outside of the tunnel from the wider landscape through their siting in the landscape in relation to existing ground levels, choice of materials and colour tone of the finishes. New landscaping and earthworks should not seek to imitate the monuments within the WHS landscape. The dark skies environment should be improved by avoiding road lighting wherever practicable and by the Scheme alignment having regard to Solstice alignments.

4.2.10 (b) Due consideration of the objectives and policies of the WHS Management Plan.

This should include delivering non-motorised users (NMU) opportunities, the re-use of the existing A303 and connection to existing byways. The Scheme should acknowledge the potential for future access within the WHS, e.g. the reconnection of the Avenue.

4.2.10(c) Deliver a high quality user experience.

The Scheme design should include architectural detailing and a choice of materials to enhance the user experience and become a new point of reference while travelling along the A303, whilst being safe and easy to navigate.

Key Commitments

- A.** D – CH17. The central support wall of the tunnel canopy structures at each end of the tunnel shall be set back from the leading edge of the structure.
- B.** D - CH19 Wherever the topography requires a variation in retaining wall height, there shall be no steps in the wall height and top of the wall shall follow a smooth alignment.
- C.** D – CH22. The tunnel buildings shall be underground so that only the front façades of the tunnel buildings shall be visible.
- D.** D – CH24 Boundary fencing and gates in the WHS shall be visually recessive and have a low reflectivity finish
- E.** D-CH25. The top of new highway boundary fencing within the western cutting shall be no higher than the ground level at the top of the cutting alongside which the fencing runs.
- F.** D-NOI6- Use of a noise absorbent finish to the walls/roof at the entrances/exits of the tunnel and Green Bridge Four.
- G.** D-CH16 The opening height of the portal entrances to the tunnel shall be no more than that required to satisfy the requirements of Design Standards TD 27 (DMRB 6.1). and BD 78 (DMRB 2.9).



F

A, B, C

E

D

G

Tunnel East Portal

Vision

4.2.6 (a) Respecting and Responding to the Historic Landscape.

The detailed design should take full account of the character of the unique historic landscape in which it sits. This includes the OUV of the WHS, the inter-visibility between monuments, heritage assets and the relationship between the WHS, its immediate setting and wider landscape. The Scheme should show due consideration of the objectives of the WHS Management Plan, to ensure that visibility of the Scheme is minimised, the design is elegant and impacts positively on the user experience within the WHS.

4.2.6 (b) Integration and Connectivity.

The detailed design should show careful and sensitive alignment of the proposed road in relation to cultural and ecological designations, landform, vegetation and features, so that the Scheme reflects the beauty of the natural, built and historic environment through which it passes. The earthworks design should reflect the rolling landform through its gradients and profiling, to reduce the visibility of the road. New structures should respond to the landform to maximise their concealment. The landscape and ecological design should maintain connectivity for existing habitats, re-establish landcover whilst giving due consideration to the aims and objectives of the WHS Management Plan.

4.2.6 (c) High quality and imaginative design.

the engineering and architectural design of the Scheme should create a clear design rationale and its context using a co-ordinated palette of materials and finishes, with imaginative design features, e.g. green bridges.

4.2.6 (d) Unity and elegance.

All structures and features should be considered holistically, to deliver a unified approach sympathetic to their scale, form and mass and opportunities that minimises their visual impact. This should include all highway furniture and hard landscape features. Where highways furniture and structures are visible, they should be elegant and sympathetic to their setting for both the road user and those within the wider landscape. Road signage should be designed for minimal impact, ensuring no unnecessary clutter, while ensuring the route is safe.

4.2.6 (e) User experience and safety.

The Scheme should improve the accessibility of the landscape to local communities, visitors and tourists through new recreational routes and crossings of the proposed road. The Scheme should aim to provide enjoyment and excitement for the road user, using materials and design features which engage with their sense of place and history of the landscape, whilst ensuring the road is easy to navigate through safe and secure infrastructure. The tunnel should enhance the user experience and become a new point of reference when travelling along the A303.

4.2.10 (a) Sustain the OUV of the WHS.

The Scheme should maximise the concealment of structures and features outside of the tunnel from the wider landscape through their siting in the landscape in relation to existing ground levels, choice of materials and colour tone of the finishes. New landscaping and earthworks should not seek to imitate the monuments within the WHS landscape. The dark skies environment should be improved by avoiding road lighting wherever practicable and by the Scheme alignment having regard to Solstice alignments.

4.2.10 (b) Due consideration of the objectives and policies of the WHS Management Plan.

This should include delivering non-motorised users (NMU) opportunities, the re-use of the existing A303 and connection to existing byways. The Scheme should acknowledge the potential for future access within the WHS, e.g. the reconnection of the Avenue.

4.2.10 (c) Deliver a high-quality user experience.

The Scheme design should include architectural detailing and a choice of materials to enhance the user experience and become a new point of reference while travelling along the A303, whilst being safe and easy to navigate.

Key Principles

- A. P-PWS01 Any new infrastructure (and associated elements) to be designed to be sympathetic with the surrounding landscape
- B. P-PWS02 All external scheme components to use a common materials palette; applying to colour, surface finish and texture. The colours to be in keeping with the surrounding landscape, and to echo local materials. The design should adopt an earthy tone to create spaces which are warm and natural in appearance. The final details will be developed in consultation with the SDCG and will be subject to onsite trial panels.
- C. P-PWS08 The surface finish to the tunnel service buildings shall be compatible with the adjacent walls.

