

# A303 Amesbury to Berwick Down

TR010025

## 6.3 Environmental Statement Appendices

### Appendix 6.1 Heritage Impact Assessment

APFP Regulation 5(2)(a)

Planning Act 2008

Infrastructure Planning (Applications: Prescribed  
Forms and Procedure) Regulations 2009

October 2018



# 1 Heritage Impact Assessment summary data

**World Heritage Property:** Stonehenge, Avebury and Associated Sites

**Geographical coordinates:** N51 10 44 W1 49 31

**Date of Inscription:** 1986

**Minor boundary modification inscribed year:** 2008

**Date of the HIA report:** 21 September 2018

**Name of the organisation or entities responsible for preparing the HIA report:** AmW (AECOM, Mace, WSP) on behalf of Highways England

**Prepared for:** Highways England

## **External assessment and peer review:**

External peer review has been undertaken by members of the A303 Heritage Monitoring and Advisory Group (HMAG) from a stakeholder perspective on behalf of Historic England (Phil McMahon, Inspector of Ancient Monuments (South West)), English Heritage (Dr Heather Sebire, Senior Property Curator (West)), the National Trust (Dr Nick Snashall, National Trust Archaeologist for Stonehenge and Avebury World Heritage Site) and Wiltshire Council (Melanie Pomeroy-Kellinger, County Archaeologist).

Andrew Croft (Director, Chris Blandford Associates) has undertaken peer review in his role as Technical Challenger for Cultural Heritage on behalf of AmW.

Internal peer review has been undertaken by Jim Hunter (Highways England, Principal Cultural Heritage Adviser) for Highways England. Internal peer review has also been undertaken by Stuart Wilson (Highways England, Environment Group Team Leader, Midlands and South West) and Andrew Clark (Highways England, A303 Lead for Environment and Cultural Heritage).

## 2 Non-technical summary

### Purpose of the Heritage Impact Assessment

Heritage Impact Assessment (HIA) is undertaken to evaluate the impact of potential development upon the Outstanding Universal Value (OUV) of World Heritage properties, to evaluate the potential impacts of the Scheme upon Integrity and Authenticity and to inform the development of Scheme design and mitigation measures.

This HIA identifies the heritage assets that could be affected by implementation of the Scheme and assesses the potential impact of the proposals on the OUV of the WHS, its Integrity and Authenticity.

The HIA focuses on the impact of the Scheme on the OUV of the Stonehenge part of the Stonehenge, Avebury and Associated Sites World Heritage Site (WHS) and the Attributes that convey OUV. This HIA report is a standalone technical appendix to Chapter 6 of the Environmental Statement (ES) and is summarised within Chapter 6 of the ES. The preparation of Chapter 6 of the ES and HIA has been coordinated closely. Both reports draw upon the same historic environment datasets and should be read in parallel.

This HIA has been prepared in line with the Guidance on Heritage Impact Assessments for Cultural World Heritage Properties adopted by the International Council on Monuments and Sites (ICOMOS, the Advisory Body to the World Heritage Committee) in January 2011 (ICOMOS 2011).

### Brief synopsis of the WHS and its OUV, Integrity and Authenticity

The WHS was nominated for WHS status in 1985. The nomination document notes that:

*‘Stonehenge and Avebury, in Wiltshire, are among the most famous groups of megaliths in the world. These two sanctuaries are formed of circles of menhirs arranged in a pattern whose astronomical significance is still unexplained. These holy places and various nearby Neolithic sites offer an incomparable testimony to prehistoric times.’*  
(HBMCE 1985).

The WHS was inscribed on the World Heritage List in 1986 under three criteria:

*‘Criterion (i) – represent a unique artistic achievement, a masterpiece of creative genius.’*

*The monuments of the Stonehenge, Avebury, and Associated Sites World Heritage Sites property demonstrate outstanding creative and technological achievements in prehistoric times.*

*Criterion (ii) – have exerted great influence, over a span of time or within a cultural area of the world, on developments in architecture, monumental arts or town planning and landscaping.*

*The World Heritage Site provides an outstanding illustration of the evolution of monument construction and of the continual use and shaping of the landscape over more than 2000 years, from the early Neolithic to the Bronze Age. The monuments and landscape have had an unwavering influence on architects, artists, historians, and archaeologists, and still retain a huge potential for future research.*

*Criterion (iii) – bear a unique or at least exceptional testimony to a civilisation which has disappeared.*

*The complexes of monuments at Stonehenge and Avebury provide an exceptional insight into the funerary and ceremonial practices in Britain in the Neolithic and Bronze Age. Together with their settings and associated sites, they form landscapes without parallel.'*

The WHS is a serial one, meaning that it is split into two separate landscape areas: Stonehenge and Avebury.

A retrospective Statement of Outstanding Universal Value (SoOUV) was adopted by the World Heritage Committee in 2013 (UNESCO 2013, 291–94). The SoOUV forms the focus of all future protection and management decisions and clearly sets out the reasons why, and the criterion for, the WHS having OUV, and how the WHS embodies this. It also sets out the Integrity and Authenticity of the WHS.

The 2015 WHS Management Plan (Simmonds and Thomas 2015) sets out the vision and sustainable management priorities for the WHS, including in relation to proposals to upgrade the A303.

The SoOUV sets out a summary of the World Heritage Committee's reasons why the WHS has OUV (UNESCO 2013, 291–94) as follows:

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

*Hill, the West Kennet and Beckhampton Avenues, the West Kennet Palisade Enclosures, and important barrows.*

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

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

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

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

The SoOUV further describes the criteria for which the WHS is inscribed on the World Heritage List, its Integrity and Authenticity. It also sets out the protection and management requirements that are necessary and states that a solution needs to be found for the A303, which has a negative impact on the setting of Stonehenge, the integrity of the property and visitor access to some parts of the wider landscape.

In order to define the OUV of the WHS, a number of Attributes expressing the OUV have been identified in the WHS Management Plan, derived from the SoOUV (Simmonds and Thomas 2015, 32). These are expressed by physical elements and tangible or intangible aspects that must meet the conditions of Integrity and Authenticity. Attributes are not themselves individually of OUV but together express the OUV of the site (Simmonds and Thomas 2015, 32) and define the reasons for its OUV (Simmonds and Thomas 2015, 261).

The seven Attributes of OUV for the entirety of the WHS are:

*'(1) Stonehenge itself as a globally famous and iconic monument.*

*(2) The physical remains of the Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape.*

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

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

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

*(6) The disposition, physical remains and settings of the key Neolithic and Bronze Age funerary, ceremonial and other monuments and sites of the period, which together form a landscape without parallel.*

*(7) The influence of the remains of the Neolithic and Bronze Age funerary and ceremonial monuments and their landscape setting on architects, artists, historians, archaeologists and others.'*

All of these Attributes are represented within the Stonehenge part of the WHS and are described in more detail in the 2015 WHS Management Plan along with their contribution to authenticity (Simmonds and Thomas 2015, 32–34). The Attributes of OUV stress the importance of the siting of the sites and monuments in relation to the landscape, in relation to the skies and astronomy, in relationship to each other, and their siting, physical remains and setting that together form a landscape without parallel.

### **Integrity**

The boundaries of the property capture the Attributes that together convey OUV, containing the major Neolithic and Bronze Age monuments that exemplify the creative genius and technological skills for which the property is inscribed and the relationship between the monuments as well as their landscape setting. At Stonehenge, it is recognised that the boundary of the WHS will be reviewed to consider the possible inclusion of related, significant monuments nearby.

The survival of the Neolithic and Bronze Age monuments at both Stonehenge and Avebury is noted as exceptional and remarkable.

It is noted that the presence of busy main roads, such as the A303, traversing the WHS impacts adversely on its Integrity. The existing A303 severs the relationship between Stonehenge and its surrounding monuments, and has negative visual, noise impacts and air quality impacts on the WHS and visitors due to traffic. The existing A303 splits the WHS in two, severely impeding safe access between the northern and southern parts and impacting upon the Integrity of the WHS.

## **Authenticity**

With regards to the Authenticity of the WHS, interventions have been limited mainly to excavations and the re-erection of some fallen or buried stones. Ploughing, burrowing animals and antiquarian excavations have resulted in some losses, but what remains is remarkable in its completeness and concentration. The materials and substance of the archaeology supported by the archaeological archives continue to provide an authentic testimony to prehistoric technological and creative achievement.

This survival, and the huge research potential of the buried archaeology, make the WHS and the wider Stonehenge landscape an extremely important resource for archaeological research.

The known principal monuments largely remain *in situ* and many are still dominant features in the rural landscape. Their form and design are well-preserved and visitors are easily able to appreciate their location, setting and inter-relationships which, in combination, represent landscapes without parallel.

At Stonehenge several monuments have retained their alignment on the solstice sunrise and sunset, including the Stone Circle, the Avenue, Woodhenge, and the Durrington Walls Southern Circle and its Avenue.

The monuments retain spiritual significance for some people, and many still gather at both the Stonehenge and Avebury stone circles to celebrate the solstice and other observations. Stonehenge is known and valued by many more as the most famous prehistoric monument in the world.

## **Planning and policy context**

The WHS is recognised by the UK Government under a series of International agreements, principally the Convention Concerning the Protection of the World Cultural and Natural Heritage (UNESCO 1972).

National legislation affords protection to individual heritage assets within the WHS under the Ancient Monuments and Archaeological Areas Act (1979) and the Planning (Listed Buildings and Conservation Areas) Act 1990; development is controlled under the Town and Country Planning (General Permitted Development) Order 2015 – Schedule 1, Article 2(3) (Land) and The Planning Act 2008 (HMSO 2008). World Heritage Sites and their protection are considered under the National Policy Statement for National Networks (NPSNN) (DfT 2014) and the National Planning Policy Framework (NPPF) (MHCLG 2018).

In terms of Local Planning Policy context, the WHS and its protection is covered in the Adopted Wiltshire Core Strategy Development Plan 2015 – 2026 (Wiltshire Council 2015) and supporting documents, including the

Stonehenge, Avebury and Associated Sites WHS Management Plan (Simmonds and Thomas 2015).

### **Stakeholders and consultation**

Stakeholders for the Scheme include:

- The Stonehenge and Avebury WHS Partnership Panel (WHSP), the individual WHS Steering Committees for Stonehenge and Avebury and the WHS Coordination Unit;
- UNESCO World Heritage Centre (WHC) and ICOMOS International;
- Land managers, land owners, heritage interest groups, academics, WHS visitors, civil society, local communities and members of the public;
- Members of HMAG (Historic England, Wiltshire Council Archaeology Service, English Heritage and the National Trust)
- An independent panel of archaeological academic experts – the Scientific Committee;
- The Avebury and Stonehenge Archaeological and Historical Research Group (ASAHRG);
- UK Government Department for Transport (DfT) and the Department for Digital, Cultural, Media and Sport (DCMS); and
- Highways England, a UK Government-owned company established in 2015 to operate, maintain and improve the strategic road network in England.

This HIA has been undertaken following wide-ranging statutory public consultation from February to April 2018 and supplementary consultation in July and August 2018. The HIA has been developed in consultation with heritage working groups set up to advise the Scheme, including HMAG and the Scientific Committee. These groups have been continuously consulted throughout the development of the HIA. Advice on the scope and expectations of the HIA has been provided by the Stonehenge and Avebury WHS Partnership Panel and DCMS, as advised by Historic England.

The Scheme was also the subject of a joint UNESCO World Heritage Centre/ICOMOS Advisory Mission in March 2018, the results of which have been considered in the World Heritage Committee Decision of June 2018. The HIA Scoping report formed part of the Briefing Pack for the Advisory Mission. The Advisory Mission Report considered that the methodology

outlined in the HIA Scoping report was appropriate (UNESCO/ICOMOS 2018).

Consultative engagement with stakeholders and civil society has been undertaken through the Local Community Forum.

In addition to the statutory consultation process, provision has been made for ongoing formal engagement with HMAG and the Scientific Committee to steer the development of the Scheme with regard to heritage considerations.

### **HIA methodology**

The HIA has been undertaken with reference to the ICOMOS Guidance on HIAs for Cultural World Heritage Properties (ICOMOS 2011), Historic England's Guidance on the Setting of Heritage Assets (Historic England 2017), the Stonehenge, Avebury and Associated Sites WHS Statement of OUV (UNESCO 2013) and the 2015 WHS Management Plan (Simmonds and Thomas 2015).

This HIA draws on baseline data prepared for the 2018 ES, which provides a wider context for the WHS. The ES baseline has been established through a desk-based review of existing sources of information, supported where appropriate by the use of field survey and site visits. The ES baseline has been enhanced for the purposes of this HIA, to provide further details on the significance and full extent of the WHS, taking into consideration its OUV.

#### Asset Groups and discrete assets conveying Attributes of OUV

The HIA considers and assesses the impact of the Scheme on Attributes of the OUV of the WHS, including the setting and relationships between the monuments within the visual envelope of the WHS. The HIA Assessment Area comprises the whole of the Stonehenge part of the Stonehenge, Avebury and Associated Sites WHS and its setting. The HIA acknowledges that the effects of the Scheme may extend beyond the boundaries of the Stonehenge part of the WHS, and therefore also considers:

- Impacts on assets outside the boundaries of the WHS that may contribute to one or more Attributes of OUV;
- Impacts on assets outside the WHS boundary which have relationships with assets within the WHS expressing OUV;
- Impacts upon the character of the setting of the WHS that would impact on Attributes of OUV within the WHS; and
- Indirect, secondary, in combination and cumulative impacts and effects upon the OUV of the Avebury part of the WHS.

There are over 1700 known archaeological features (including recorded find spots) within the Stonehenge part of the WHS, and 175 scheduled assets, many of them covering extensive areas and multiple sites. These 175 scheduled monuments include approximately 415 further individual archaeological items or features (Simmonds and Thomas 2015, 320).

The SoOUV indicates that the sites that contribute to OUV are monuments built from c. 3700 to 1600 BC, i.e. the Early Neolithic to the Early Bronze Age (inclusive).

To enable assessment of potential impacts on the Attributes of OUV of the WHS, a range of Asset Groups and discrete heritage assets that convey the Attributes of OUV have been identified. Heritage assets have been grouped with reference to the Attributes of OUV in relation to their location (e.g. proximity and topography), date and interrelationships (e.g. inter-visibility and grouping). For the purposes of assessment, some Asset Groups have been divided into subgroups to enable transparent assessment of differing impacts and effects across extensive areas. The HIA also considers the wider chronological and thematic structure of the WHS landscape, including potential Scheme impacts and effects on groups of Neolithic causewayed enclosures and long barrows, later Neolithic and Bronze Age barrows, and occupation/ activity in the landscape.

Identified Asset Groups that convey Attributes of the OUV of the WHS within the WHS boundary comprise:

- AG10 – Rollestone Barrows
- AG11 – Lesser Cursus Barrows and Pit Circle
- AG12 – Winterbourne Stoke Crossroads Barrows
- AG13 – The Diamond Group
- AG15 – The Lesser Cursus
- AG16 – North Kite Enclosure and Lake Barrows
- AG17 – Barrow West of Stonehenge
- AG18 – The Cursus Barrows (west)
- AG19 – Normanton Down Barrows
- AG19A – Normanton Down barrow group – north
- AG19B – Normanton Down barrow group – central
- AG19C – Normanton Down barrow group – south-west

- AG19D – Normanton Down barrow group – south-east
- AG20 – Durrington Down Barrows
- AG21 – Stonehenge Barrows
- AG22 – Stonehenge
- AG23 – The Greater Cursus (The Greater Cursus, Amesbury 56 and Winterbourne Stoke 30 Round Barrows, and the Amesbury 42 Long Barrow)
- AG24 – Stonehenge Bottom/Luxenborough Barrows
- AG25 – Packway Barrows
- AG26 – The King Barrows (Old and New King Barrows, excluding outliers to the west which are not part of the main ridge group)
- AG26A – King Barrows – Old King Barrows – north
- AG26B – King Barrows – New King Barrows – south
- AG27 – The Avenue
- AG28 – The Cursus (East - long barrow situated at its eastern end and Cursus east end barrows)
- AG29 – Coneybury Henge and Associated Monuments
- AG30 – The Avenue Barrows (including some barrows scheduled under Stonehenge and The Avenue)
- AG31 – Countess Farm Barrows
- AG31A – Countess Farm barrow group – north
- AG31B – Countess Farm barrow group – south-west
- AG31C – Countess Farm barrow group – south-east
- AG32 – Vespasian’s Camp Barrows
- AG33 – Durrington Walls, Woodhenge and Associated Sites

In addition to Asset Groups, the WHS also contains a wide range of discrete and isolated heritage assets which do not readily conform to topographic or geographical groupings, but do contribute to expressing Attributes of OUV and the wider significance of the WHS. These are also considered in the

HIA, where it is considered that the Scheme may impact upon their fabric or setting.

While many of the long barrows within and around the WHS are assessed as part of the Asset Groups described above, the relationships of the long barrows with each other and with the landscape are additionally considered in the HIA in relation to impacts on Attributes of OUV.

Some aspects of settlement and activity within the landscape may exist only as artefactual remains. Physical remains may be ephemeral, or may have been lost to modern land use; however, artefactual evidence may remain in the topsoil. Finding settlement sites within the WHS is rare; however, settlement evidence that may contribute to Attributes of OUV include:

- Neolithic occupation/pits at King Barrow Ridge;
- Neolithic settlement at Durrington Walls (AG33);
- Isolated Neolithic pits and pit groups.

There is also a range of potentially related Asset Groups that do not fall within the current boundaries of the WHS. Asset Groups of Early Neolithic to mid-Bronze Age date, which fall within the setting of the WHS, and whose significance is reinforced by relationships with assets conveying Attributes of OUV located within the WHS, have been assessed in this HIA. Such Asset Groups located outside the current WHS boundary comprise:

- AG06 – Net Down Barrow Cemetery
- AG08 – Winterbourne Stoke Down Barrows
- AG14 – Robin Hood's Ball and Associated Sites
- AG37 – Knighton Long Barrow
- AG38 – Larkhill Camp Long Barrow
- AG39 – Larkhill Causewayed Enclosure

A small number of isolated heritage assets outside the WHS boundary of Early Neolithic to mid-Bronze Age date, which fall within the setting of the WHS and which contribute demonstrably to conveying Attributes of OUV, have been identified.

Impact assessment on Asset Groups and discrete assets

This HIA has assessed effects on Asset Groups conveying Attributes of OUV arising from the existing A303, and that are anticipated to arise from the Scheme, taking into account embedded, heritage-led, design mitigation.

Table 1 summarises the significance of effect of the existing A303 and anticipated impacts and effects of the Scheme on each Asset Group conveying Attributes of OUV.

**Table 1: Summary of assessed impacts and effects of the existing A303 and anticipated impacts and effects of the Scheme on Asset Groups conveying Attributes of OUV**

Asset Group		Impact of existing baseline/ A303 on Asset Group conveying Attributes of OUV	Effect of existing baseline/ A303 on Asset Group conveying Attributes of OUV	Impact of Scheme on Asset Group conveying Attributes of OUV	Anticipated significance of effect of Scheme	Residual significance of effect of Scheme
AG06	Net Down Barrow Cemetery	None	Neutral	No Change	Neutral	Neutral
AG08	Winterbourne Stoke Down Barrows	None	Neutral	No Change	Neutral	Neutral
AG10	Rollestone Barrows	None	Neutral	No Change	Neutral	Neutral
AG11	Lesser Cursus Barrows and Pit Circle	Negligible	Slight Adverse	Negligible Negative and Negligible Positive Change	Neutral	Neutral
AG12	Winterbourne Stoke Crossroads Barrows	Moderate	Large Adverse	Minor Negative Change and Major Positive Change	Moderate Beneficial	Moderate Beneficial
AG13	The Diamond Group	Moderate	Large Adverse	Moderate Negative and Minor Positive Change	Slight Adverse	Slight Adverse
AG14	Robin Hood's Ball and Associated Sites	None	Neutral	No Change	Neutral	Neutral

Asset Group		Impact of existing baseline/ A303 on Asset Group conveying Attributes of OUV	Effect of existing baseline/ A303 on Asset Group conveying Attributes of OUV	Impact of Scheme on Asset Group conveying Attributes of OUV	Anticipated significance of effect of Scheme	Residual significance of effect of Scheme
AG15	The Lesser Cursus	Negligible	Slight Adverse	Negligible Negative and Negligible Positive Change	Neutral	Neutral
AG16	North Kite Enclosure and Lake Barrows	Minor	Moderate Adverse	Negligible Positive Change	Slight Beneficial	Slight Beneficial
AG17	Barrow West of Stonehenge	Moderate	Large Adverse	Minor Positive Change	Moderate Beneficial	Moderate Beneficial
AG18	Cursus Barrows (West)	Minor	Moderate Adverse	Minor Positive Change	Moderate Beneficial	Moderate Beneficial
AG19	Normanton Down Barrows	Moderate	Large Adverse	Minor Negative, Minor Positive and Moderate Positive Change	Moderate Beneficial	Moderate Beneficial
AG19A	Normanton Down Barrows – north	Moderate	Large Adverse	Minor Negative Change and Major Positive Change	Slight Beneficial	Slight Beneficial
AG19B	Normanton Down Barrows – central	Moderate	Large Adverse	Moderate Positive Change	Large Beneficial	Large Beneficial
AG19C	Normanton Down Barrows – south-west	Moderate	Large Adverse	Minor Positive Change	Large Beneficial	Large Beneficial
AG19D	Normanton Down Barrows – south-east	Moderate	Large Adverse	Minor Positive Change	Moderate Beneficial	Moderate Beneficial
AG20	Durrington Down Barrows	None	Neutral	Negligible Negative and Negligible Positive Change	Slight Beneficial	Slight Beneficial
AG21	Stonehenge Down Barrows	Moderate	Large Adverse	Major Positive Change	Very Large Beneficial	Very Large Beneficial
AG22	Stonehenge	Moderate	Large Adverse	Major Positive Change	Very Large Beneficial	Very Large Beneficial