Key Commitments

- D. D-CH17. The central support wall of the tunnel canopy structures at each end of the tunnel shall be set back from the leading edge of the structure.
- E. D-CH22. The tunnel buildings shall be underground so that only the front façades of the tunnel buildings shall be visible.
- F. D-CH24 Within the WHS, all fencing above the top of the cuttings shall be post and wire with stock-proof netting, and be consistent with other fencing within the WHS
- G. D-CH16 The opening height of the portal entrances to the tunnel shall be no more than that required to satisfy the requirements of Design Standards TD 27 (DMRB 6.1). and BD 78 (DMRB 2.9).



A, B, E, H, I

F

G

C, D

PRoW on the line of the old A303

Vision

4.2.6 (b) Integration and Connectivity.

The detailed design should show careful and sensitive alignment of the proposed road in relation to cultural and ecological designations, landform, vegetation and features, so that the Scheme reflects the beauty of the natural, built and historic environment through which it passes. The earthworks design should reflect the rolling landform through its gradients and profiling, to reduce the visibility of the road. New structures should respond to the landform to maximise their concealment. The landscape and ecological design should maintain connectivity for existing habitats, re-establish landcover whilst giving due consideration to the aims and objectives of the WHS Management Plan.

4.2.6 (d) Unity and elegance.

All structures and features should be considered holistically, to deliver a unified approach sympathetic to their scale, form and mass and opportunities that minimises their visual impact. This should include all highway furniture and hard landscape features.

Where highways furniture and structures are visible, they should be elegant and sympathetic to their setting for both the road user and those within the wider landscape. Road signage should be designed for minimal impact, ensuring no unnecessary clutter, while ensuring the route is safe.

4.2.6 (e) User experience and safety.

The Scheme should improve the accessibility of the landscape to local communities, visitors and tourists through new recreational routes and crossings of the proposed road. The Scheme should aim to provide enjoyment and excitement for the road user, using materials and design features which engage with their sense of place and history of the landscape, whilst ensuring the road is easy to navigate through safe and secure infrastructure. The tunnel should enhance the user experience and become a new point of reference when travelling along the A303.

4.2.10 (d) Due consideration of the objectives and policies of the WHS Management Plan.

This should include delivering non-motorised users (NMU) opportunities, the re-use of the existing A303 and connection to existing byways. The Scheme should acknowledge the potential for future access within the WHS, e.g. the reconnection of the Avenue.

Key Principles

- A. P-PRoW1 Public Rights of Way to have a bound surface where appropriate to their use.
- B. P-PRoW1 Within the WHS, materials sympathetic to the setting of the WHS to be used to accommodate use by, as appropriate, agricultural and land management vehicles, carriages, equestrians, cyclists and pedestrians, including people with impaired mobility, wheelchair users and parents with buggies and children.
- C. P-PRoW2 Timber posts and strained wire fences to be used to separate PRoWs from adjacent private land in accordance with Highway Construction Details in the Manual of Contract Documents for Highway Works (MCHW) and Design Manual for Road and Bridges (DMRB).
- D. P-PRoW2 Where necessary for adjacent land use, appropriate stock-proof netting to be added to strained wire fences.
- E. P-PRoW4 No lighting on any PRoW within the Scheme.

Key Commitments

- F. D-CH2 Break out the road surface of the redundant A303 within the WHS, except to the extent it is required to create a new Public Right of Way and/or Private Means of Access.
- G. D-CH24 Within the WHS, all fencing above the top of the cuttings shall be post and wire with stock-proof netting, and be consistent with other fencing within the WHS.
- H. D – CH26 Any bound surface within the WHS shall be a maximum of 3m in width. The bound surface on the PRoW in the WHS shall be suitably coloured at year one of operation to be visually recessive and sympathetically integrated within the WHS. Trial panels shall be constructed early in the construction period and at least one year in advance of the surface being laid. Prior to the surface being laid, the Authority shall consult with the members of HMAG on the proposed colour of the surface of the PRoW in the WHS, taking into account the results of the trial panels.
- I. D – CH 26 PRoW/PMA in WHS shall not have raised edgings, surface markings, lighting, benches, litter bins or other such street furniture.

If you need help accessing this or any other Highways England information, please call **0300 123 5000** and we will help you.

© Crown copyright 2017.

You may re-use this information (not including logos) free of charge in any format or medium, under the terms of the Open Government Licence. To view this licence: visit www.nationalarchives.gov.uk/doc/open-government-licence/ write to the **Information Policy Team, The National Archives, Kew, London TW9 4DU**, or email psi@nationalarchives.gsi.gov.uk.

This document is also available on our website at www.gov.uk/highways

If you have any enquiries about this publication email info@highwaysengland.co.uk or call **0300 123 5000**.*

*Calls to 03 numbers cost no more than a national rate call to an 01 or 02 number and must count towards any inclusive minutes in the same way as 01 and 02 calls. These rules apply to calls from any type of line including mobile, BT, other fixed line or payphone. Calls may be recorded or monitored.