Asset Group		Impact of existing baseline/ A303 on Asset Group conveying Attributes of OUV	Effect of existing baseline/ A303 on Asset Group conveying Attributes of OUV	Impact of Scheme on Asset Group conveying Attributes of OUV	Anticipated significance of effect of Scheme	Residual significance of effect of Scheme
AG23	The Greater Cursus, Amesbury 56 and Winterbourne Stoke 30 Round Barrows, and the Amesbury 42 Long Barrow	Moderate	Large Adverse	Moderate Positive Change	Large Beneficial	Large Beneficial
AG24	Stonehenge Bottom/ Luxenborough Barrows	Minor	Moderate Adverse	Major Positive Change	Very Large Beneficial	Very Large Beneficial
AG25	Packway Barrows	None	Neutral	Negligible Positive Change	Slight Beneficial	Slight Beneficial
AG26	Old and New King Barrows	Moderate	Large Adverse	Minor Negative, Moderate Positive and Major Positive	Moderate Beneficial	Moderate Beneficial
AG26A	Old King Barrows – north	Moderate	Large Adverse	Moderate Positive Change	Large Beneficial	Large Beneficial
AG26B	New King Barrows – south	Moderate	Large Adverse	Minor Negative Change and Major Positive Change	Moderate Beneficial	Moderate Beneficial
AG27	The Avenue	Moderate	Large Adverse	Moderate Positive Change	Large Beneficial	Large Beneficial
AG28	Cursus Barrows (East)	None	Neutral	No Change	Neutral	Neutral
AG29	Coneybury Henge and Associated Monuments	Moderate	Large adverse	Moderate Positive Change	Large Beneficial	Large Beneficial
AG30	The Avenue Barrows	Moderate	Large Adverse	Minor Positive Change	Moderate Beneficial	Moderate Beneficial

Asset Group		Impact of existing baseline/ A303 on Asset Group conveying Attributes of OUV	Effect of existing baseline/ A303 on Asset Group conveying Attributes of OUV	Impact of Scheme on Asset Group conveying Attributes of OUV	Anticipated significance of effect of Scheme	Residual significance of effect of Scheme
AG31	Countess Farm Barrows	Negligible	Slight Adverse	Negligible Negative, Minor Positive, No Change	Slight Adverse	Slight Adverse
AG31A	Countess Farm Barrows – north	Negligible	Slight Adverse	No Change (northerly elements) and Negligible Negative Change (southerly elements)	Slight Adverse	Slight Adverse
AG31B	Countess Farm Barrows – south-west	Negligible	Slight Adverse	Negligible Negative, Minor Positive Change	Slight Adverse	Slight Adverse
AG31C	Countess Farm Barrows – south-east	Negligible	Slight Adverse	Negligible Negative	Slight Adverse	Slight Adverse
AG32	Vespasian's Camp Barrows	None	Neutral	No Change	Neutral	Neutral
AG33	Durrington Walls, Woodhenge and Associated Sites	Negligible	Slight Adverse	Negligible Positive Change	Slight Beneficial	Slight Beneficial
AG37	Knighton Long Barrow	None	Neutral	No Change	Neutral	Neutral
AG38	Larkhill Camp Long Barrow	None	Neutral	No Change	Neutral	Neutral
AG39	Larkhill Causewayed Enclosure	None	Neutral	No Change	Neutral	Neutral

Table 2 summarises the significance of effect of the existing A303 and anticipated impacts and effects of the Scheme on each discrete designated asset conveying Attributes of OUV:

**Table 2: Summary of assessed impacts and effects of the existing A303 and anticipated impacts and effects of the Scheme on discrete designated assets conveying Attributes of OUV**

Discrete designated assets		Impact of existing baseline / A303 on discrete asset conveying Attributes of OUV	Effect of existing baseline / A303 on discrete asset conveying Attributes of OUV	Impact of Scheme on discrete asset conveying Attributes of OUV	Anticipated significance of effect of Scheme	Residual significance of effect of Scheme on discrete asset conveying Attributes of OUV
1011048	Bronze Age enclosure and bowl barrow 100m west of Longbarrow Cross Roads on Winterbourne Stoke Down	Moderate	Large Adverse	Minor Negative Change and Major Positive Change	Slight Beneficial	Slight Beneficial
1010831	Bowl barrow 400m west of Normanton Gorse	Minor	Moderate Adverse	Moderate Negative Change and Major Positive Change	Neutral	Neutral
1013812	Bowl barrow 350m south-west of Normanton Gorse	Minor	Moderate Adverse	Moderate Negative Change and Major Positive Change	Neutral	Neutral
1010832	Bowl barrow south of the A303 and north-west of Normanton Gorse	Moderate	Large Adverse	Negligible Negative Change and Minor Positive Change	Slight Adverse	Slight Adverse
1010833	Pond barrow south of the A303 and 400m west of Normanton Gorse containing the 'Wilsford Shaft'	Moderate	Large Adverse	Negligible Negative Change and Minor Positive Change	Slight Adverse	Slight Adverse
1011708	Bowl barrow 100m south-	Minor	Moderate adverse	Minor Positive Change	Moderate Beneficial	Moderate Beneficial

Discrete designated assets		Impact of existing baseline / A303 on discrete asset conveying Attributes of OUV	Effect of existing baseline / A303 on discrete asset conveying Attributes of OUV	Impact of Scheme on discrete asset conveying Attributes of OUV	Anticipated significance of effect of Scheme	Residual significance of effect of Scheme on discrete asset conveying Attributes of OUV
	east of the southern edge of The Diamond south of the A303					
1011709	Bowl barrow 450m east of The Diamond south of the A303	Minor	Moderate adverse	Minor Positive Change	Moderate Beneficial	Moderate Beneficial
1012394	Four bowl barrows 140m north of the A303 on Stonehenge Down	Moderate	Large Adverse	Minor Negative Change and Major Positive Change	Moderate Beneficial	Moderate Beneficial
1011044	Bowl barrow 600m south of A344 on Winterbourne Stoke Down	Negligible	Slight Adverse	Negligible Negative and Negligible Positive Change	Neutral	Neutral
1011041	Pond barrow 700m south of A344 on Winterbourne Stoke Down	Negligible	Slight Adverse	Negligible Negative and Negligible Positive Change	Neutral	Neutral
1011039	Bell barrow 450m south of A344 on Winterbourne Stoke Down	Negligible	Slight Adverse	Negligible Negative and Negligible Positive Change	Neutral	Neutral
1008950	Bowl barrow 550m south of Airman's Corner on Winterbourne Stoke Down	Negligible	Slight Adverse	Negligible Negative and Negligible Positive Change	Neutral	Neutral

Discrete designated assets		Impact of existing baseline / A303 on discrete asset conveying Attributes of OUV	Effect of existing baseline / A303 on discrete asset conveying Attributes of OUV	Impact of Scheme on discrete asset conveying Attributes of OUV	Anticipated significance of effect of Scheme	Residual significance of effect of Scheme on discrete asset conveying Attributes of OUV
1011043	Bowl barrow 430m south of A344 on Winterbourne Stoke Down	Negligible	Slight Adverse	Negligible Negative and Negligible Positive Change	Neutral	Neutral
1008949	Bowl barrow 450m SSW of Airman's Corner on Winterbourne Stoke Down	Negligible	Slight Adverse	Negligible Negative and Negligible Positive Change	Neutral	Neutral
1011040	Bowl barrow 400m south of A344 on Winterbourne Stoke Down	Negligible	Slight Adverse	Negligible Negative and Negligible Positive Change	Neutral	Neutral
1010895	Pond barrow 50m north of A344 west of The Cursus	Negligible	Slight Adverse	Negligible Negative and Negligible Positive Change	Neutral	Neutral
1012389	Bowl barrow 220m west of Old King Barrows north of the A303	Minor	Moderate adverse	Moderate Positive Change	Large Beneficial	Large Beneficial
1008948	Bowl barrow 100m north of The Avenue and west of Old King Barrows	Minor	Moderate adverse	Moderate Positive Change	Large Beneficial	Large Beneficial
1012388	Bowl barrow 500m WNW of New King Barrows north of the A303	Minor	Moderate adverse	Moderate Positive Change	Large Beneficial	Large Beneficial
1008946	Bowl barrow	Minor	Moderate	Moderate Positive	Large	Large

Discrete designated assets		Impact of existing baseline / A303 on discrete asset conveying Attributes of OUV	Effect of existing baseline / A303 on discrete asset conveying Attributes of OUV	Impact of Scheme on discrete asset conveying Attributes of OUV	Anticipated significance of effect of Scheme	Residual significance of effect of Scheme on discrete asset conveying Attributes of OUV
	400m west of New King Barrows		adverse	Change	Beneficial	Beneficial
1009145	Bowl barrow 170m south-east of Strangways on Countess Farm	None	Neutral	No Change	Neutral	Neutral
1010838	Linear boundary within Normanton Gorse	Negligible	Slight Adverse	Negligible Negative Change	Slight Adverse	Slight Adverse
1009138	Bowl barrow 400m north of the A303 on Countess Farm	Negligible	Slight Adverse	Negligible Negative impact	Slight Adverse	Slight Adverse
1014147	Two bowl barrows 700m north-west of Normanton Down House	None	Neutral	No Change	Neutral	Neutral

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

The potential overall impacts and effects of the Scheme on individual Attributes of OUV, taking into account the results of the detailed assessments tabulated above, are assessed in this HIA taking into account both positive and negative impacts, to arrive at an overall conclusion regarding the effect of the Scheme on the Attributes of OUV and the Authenticity and Integrity 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.

Table 3 provides a summary of the significance of effect of the existing A303 and the anticipated significance of effect of the Scheme on the Attributes of OUV, Integrity and Authenticity

**Table 3: Summary of assessment of significance of effect of existing A303 and anticipated significance of effect of Scheme on Attributes of OUV, Integrity and Authenticity**

Attribute of Outstanding Universal Value	Impact of existing A303	Effect of existing A303	Impact of Scheme	Effect of Scheme
1. Stonehenge itself as a globally famous and iconic monument	Moderate Negative	Large Adverse	Major Positive	Very Large Beneficial
2. The physical remains of the Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape	Moderate Negative	Large 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
4. The design of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the skies and astronomy	Minor Negative	Moderate Adverse	Moderate Positive Change	Large Beneficial
5. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other	Moderate Negative	Large Adverse	Negligible Positive Change	Slight Beneficial
6. The disposition, physical remains and settings of the key Neolithic and Bronze Age funerary, ceremonial and other monuments and sites of the period, which together form a landscape without parallel	Moderate Negative	Large Adverse	Negligible Positive Change	Slight Beneficial
7. The influence of the remains of the Neolithic and Bronze Age funerary and ceremonial monuments and their landscape setting on architects, artists, historians, archaeologists and others	Negligible Negative	Slight Adverse	Negligible Positive Change	Slight Beneficial
Integrity	Major Negative	Large Adverse	Negligible Positive Change	Slight Beneficial
Authenticity	Negligible Negative	Slight Adverse	Negligible Positive Change	Slight Beneficial

## **Proposed mitigation measures**

### Protection measures

Wherever possible, heritage assets and archaeological sites would be protected by a range of measures that would be put in place before construction starts to ensure their long-term survival. Relevant protection measures would include the use of temporary protective fencing where works are to be excluded. A photographic record would be made of the condition of heritage assets and archaeological sites prior to installation of protective measures, and after removal of temporary protective measures.

Heritage assets and archaeological sites to be protected include designated and non-designated monuments, whether these are upstanding remains or buried remains identified through previous surveys; and areas of archaeological interest.

### Archaeological fieldwork and recording strategy

A programme of archaeological recording would be implemented for archaeological remains within the footprint of the Scheme which would be wholly or partially removed during construction. This would be proportionate to the level of impact and the value of the assets affected, taking into account the status of the WHS. Archaeological mitigation work would include archaeological excavations, recording, reporting, publication, and dissemination to local communities, the wider general public and academics. The archaeological archive generated by the project would be deposited in a local museum for long term storage and the archive would be made publicly accessible with the museum's agreement.

### Outreach and public access to the wider WHS landscape post-Scheme construction

Opportunities would be arranged to allow the public to view archaeological work in progress, where it is safe and practicable to do so. Media engagement would be maintained throughout the project by Highways England. The provision of interpretation panels and displays of finds at selected venues would be explored.

Long-term interpretation and public access measures, awareness-building and education proposals are being developed as part of the National Trust and Historic England's Phase 2 – Partnership Plan for National Trust and English Heritage Trust Land.

## Summary of overall significance of effect on the Attributes that convey the OUV of the WHS, Integrity and Authenticity and the WHS as a whole

The HIA process has identified assets and Asset Groups which contribute to Attributes of OUV and assessed the impacts and effects of the Scheme on these.

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

The removal of the A303 would improve the aural and visual environment of the Stonehenge monument providing it with an uncluttered and respectful setting that reflects the iconic status of the monument and its cultural significance within the WHS.

The removal of the 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. The removal of the A303 and associated traffic would improve views to and from the monument, relationships between the monument and other monuments in the landscape (e.g. the numerous barrow groups in elevated positions around the monument) and, importantly, the visitor experience at the monument.

The Scheme provides the opportunity to enhance physical access, linking the monument to the wider landscape.

Overall, it is anticipated that the Scheme would have a Major Positive impact on this Attribute of OUV, resulting in a **Very Large Beneficial** effect.

### *2. The physical remains of the Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape*

The removal of the existing road would reduce physical and contextual severance and visual impacts on a number of assets.

At the eastern end, the Scheme would enable the reconnection of the Avenue where it is severed by the existing A303. This would restore physical connectivity along much of the length of this important prehistoric ceremonial route.

The alignment of the Scheme avoids any risk of the road intruding on views of the setting sun from Stonehenge during the winter solstice.

It is anticipated that the construction of the Scheme would result in the loss of any archaeological remains within the construction footprint. The Scheme has been developed to avoid known concentrations of archaeological remains that make a significant contribution to the OUV of the WHS.

Within the WHS, the western part of the Scheme runs through an area known to contain the remains of later Bronze Age field systems, scattered

Early Bronze Age pits and a burial, and other prehistoric features. The evidence from recent archaeological evaluations does not appear to indicate substantive funerary, ceremonial or settlement activity in this location and the remains are not, therefore, considered to make a significant contribution to this Attribute of OUV.

At the eastern end, it is anticipated that construction would affect a relatively limited area south of a known cluster of scheduled and non-scheduled Bronze Age barrows (Countess Farm Barrows). The Scheme would impact upon their setting but would not physically impact upon their fabric.

Overall, there would be a negative impact on this Attribute of OUV due to the loss of archaeological remains within the footprint of the Scheme; however, the scale of loss would be limited in extent, reflecting the realignment of the Scheme away from known funerary and ceremonial remains that contribute to the OUV of the WHS.

Overall, it is anticipated that the Scheme would have a Negligible Negative impact on this Attribute of OUV, resulting in a **Slight Adverse** effect.

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

The removal of the A303 across much of the WHS would enable the physical reconnection of a number of significant monuments to the wider landscape, including Stonehenge, the Normanton Down Barrow Group, barrow cemeteries on King Barrow Ridge and numerous barrows to the south of the A303. The removal of the A303 and the associated traffic would also improve the ability of visitors to appreciate the visual and spatial connections between the various monuments and the wider topographic landscape, in particular the relationships with the rising ground to the south of Stonehenge around Normanton Down. These would be benefits for this Attribute of OUV.

The reconnection of the Avenue (where it is currently severed by the A303) is also a consideration for this Attribute. The route of the Avenue has a strong relationship with the underlying form of the landscape, utilising the topography to create a journey through the landscape to and from Stonehenge. Reconnecting the Avenue would enable this journey to be better understood and appreciated.

The construction of a new dual carriageway and tunnel portals within the WHS would, however, have adverse impacts on the relationship between monuments/Asset Groups and the landscape and the ability to appreciate and understand those relationships, although the design has been developed to minimise this adverse impact.

The new dual carriageway and tunnel portal in the west would adversely affect the setting of and relationships between monuments and the

landscape including, amongst others, the Winterbourne Stoke Crossroads Barrows, the Diamond Group and the Normanton Down Barrows, and wider relationships between Neolithic longbarrows in and beyond these Asset Groups. The Scheme would introduce a deep cutting and tunnel portal between the Winterbourne Stoke Crossroads Barrows and the Diamond Group, affecting the integrity of physical relationships between the monuments.

The design of the western approach, however, incorporates elements including the use of a canopy at the western portal and Green Bridge Four, to act as concealing devices for the western tunnel portal and its approach cutting in long views out of the WHS to the new Longbarrow Junction from the northern part of the Normanton Down Barrows. Green Bridge Four would also ensure continued north-south connectivity along a Public Right of Way, providing the ability for visitors to access the monuments and experience the link between the Winterbourne Stoke Crossroads Barrows and the Diamond Group. Shallow grass slopes in the upper portion of the retained cutting, and chalk grassland mitigation beyond the retained cutting edge to north and south and across Green Bridge Four, would soften views of the cutting from heritage assets important to the understanding of the OUV, within the WHS. The visual presence of the retained cutting is also lessened by the 200m long canopy and Green Bridge Four, and the combination of chalk grassland across and around the bridge and canopy would visually aid the integration of this structure into the landscape.

At the eastern end, the new approach road and tunnel portals would be visible features in the landscape and would affect visual relationships between monuments and the landscape. In particular, in views towards the Countess Farm Barrows, the portal and approach road would introduce major new elements of modern infrastructure that would disrupt the appreciation of the landscape relationship between the barrows. The new portal and dual carriageway would be visible and prominent features in the landscape, although a canopy and the placing of the eastern portal within a dry valley would help to conceal the portal entrance.

Conversely, the removal of the A303 at the southern end of King Barrow Ridge would improve physical connectivity along the ridge, enabling the physical reconnection of the New King Barrows (and Old King Barrows) to the wider landscape and associated monuments to the south. To the west, between King Barrow Ridge and Normanton Down, the setting of monuments and monument groups would be enhanced with the removal of the A303, enabling safe access between the north and south parts of the WHS using Public Rights of Way and permissive open access land.

Overall, it is anticipated that the Scheme would have a Negligible Negative impact on this Attribute of OUV, resulting in a <b>Slight Adverse</b> effect.
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#### *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, particularly where it currently crosses the winter solstice sunset alignment, would benefit this Attribute of OUV through the removal of traffic and modern road infrastructure from views towards the winter solstice sunset.

The Scheme alignment and placing the Scheme into a tunnel avoids any risk of the road intruding on the view of the setting sun from Stonehenge during the winter solstice. There would be no visibility of any Scheme structures in the backdrop of the horizon sector containing the winter solstice sunset alignment.

The Scheme would not impact upon the midwinter sunrise solstice alignment of the Durrington Walls Southern Circle Avenue, looking south-east towards Countess East. Views of project infrastructure construction components, such as the temporary Countess East compound, would be obscured by intervening topography, as well as modern built form.

No lighting is proposed for the Scheme, which 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. Due to the deep cutting it is not anticipated that vehicular lights on the stretch west of the western portal would create a night time glow.

Overall, it is anticipated that the Scheme would have a Moderate Positive impact on this Attribute of OUV, resulting in a **Large Beneficial** effect.

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

The removal of the A303 would be a benefit for many monuments in terms of removing visual clutter and distraction from sightlines between different groups of monuments and also aiding the physical reconnection between monuments. Of particular note are the improvements to the visual connections between the Normanton Down Barrows and monuments such as Stonehenge, the King Barrow cemeteries, and the Cursus Barrows. There are also improvements in visual relationships between Stonehenge and a range of monuments to the south.

The removal of the existing A303 provides the opportunity to enable physical access between Asset Groups, for example between major barrow groups such as the Old and New King Barrows and Normanton Down Barrows, along the Avenue, and between the dispersed barrows and other ritual/ceremonial sites in the heart of the WHS. These physical connections are an important aspect of this Attribute alongside the visual connections

between different barrow groups and associated monuments including henges and cursuses.

The construction and operation of the Scheme would, however, have adverse impacts on visual and physical relationships elsewhere in the WHS. There would be some impacts on visual relationships between barrow groups and isolated barrows at the eastern end with views from some isolated barrows in the Countess Farm area towards the Avenue and King Barrows being affected by the presence of the portal in the foreground. The views would not, however, be fundamentally altered.

The construction of the western portal and approach roads would affect the relationships between a number of discrete monuments and Asset Groups. The approach road, cutting and tunnel portals to the west would also adversely affect the integrity of physical relationships between the Normanton Down Barrows, the Winterbourne Stoke Crossroads Barrows and the Diamond Group, as well as visual and physical relationships between long barrows in the western part of the WHS and other dispersed barrows and associated monuments.

The overall assessment of impacts for this Attribute requires a balanced judgement. The undoubted 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, so that on balance an overall beneficial impact is considered appropriate.

Overall, it is anticipated that the Scheme would have a Negligible Positive impact on this Attribute of OUV, resulting in a **Slight Beneficial** effect.

*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 Scheme would improve the setting of numerous assets within the WHS including (to varying degrees) Stonehenge, the Avenue, the Cursus, barrow groups and other related features. The removal of the existing A303 would improve the setting of these and other monuments and enable visitors to better appreciate their disposition and relationships. These are significant benefits for the WHS.

The construction of the new road and tunnel portals within the WHS would, however, have some adverse effects on the setting of a number of Asset Groups including the Normanton Down Barrows, the Winterbourne Stoke Crossroads Barrows, the Diamond Group, and wider relationships between Neolithic longbarrows in and beyond these Asset Groups and several discrete Neolithic and Bronze Age barrows.

The overall assessment of impacts for this Attribute requires a balanced judgement. The Scheme has been designed to avoid major known concentrations of archaeological remains that contribute to the OUV of the WHS; however, it would have adverse effects on the setting of some assets and Asset Groups. The beneficial effects are considered to slightly outweigh the adverse effects of the Scheme in terms of this Attribute.

Overall, it is anticipated that the Scheme would have a Negligible Positive impact on this Attribute of OUV, resulting in a **Slight Beneficial** effect.

*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*

Stonehenge in particular has been the subject of numerous artists, including J M W Turner, and figures in many books, both fictional and academic works. It has also inspired many architects from Inigo Jones onwards and has been the subject of antiquarian and archaeological study and speculation for over three hundred years.

The existing A303 has an adverse effect on this Attribute. 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. On the other hand, the view of Stonehenge from vehicles descending from King Barrow Ridge to Stonehenge Bottom is appreciated by many; although this view would no longer be available to motorists, visitors would still be able to appreciate it on foot, by cycle or on horseback, by using the new A303 restricted byway or other paths in the vicinity.

Overall, it is anticipated that the Scheme would have a Negligible Positive impact on this Attribute of OUV, resulting in a **Slight Beneficial** effect.

*Impacts and effects of Scheme on Integrity*

The removal of the existing A303 would address a longstanding threat to the Integrity of the WHS and would provide benefits for the Integrity of the site. Removing a substantial length of the existing A303 would improve the ability to access all parts of the World Heritage property and would reduce aural and visual impact where the road would be placed in tunnel. This would be a beneficial change. Benefits include:

- The removal of extensive visual and aural intrusion from road traffic and associated infrastructure across many parts of the WHS including around Stonehenge itself.
- The reconnection of the Avenue (AG27), which would enhance the integrity of an important asset.

- The removal of severance from the King Barrow Ridge (AG26) and the associated barrow groups to the south.
- The removal of traffic from immediately adjacent to Winterbourne Stoke Crossroads Barrows (AG12).
- Enabling the reconnection of the north and south parts of the WHS, to create a more complete landscape that better represents the cultural heritage value of the WHS and creates the opportunity for visitors to fully engage with and explore key areas of the WHS south of the existing A303 using Public Rights of Way (PRoWs).

Where the road is not in a tunnel, there would be stretches of new dual carriageway, much of it in cutting; the extent of these sections of dual carriageway is limited to 800m in the western approach (when the canopy and Green Bridge Four are taken in to consideration) and 300m in the eastern approach (when the canopy is taken in to consideration). The construction of the cuttings and the portals would be a permanent change and would have an adverse impact on the OUV of the WHS. The development of new areas of dual carriageway and portals, particularly in the western approach section, would introduce additional adverse impacts and degrade the Integrity of the WHS by:

- Partially severing physical relationships between important Asset Groups such as the Winterbourne Stoke Crossroads Barrows (AG16) and the Diamond Group (AG17), and between a wider grouping of Neolithic longbarrows in the western tunnel approaches around the Wilsford/Normanton dry valley; and
- Severing the landscape in this area, dividing the Wilsford/Normanton dry river valley in the western tunnel approaches east of the existing A360.

As noted above, the design of the western approach incorporates a 200m canopy extension and Green Bridge Four to help to conceal the western tunnel portal in long views out of the WHS to the new Longbarrow Junction from the northern end of the Normanton Down Barrows. Green Bridge Four would also ensure continued and enhanced north-south connectivity, providing the ability for visitors to access the monuments and experience the link between the Winterbourne Stoke Crossroads Barrows and the Diamond Group, and between Neolithic longbarrows around the Wilsford/Normanton dry valley. Shallow grass slopes in the upper portion of the retained cutting, and chalk grassland mitigation beyond the retained cutting edge to north and south and across Green Bridge Four, would soften views of the cutting from heritage assets important to the understanding of the OUV, within the WHS. The visual presence of the retained cutting is also lessened by the 200m long canopy and Green Bridge Four and the combination of chalk grassland

across and around the bridge and canopy would aid the visual integration of this structure within the landscape.

Outside the WHS there may be some loss of archaeological remains associated with key periods represented in the WHS. The route may also affect the settings of non-designated archaeological assets within and beyond the boundary of the WHS.

Overall, it is anticipated that the Scheme would have a Negligible Positive impact on the **Integrity** of the WHS, resulting in a **Slight Beneficial** effect.

#### *Impacts and effects of Scheme on Authenticity*

In relation to the Stonehenge, Avebury and Associated Sites WHS, the primary factors that express its Authenticity are considered to relate to:

- Form and design – the form and design of assets and the interrelationships between assets.
- Materials and substance – the materials used to construct assets and the continuing conservation of those materials.
- Location and setting – the relationships between assets and the landscape and the horizon-based celestial/astronomical alignment phenomena.

In terms of the form and design of assets and the interrelationships between those assets, the Scheme avoids physical impacts on discrete assets and Asset Groups associated with the OUV of the WHS. Archaeological fieldwork and recording would be undertaken in advance of construction to record archaeological remains within the Scheme footprint prior to their loss. The Scheme would have both positive and negative impacts on the designed relationships between assets; it would therefore both strengthen and degrade this aspect of Authenticity.

The impact of the existing A303 on the materials used to construct heritage assets and the continuing conservation of those materials is assessed to be limited. The existing A303 is currently a dominant feature in many views of the WHS, representing an adverse impact on the setting of the property. Both its visual and aural impacts disrupt the spirit and feeling of the property.

The location and setting of the WHS includes the many and varied relationships between assets, between assets and the landscape and the horizon-based celestial/astronomical alignment phenomena. There is a distinct mix of positive and negative impacts, with areas of the WHS seeing a marked improvement in the experience and display of these aspects of Authenticity, and others experiencing a negative impact.

Overall, it is anticipated that the Scheme would have a Negligible Positive impact on the **Authenticity** of the WHS, resulting in a **Slight Beneficial** effect.

#### *Impacts and effects of Scheme on other aspects of the WHS*

The HIA considers the impacts and effects of the Scheme on the OUV of the WHS through the lens of impacts upon Attributes of OUV, Integrity and Authenticity. It also addresses impacts and effects on other aspects of the WHS:

- Effects on **archaeological remains within the Scheme footprint** are assessed as ranging from **Neutral** to **Moderate Adverse** (derived from No Change to Major Negative Change to heritage assets ranging in value from Negligible to Medium).
- The Scheme would have a **Large Beneficial** effect on **dark skies, night-time lighting and ambience of WHS** (derived from a Moderate Positive impact on a High Value aspect).
- The Scheme would have a **Large Beneficial** effect on **astronomical aspects** (derived from a Moderate Positive impact on a High Value Attribute).
- The **loss of the ‘free’ view of the Stones at Stonehenge and other monuments** to motorists is assessed as a **Neutral effect** (derived from Minor Negative and Minor Positive Changes to a High Value aspect).
- The Scheme would bring about a **Slight Beneficial** effect on **tourism, spiritual aspects and cultural influences** (derived from Negligible Positive Changes to a High Value aspect).

The impact and effect of the Scheme on the **visitor economy, changing patterns of access in the WHS**, on the **conservation aspects linked to tourism, public understanding of OUV** and on the **Avebury** part of the WHS are **uncertain**, There is insufficient baseline data regarding current visitor flows and characteristics against which to assess change. English Heritage and the National Trust’s Phase 2 Partnership Plan, which considers planning for impacts and linking the two parts of the WHS, was in preparation at the time of writing and not sufficiently advanced to be able to inform this HIA.

#### **Alignment with WHS Management Plan vision, aims and policies**

The Convention Concerning the Protection of the World Cultural and Natural Heritage (the World Heritage Convention) is the principal global instrument for the protection of cultural and natural heritage (UNESCO 1972). The UK ratified the World Heritage Convention on 29 May 1984. By signing the Convention, the UK Government has undertaken to identify, protect,

conserve, present and transmit its World Heritage properties to future generations. In England, these commitments are fulfilled through the statutory planning system, designation of specific assets within World Heritage properties and the development of WHS Management Plans.

ICOMOS HIA Guidance notes that '*Conservation policies embedded in the management system may also be used as a measure to assess potential adverse impacts*' (ICOMOS 2011, 2) and that '*Proposals should be tested against existing policy frameworks and the management plan for the property and surrounding area*' (ICOMOS 2011, 10).

One of the priorities of the 2015 WHS Management Plan is to '*Reduce the dominance and negative impact of roads and traffic and ensure any improvements to the A303 support this*' (Simmonds and Thomas 2015, 8).

The following section tests the Scheme against the relevant aims and policies of the 2015 WHS Management Plan.

*'Aim 1: The Management Plan will be endorsed by those bodies and individuals responsible for its implementation as the framework for long-term detailed decision-making on the protection and enhancement of the WHS and the maintenance of its Outstanding Universal Value (OUV). Its aims and policies should be incorporated in relevant planning guidance and policies.*

- *Policy 1a – Government departments, agencies and other statutory bodies responsible for making and implementing national policies and for undertaking activities that may impact on the WHS and its environs should recognise the importance of the WHS and its need for special treatment and a unified approach to sustain its OUV.*
- *Policy 1d – Development which would impact adversely on the WHS, its setting and its attributes of OUV should not be permitted.*
- *Policy 1e – Minimise light pollution to avoid adverse impacts on the WHS, its setting and its attributes of OUV.'*

In line with Policy 1a, identification of the preferred route and development of the Scheme design has been heritage led, and the protection and enhancement of the WHS is one of Highways England's Client Scheme Requirements for the project. The Scheme design has been developed in line with Policies 1d and 1e to avoid and minimise adverse impacts on the OUV of the WHS; to maximise opportunities for enhancement, in particular with respect to accessibility; and to minimise light pollution relating to the Scheme and car head- and tail-lights.

*'Aim 3: Sustain the OUV of the WHS through the conservation and enhancement of the Site and its attributes of OUV.*

- *Policy 3a – Manage the WHS to protect the physical remains which contribute to its attributes of OUV and improve their condition.*

- *Policy 3c – Maintain and enhance the setting of monuments and sites in the landscape and their interrelationships and astronomical alignments with particular attention given to achieving an appropriate landscape setting for the monuments and the WHS itself.*
- *Policy 3d – Improve the WHS landscape by the removal, redesign or screening of existing intrusive structures such as power lines, fences and unsightly buildings where opportunities arise.*
- *Policy 3f – Encourage land management activities and measures to maximise the protection of archaeological monuments and sites as well as their settings, and the setting of the WHS itself.*
- *Policy 3g – Maintain, enhance and extend existing areas of permanent grassland where appropriate.*
- *Policy 3i – Sustain and enhance the attributes of OUV through woodland management while taking into account the WHS’s ecological and landscape values.’*

The Scheme seeks to protect and enhance the WHS and its Attributes of OUV through removal of the existing surface A303 and placing of the road in a 3km tunnel; and through relocation of the Longbarrow Junction with the A360 outside of the WHS, in line with Policies 3a, 3c and 3d. The Scheme would also provide opportunities for enhancement in line with Policies 3f, 3g and 3i.

*‘Aim 4: Optimise physical and intellectual access to the WHS for a range of visitors and realise its social and economic benefits while at the same time protecting the WHS and its attributes of OUV.*

- *Policy 4a – Management of visitors to the WHS should be exemplary and follow relevant national and international guidance on sustainable tourism.*
- *Policy 4b – Spread the economic benefits from tourism related to the WHS throughout the wider community.*
- *Policy 4c – Encourage access and circulation to key archaeological sites within the WHS landscape. Maintain appropriate arrangements for managed open access on foot (taking into account archaeological, ecological and community sensitivities) to increase public awareness and enjoyment.’*

The Scheme would reconnect the WHS landscape, currently severed by the surface A303, in line with Policy 4c. This would provide the opportunity to widen access and circulation to key archaeological sites within the wider WHS landscape (taking into account archaeological, ecological and community sensitivities) and to increase public awareness and enjoyment.

*‘Aim 5: Improve the interpretation of the WHS to increase understanding and enjoyment of its special characteristics and maximise its educational*

*potential. Engage the local community in the stewardship and management of the WHS.*

- *Policy 5a – Improve the interpretation both on and off site to enhance enjoyment and appreciation of the WHS.’*

The Scheme would deliver opportunities for improved interpretation, through both improved accessibility and direct engagement with the local community during the delivery of the Scheme, and through legacy and benefits projects.

*‘Aim 6: Reduce significantly the negative impacts of roads and traffic on the WHS and its attributes of OUV and increase sustainable access to the WHS.*

- *Policy 6a – Identify and implement measures to reduce the negative impacts of roads, traffic and parking on the WHS and to improve road safety and the ease and confidence with which residents and visitors can explore the WHS.*
- *Policy 6b – Manage vehicular access to byways within the WHS to avoid damage to archaeology, improve safety and encourage exploration of the landscape on foot whilst maintaining access for emergency, operational and farm vehicles and landowners.*
- *Policy 6c – Take measures through sustainable transport planning to encourage access to the WHS other than by car.’*

The Scheme would substantially reduce the negative impacts of roads, traffic and parking on the WHS in line with Policy 6a, through removal of trunk road traffic and downgrading of the existing A303. The Scheme would encourage exploration of the landscape on foot through improved accessibility in line with Policy 6b. The downgrading to a restricted byway of both the A303 through the WHS and redundant sections of the A360, together with the introduction of new rights of way for non-motorised users, would help to deliver Policies 6b and 6c.

Although the Scheme would introduce substantial elements of new infrastructure within the WHS, the location and design of this has been carefully developed to limit intrusion in the landscape in order to protect the WHS and its OUV.

*‘Aim 7 – Encourage and promote sustainable research to improve understanding of the archaeological, historic and environmental value of the WHS necessary for its appropriate management. Maximise the public benefit of this research.*

- *Policy 7a – Encourage sustainable archaeological research of the highest quality in the WHS, informed by the WHS Research Framework.’*

All archaeological work conducted in connection with Scheme route identification, design, impact assessment and mitigation would deliver archaeological research to the highest standard, informed by the WHS

Research Framework in line with Policy 7a. Archaeological evaluation and mitigation work would be accompanied by post-excavation assessment and analysis, publication, dissemination and public outreach.

## Conclusions

The Scheme would bring substantial benefits to large parts of the WHS, in particular the tunnel section where **Very Large Beneficial** effects would be experienced by Stonehenge itself (Attribute 1) with **Large Beneficial** effects on its solstitial alignments (Attribute 4).

**Slight Beneficial** effects would be experienced in relation to the siting of monuments in relation to each other (Attribute 5), within the landscape without parallel (Attribute 6), and with regards to the influence that the monuments and their landscape setting have on architects, artists, historians, archaeologists and others (Attribute 7).

**Slight Adverse** effects would be experienced on physical archaeological remains (Attribute 2). There would be **Slight Adverse** effects upon the siting of monuments in relation to the landscape (Attribute 3) due to the positioning of new cuttings within the WHS (western and eastern approach roads and portals), which avoid known archaeological remains that contribute to the OUV of the WHS but introduce new severance and impacts on the setting of assets and Asset Groups.

The OUV of the WHS would therefore be sustained overall by the construction of the Scheme, which would create opportunities for greater public access, appreciation and enjoyment of the WHS, through increased connectivity between key monuments and monument groups north and south of the existing A303. The Scheme would thus enable beneficial opportunities for the transmission of OUV and increasing the public's awareness, understanding and perception of the OUV of the WHS in a local, regional, national and international context.

**The Scheme is assessed to have a Slight Beneficial effect on the Integrity of the WHS as a whole and a Slight Beneficial effect on the Authenticity of the WHS as a whole.**

**Overall, the Scheme is assessed to have a Slight Beneficial effect on the OUV of the WHS as a whole.**

# Table of Contents

<b>1</b>	<b>Heritage Impact Assessment summary data</b> .....	<b>2</b>
<b>2</b>	<b>Non-technical summary</b> .....	<b>3</b>
	<b>Table of Contents</b> .....	<b>36</b>
<b>3</b>	<b>Introduction</b> .....	<b>48</b>
3.1	<i>Project background</i> .....	48
3.2	<i>Purpose of the HIA</i> .....	49
3.3	<i>Previous HIAs related to the Scheme</i> .....	50
	High-level HIAs 2016 – 2017 .....	50
	HIA Scoping 2018.....	50
	HIAs prepared by third parties .....	51
3.4	<i>Relationship between HIA and ES</i> .....	51
3.5	<i>UNESCO / ICOMOS Advisory Missions</i> .....	52
	Joint UNESCO World Heritage Centre / ICOMOS Advisory Mission, 27 – 30 October 2015 .....	53
	Joint UNESCO World Heritage Centre / ICOMOS Advisory Mission, 31 January – 3 February 2017 ...	54
	Joint UNESCO World Heritage Centre / ICOMOS Advisory Mission, 5 – 7 March 2018 .....	54
3.6	<i>Stakeholders</i> .....	56
3.7	<i>Public consultation framework and responses</i> .....	58
	Consultation framework.....	58
	HIA consultation calendar .....	59
	Non-statutory public consultation: 12 January to 5 March 2017 .....	60
	Scheme design changes in response to non-statutory public consultation .....	62
	Statutory public consultation: 8 February to 23 April 2018 .....	62
	Supplementary consultation Scheme: 17 July to 14 August 2018 .....	63
	Public participation in examination of Development Consent Order application: anticipated 2019 ..	64
<b>4</b>	<b>Planning and policy context</b> .....	<b>65</b>
	Heritage planning and policy context.....	65
	Tourism planning and policy context .....	66
	Guidance and good practice.....	67
<b>5</b>	<b>Methodology</b> .....	<b>69</b>
5.1	<i>Overview</i> .....	69
5.2	<i>Data sources</i> .....	69
	Core documentation .....	69
	Published works .....	69
	Unpublished reports.....	71
	Databases .....	72
5.3	<i>Field surveys</i> .....	73
	Site visits.....	75
	Setting assessment and key views .....	75
	Associated technical studies .....	88
5.4	<i>Impact assessment methodology</i> .....	90

Heritage Impact Assessment method .....	90
5.5 <i>Operational Guidelines for the Implementation of the World Heritage Convention</i> .....	94
Tourism Impact Assessment method .....	96
5.6 <i>Scope of assessment</i> .....	97
Assessment parameters .....	97
Temporal scope .....	98
Assessment assumptions and limitations .....	100
Variations from HIA Scoping .....	101
5.7 <i>Evaluation of heritage resource</i> .....	102
5.8 <i>Assessment of scale of specific impact and change</i> .....	107
5.9 <i>Evaluation of overall impact</i> .....	111
5.10 <i>Definition of the assessment area</i> .....	112
Assessment area.....	112
Asset Groups and discrete assets .....	114
<b>6 Site history and description .....</b>	<b>122</b>
6.1 <i>Introduction</i> .....	122
6.2 <i>Spatial context, geology and topography</i> .....	122
6.3 <i>Chronological context</i> .....	125
6.4 <i>Historic landscape context</i> .....	132
6.5 <i>Nationally and locally designated sites and non-designated heritage assets</i> .....	135
Nationally designated heritage assets.....	135
Locally designated heritage assets .....	137
Non-designated heritage assets .....	137
6.6 <i>OUV of the World Heritage Site</i> .....	139
Background development of Statement of OUV .....	139
Adopted Statement of OUV .....	142
Attributes which convey OUV .....	149
6.7 <i>Periodic condition survey</i> .....	156
6.8 <i>Previous archaeological investigations in the WHS and field surveys related to the Scheme</i> .....	158
Previous investigations: non-intrusive surveys .....	158
Previous investigations: evaluations .....	159
Previous investigations: excavations.....	160
Previous investigations: other projects .....	162
Fieldwork undertaken for the present assessment.....	162
6.9 <i>Asset Groups: baseline description and assessment of Scheme impacts and effects</i> .....	167
Overview of Neolithic and Early Bronze Age heritage assets .....	167
Overview of Asset Groups .....	173
Asset Groups conveying Attributes of OUV .....	173
Asset Groups within the Stonehenge part of the Stonehenge, Avebury and Associated Sites WHS .	174
Asset Groups outside the boundary of the Stonehenge part of the Stonehenge, Avebury and Associated Sites WHS .....	407
Typological groupings in the Stonehenge landscape .....	444
6.10 <i>Discrete and isolated assets: baseline description and assessment of Scheme impacts and effects</i>	449
Introduction.....	449

Isolated and discrete designated heritage assets .....	449
Non-designated isolated and discrete assets .....	477
<b>6.11 Avebury .....</b>	<b>485</b>
Baseline description .....	485
Attributes of OUV .....	487
<b>6.12 Tourism and visitor experience.....</b>	<b>487</b>
Introduction.....	487
Destination review .....	488
Visitor attendance data .....	493
Visitor characteristics .....	494
Visitor experience.....	496
Visitor management .....	497
Future growth .....	498
<b>6.13 Public understanding of OUV .....</b>	<b>498</b>
<b>6.14 Public visibility of monuments.....</b>	<b>499</b>
Attitudes reported in English Heritage’s Phase 1 Visitor Survey .....	500
Public visibility of heritage attractions .....	501
<b>6.15 Archaeoastronomical aspects .....</b>	<b>502</b>
Nomination and inscription criteria .....	502
Adopted Statement of OUV .....	503
Attributes of Outstanding Universal Value .....	503
ICOMOS-International Astronomical Union studies.....	505
Planning policy and archaeoastronomy .....	512
<b>6.16 Intangible cultural heritage.....</b>	<b>512</b>
Spiritual aspects .....	512
Cultural influences.....	517
<b>7 Description of changes or developments proposed.....</b>	<b>518</b>
<b>7.1 Background to the A303 Amesbury to Berwick Down Scheme .....</b>	<b>518</b>
<b>7.2 The A303 Amesbury to Berwick Down Scheme .....</b>	<b>519</b>
<b>7.3 Assessment of Scheme alternatives .....</b>	<b>520</b>
Scheme history and development.....	520
Option identification and selection .....	520
Further appraisal of route options .....	523
<b>7.4 Scheme design development.....</b>	<b>530</b>
Scheme design objectives .....	530
Preliminary design .....	531
Outline design .....	532
<b>7.5 Assessed Scheme .....</b>	<b>532</b>
Description of the Scheme .....	532
Construction timescale and phases.....	538
Construction methods.....	538
Scheme consultation, design, application and construction timescales .....	539
Traffic forecasting.....	540
Location of further Scheme description information .....	540
<b>8 Mitigation measures incorporated into the Scheme.....</b>	<b>541</b>
<b>8.1 Mitigation strategy .....</b>	<b>541</b>

8.2	<i>Iterative design and embedded mitigation</i> .....	541
8.3	<i>Proposed mitigation</i> .....	547
	Archaeological recording and monitoring .....	547
	Protection measures .....	548
	Archaeological fieldwork and recording strategy .....	549
	Outline Environmental Management Plan .....	550
	Post-excavation assessment, analysis, reporting, dissemination and archiving .....	550
8.4	<i>Post-construction mitigation measures</i> .....	551
	Cultural Heritage Asset Management Plan .....	551
	Interpretation, access and outreach .....	552
<b>9</b>	<b>Assessment and evaluation of overall impact of the proposed changes</b> .....	<b>553</b>
9.1	<i>Impacts and effects of existing A303</i> .....	553
	Impacts and effects of existing A303 on Attributes of OUV .....	553
	Impacts and effect of existing A303 on Integrity .....	557
	Impacts and effect of existing A303 on Authenticity .....	558
	Impacts and effects of existing A303 on OUV .....	561
9.2	<i>Impacts and effects of Scheme: overview</i> .....	565
	Scheme phases .....	565
	Construction .....	565
	Operation .....	567
	Theoretical decommissioning .....	568
9.3	<i>Potential impacts and effects of Scheme: aspects of the WHS</i> .....	570
	Impacts and effects on long barrow groupings .....	570
	Impacts and effects on archaeological remains within the Scheme footprint .....	571
	Impacts and effects on artificial lighting visible within the WHS, including night-time lighting and ambience of WHS .....	574
	Impacts and effects of the Scheme on astronomical aspects .....	575
	Impacts and effects on biodiversity related to the conservation and character of the WHS .....	575
	Impact and effect of the Scheme on the public visibility of monuments .....	576
	Impacts and effects on tourism .....	577
	Impacts and effects on the visitor economy .....	578
	Impacts and effects of changing patterns of access in the WHS .....	581
	Impacts and effects on WHS conservation related to changes to tourism .....	583
	Impacts and effects on the Avebury part of the WHS .....	585
	Impacts and effects of the Scheme on aspects of intangible cultural heritage .....	585
	Impacts and effects on public understanding of OUV .....	588
9.4	<i>Impacts and effects of Scheme on Attributes of OUV, Integrity and Authenticity</i> .....	589
	Introduction .....	589
	Impacts and effects on Asset Groups conveying Attributes of OUV .....	589
	Impacts and effects on discrete and isolated assets conveying Attributes of OUV .....	594
	Impacts and effects of Scheme on Attributes of OUV .....	599
	Impacts and effects of Scheme on Integrity .....	605
	Impacts and effects of Scheme on Authenticity .....	607
<b>10</b>	<b>Cumulative impact assessment</b> .....	<b>609</b>
10.1	<i>Cumulative effects with other development</i> .....	609
10.2	<i>Assessment of in combination effects</i> .....	611
<b>11</b>	<b>Evaluation of overall impact and significance of effect of Scheme on the OUV of the WHS</b> ..	<b>612</b>

The tunnel section .....	613
Western approach road .....	615
Western portal .....	617
Eastern approach road .....	618
Eastern portal .....	620
Countess roundabout and flyover .....	621
Longbarrow Junction .....	622
Winterbourne Stoke Bypass .....	623
Till viaduct .....	624
Rollestone Corner .....	624
<b>11.2 Assessment of overall impact of Scheme .....</b>	<b>624</b>
Impacts in relation to Scheme locations .....	625
Impacts in relation to Attributes of OUV .....	626
Impacts in relation to Integrity .....	626
Impacts in relation to Authenticity .....	627
<b>11.3 Assessment of overall significance of effect of Scheme .....</b>	<b>627</b>
<b>12 Summary and Conclusions .....</b>	<b>628</b>
12.1 World Heritage Convention .....	628
12.2 Operational Guidelines for the Implementation of the World Heritage Convention .....	628
12.3 Alignment with WHS Management Plan vision, aims and policies .....	628
12.4 Effects on the Outstanding Universal Value of the WHS .....	632
12.5 Risk to the inscription of the site as a World Heritage property .....	633
12.6 Additional beneficial measures .....	634
<b>13 Bibliography .....</b>	<b>635</b>
<b>14 Glossary of terms used .....</b>	<b>675</b>
<b>15 Abbreviations .....</b>	<b>694</b>
<b>16 Acknowledgements and authorship .....</b>	<b>697</b>
16.1 Acknowledgements .....	697
16.2 Authorship .....	698

## Annexes

HIA Annex 1 – Heritage and tourism planning and policy context

HIA Annex 2 – Inventory with summary descriptions of Asset Groups, individual sites and elements

Annex 2.1 – Inventory with summary descriptions of Asset Groups that convey the Attributes of the OUV of the WHS

Annex 2.2 – Inventory with summary descriptions of designated discrete assets that convey the Attributes of the OUV of the WHS

Annex 2.3 – Inventory with summary descriptions of non-designated discrete assets that convey the Attributes of the OUV of the WHS

Annex 2.4 – Inventory with summary descriptions of scheduled monuments within the WHS

Annex 2.5 – Inventory with summary descriptions of listed buildings within the WHS

Annex 2.6 – Inventory with summary descriptions of registered parks and gardens within the WHS

Annex 2.7 – Inventory with summary descriptions of Wiltshire and Swindon Historic Environment Record monument data within the WHS

Annex 2.8 – Inventory with summary descriptions of Wiltshire and Swindon Historic Environment Record event data within the WHS

HIA Annex 3 – Summary of assessment of impacts and effects

Annex 3.1 – Summary of impacts and effects of Scheme on Asset Groups that convey the Attributes of the OUV of the WHS

Annex 3.2 – Summary of impacts and effects of Scheme on designated discrete and isolated assets that convey the Attributes of the OUV of the WHS

Annex 3.3 – Summary of impacts and effects of Scheme on non-designated discrete and isolated assets that convey the Attributes of the OUV of the WHS

HIA Annex 4 – Previous archaeological and antiquarian investigations within the Stonehenge part of the WHS

HIA Annex 5 – Archaeoastronomy – Chadburn, A. and Ruggles, C., 2017. 'Stonehenge World Heritage Property, United Kingdom'. In: Ruggles C and Cotte

M (eds) 2017 Heritage Sites of Astronomy and Archaeoastronomy in the context of the UNESCO World Heritage Convention Thematic Study, vol. 2. Bognor Regis: Ocarina Books Ltd. International Council on Monuments and Sites and International Astronomical Union, 41–62

HIA Annex 6 – Influences on architects, historians and archaeologists

HIA Annex 7 – Influences of the monuments and landscape of the Stonehenge part of the WHS on artists

HIA Annex 8 – Influences of the monuments and landscape of the Stonehenge part of the WHS on literature and popular culture

HIA Annex 9 – Tourism and visitor experience

## Illustrations and plans

HIA Figure 1	Location and extent of Stonehenge, Avebury and Associated Sites World Heritage Site (WHS)
HIA Figure 2	Location and extent of Stonehenge element of Stonehenge, Avebury and Associated Sites WHS showing scheme components
HIA Figure 3	Key map indicating the location of designated heritage assets within and adjacent to the Stonehenge element of Stonehenge, Avebury and Associated Sites WHS
HIA Figure 3A	Location of designated heritage assets within and adjacent to the Stonehenge element of Stonehenge, Avebury and Associated Sites WHS (north-west)
HIA Figure 3B	Location of designated heritage assets within and adjacent to the Stonehenge element of Stonehenge, Avebury and Associated Sites WHS (north-east)
HIA Figure 3C	Location of designated heritage assets within and adjacent to the Stonehenge element of Stonehenge, Avebury and Associated Sites WHS (south-west)
HIA Figure 3D	Location of designated heritage assets within and adjacent to the Stonehenge element of Stonehenge, Avebury and Associated Sites WHS (south-east)
HIA Figure 4	Key map indicating the location of designated heritage assets within and adjacent to the Stonehenge element of Stonehenge, Avebury and Associated Sites WHS: topography and watercourses
HIA Figure 4A	Location of designated heritage assets within and adjacent to the Stonehenge element of Stonehenge, Avebury and Associated Sites WHS (north-west): topography and watercourses
HIA Figure 4B	Location of designated heritage assets within and adjacent to the Stonehenge element of Stonehenge, Avebury and Associated Sites WHS (north-east) : topography and watercourses
HIA Figure 4C	Location of designated heritage assets within and adjacent to the Stonehenge element of Stonehenge, Avebury and Associated Sites WHS (south-west) : topography and watercourses
HIA Figure 4D	Location of designated heritage assets within and adjacent to the Stonehenge element of Stonehenge, Avebury and Associated Sites WHS (south-east) : topography and watercourses

- HIA Figure 5 Key map indicating the location of designated heritage assets within and adjacent to the Stonehenge element of Stonehenge, Avebury and Associated Sites WHS in relation to the Zone of Theoretical Visibility of the Scheme
- HIA Figure 5A Designated heritage assets within and adjacent to the Stonehenge element of Stonehenge, Avebury and Associated Sites WHS (north-west): Zone of Theoretical Visibility of the Scheme
- HIA Figure 5B Designated heritage assets within and adjacent to the Stonehenge element of Stonehenge, Avebury and Associated Sites WHS (north-east): Zone of Theoretical Visibility of the Scheme
- HIA Figure 5C Designated heritage assets within and adjacent to the Stonehenge element of Stonehenge, Avebury and Associated Sites WHS (south-west): Zone of Theoretical Visibility of the Scheme
- HIA Figure 5D Designated heritage assets within and adjacent to the Stonehenge element of Stonehenge, Avebury and Associated Sites WHS (south-east): Zone of Theoretical Visibility of the Scheme
- HIA Figure 6 Key map indicating the location of non-designated heritage assets within and adjacent to the Stonehenge element of Stonehenge, Avebury and Associated Sites WHS
- HIA Figure 6A Non-designated heritage assets within and adjacent to the Stonehenge element of Stonehenge, Avebury and Associated Sites WHS (north-west)
- HIA Figure 6B Non -designated heritage assets within and adjacent to the Stonehenge element of Stonehenge, Avebury and Associated Sites WHS (north-east)
- HIA Figure 6C Non -designated heritage assets within and adjacent to the Stonehenge element of Stonehenge, Avebury and Associated Sites WHS (south-west)
- HIA Figure 6D Non -designated heritage assets within and adjacent to the Stonehenge element of Stonehenge, Avebury and Associated Sites WHS (south-east)
- HIA Figure 7 Key map indicating the location of non-designated heritage assets within and adjacent to the Stonehenge element of Stonehenge, Avebury and Associated Sites WHS: topography and watercourses

- HIA Figure 7 A Location of non-designated heritage assets within and adjacent to the Stonehenge element of Stonehenge, Avebury and Associated Sites WHS: topography and watercourses (north-west)
- HIA Figure 7 B Location of non-designated heritage assets within and adjacent to the Stonehenge element of Stonehenge, Avebury and Associated Sites WHS: topography and watercourses (north-east)
- HIA Figure 7 C Location of non-designated heritage assets within and adjacent to the Stonehenge element of Stonehenge, Avebury and Associated Sites WHS: topography and watercourses (south-west)
- HIA Figure 7 D Location of non-designated heritage assets within and adjacent to the Stonehenge element of Stonehenge, Avebury and Associated Sites WHS: topography and watercourses (south-east)
- HIA Figure 8 Key map indicating the location of non-designated heritage assets within and adjacent to the Stonehenge element of Stonehenge, Avebury and Associated Sites WHS: Zone of Theoretical Visibility of the Scheme
- HIA Figure 8A Location of non-designated heritage assets within and adjacent to the Stonehenge element of Stonehenge, Avebury and Associated Sites WHS: Zone of Theoretical Visibility of the Scheme (north-west)
- HIA Figure 8B Location of non-designated heritage assets within and adjacent to the Stonehenge element of Stonehenge, Avebury and Associated Sites WHS: Zone of Theoretical Visibility of the Scheme (north-east)
- HIA Figure 8C Location of non-designated heritage assets within and adjacent to the Stonehenge element of Stonehenge, Avebury and Associated Sites WHS: Zone of Theoretical Visibility of the Scheme (south-west)
- HIA Figure 8D Location of non-designated heritage assets within and adjacent to the Stonehenge element of Stonehenge, Avebury and Associated Sites WHS: Zone of Theoretical Visibility of the Scheme (south-east)
- HIA Figure 9 Key map indicating the location of Asset Groups
- HIA Figure 9A Location of Asset Groups (north-west)

HIA Figure 9B	Location of Asset Groups (north-east)
HIA Figure 9C	Location of Asset Groups (south-west)
HIA Figure 9D	Location of Asset Groups (south-east)
HIA Figure 10	Key map indicating the location of Asset Groups in relation to topography and water courses
HIA Figure 10A	Location of Asset Groups (north-west) in relation to topography and watercourses
HIA Figure 10B	Location of Asset Groups (north-east) in relation to topography and watercourses
HIA Figure 10C	Location of Asset Groups (south-west) in relation to topography and watercourses
HIA Figure 10D	Location of Asset Groups (south-east) in relation to topography and watercourses
HIA Figure 11	Key map indicating the location of Asset Groups in relation to the Zone of Theoretical Visibility of the Scheme
HIA Figure 11A	Location of Asset Groups (north-west) in relation to the Zone of Theoretical Visibility of the Scheme
HIA Figure 11B	Location of Asset Groups (north-east) in relation to the Zone of Theoretical Visibility of the Scheme
HIA Figure 11C	Location of Asset Groups (south-west) in relation to the Zone of Theoretical Visibility of the Scheme
HIA Figure 11D	Location of Asset Groups (south-east) in relation to the Zone of Theoretical Visibility of the Scheme
HIA Figure 12	Asset Groups in relation to tranquillity (existing)
HIA Figure 13	Asset Groups in relation to dark skies (existing)
HIA Figure 14	Asset Groups in relation to noise (Scheme in operation: long term change in traffic noise levels – 2041 do-something minus 2026 do-minimum)
HIA Figure 15	Discrete designated assets in relation to tranquillity (existing)
HIA Figure 16	Discrete designated assets in relation to dark skies (existing)

- HIA Figure 17 Discrete designated assets in relation to noise (Scheme in operation: long term change in traffic noise levels – 2041 do-something minus 2026 do-minimum)
- HIA Figure 18 Public Rights of Way and other access within and adjacent to the Stonehenge element of Stonehenge, Avebury and Associated Sites WHS
- HIA Figure 19 Indicative location of astronomical sightlines at the Stonehenge element of Stonehenge, Avebury and Associated Sites WHS and the surrounding area, with end-points on horizons (after Chadburn and Ruggles 2017, fig. 4.6)

## 3 Introduction

### 3.1 Project background

- 3.1.1 This report is a Heritage Impact Assessment (HIA) for the Stonehenge, Avebury and Associated Sites World Heritage Site<sup>1</sup> (WHS No. C373) located in Wiltshire, England, UK. It has been prepared in relation to the proposed A303 Amesbury to Berwick Down road improvement project ('the Scheme'), which passes through the Stonehenge element of the World Heritage property, located within the parishes of Durrington, Shrewton, Amesbury, Winterbourne Stoke and Wilsford cum Lake. The WHS was inscribed on the World Heritage List in 1986, on the nomination of the UK Government.
- 3.1.2 In 2014, the UK Government Department for Transport (DfT) announced its intention to improve the A303 trunk road through the Stonehenge part of the WHS. The development of the Scheme has benefited from two UNESCO / ICOMOS Advisory Missions invited by the State Party, in October 2015 and January 2017, and from a public consultation exercise held from January to March 2017 (see HIA Section 7, Description of changes or developments proposed, for further detail).
- 3.1.3 A preferred route for the Scheme was announced on 11 September 2017. The World Heritage Centre was notified by the State Party concurrently with the preferred route announcement and an invitation extended for a third joint UNESCO / ICOMOS Advisory Mission to review the preferred route proposals. The Advisory Mission took place from 5 to 7 March 2018, alongside the public and community statutory consultation which took place between 8 February and 23 April 2018.
- 3.1.4 This HIA has been prepared by AmW (AECOM, Mace, WSP), on behalf of Highways England to support the Development Consent Order (DCO) Application for the Scheme.
- 3.1.5 The HIA has been prepared in tandem with the development of the Scheme to inform the road improvement proposals as an integral part of the iterative design process. This has enabled the development of a final Scheme which aims to assure the protection of the Outstanding Universal Value (OUV) of the WHS.
- 3.1.6 A statutory Environmental Statement (ES) has also been prepared for the Scheme, in accordance with the Infrastructure Planning (Environmental

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<sup>1</sup> The term 'World Heritage Site' is used in UK national planning policy. This means the same as World Heritage Property, the term used in UNESCO and ICOMOS documentation.

Impact Assessment) Regulations 2017 (HMSO 2017), and guidance set out in the Highways England's Design Manual for Roads and Bridges (DMRB), Volume 11, Environmental Assessment (DMRB 2007). This HIA should be read in conjunction with the ES.

## **3.2 Purpose of the HIA**

- 3.2.1 Major highways schemes in England pass through a series of design and assessment stages, including statutory ES, prior to a DCO Application under the terms of the Planning Act 2008 (HMSO 2008). These processes include full and detailed consideration of the historic environment, including World Heritage properties. In addition to these statutory provisions, a formal HIA has been undertaken for the A303 Amesbury to Berwick Down Scheme.
- 3.2.2 HIA is undertaken for cultural World Heritage properties to evaluate the impact of potential development upon the OUV of World Heritage properties, to evaluate the potential impacts of the Scheme upon Integrity and Authenticity and to inform Scheme design and mitigation. This HIA identifies the historic environment baseline resource that could be affected by implementation of the Scheme and assesses the potential impact of the proposals on the OUV of the WHS, including its Integrity and Authenticity.
- 3.2.3 This HIA has been undertaken alongside the statutory EIA as part of the design process. The ES chapter is the primary document which reports the Scheme impacts and effects upon all designated and non-designated heritage assets, including the Stonehenge, Avebury and Associated Sites WHS.
- 3.2.4 The purpose of this HIA is to assess the potential negative and positive impacts of the Scheme on the OUV of the WHS, in accordance with ICOMOS Guidance on Heritage Impact Assessments for Cultural World Heritage Properties (ICOMOS 2011). The HIA addresses both designated and non-designated heritage assets relevant to the OUV of the WHS. It deals only with impacts on OUV and does not examine impacts on other designated or non-designated heritage assets that do not contribute to OUV as defined in the SoOUV.
- 3.2.5 The key findings of this HIA are reported and summarised in the ES. This HIA report is a standalone technical appendix to the ES (ES Appendix 6.1). The preparation of the ES and HIA has been coordinated closely. Both reports draw upon the same historic environment datasets and should be read in parallel.

### 3.3 Previous HIAs related to the Scheme

#### High-level HIAs 2016 – 2017

- 3.3.1 Historic Environment Assessment was undertaken for the Scheme Assessment Report and the WebTAG assessment for options D061, D062 and F010 (Highways England 2017). The option identification process was supported by HIA. Three high-level HIAs were prepared, comprising:
- a) Iteration 1, a high-level HIA (Iteration 1) undertaken for the route options identified at Design Fix B, and reported as part of the Design Fix C assessment in December 2016 (Highways England 2016);
  - b) Iteration 2, a second version of the high-level HIA prepared to assess route options D061, D062 and F010 (Highways England 2016); and
  - c) Iteration 3, a high-level HIA which formed part of the Historic Environment Assessment in the Technical Appraisal Report (Highways England 2017).
- 3.3.2 Iterations 1, 2 and 3 of the HIA involved:
- a) Recognising the Attributes noted in the SoOUV and focussing on the seven Attributes of OUV identified in the 2015 WHS Management Plan (Simmonds and Thomas 2015);
  - b) Assessing impacts on individual assets within and around the WHS;
  - c) Assessing the likely impact of route options on the setting and fabric of individual assets, in a tabular format; and
  - d) An overarching narrative assessment of potential impact on the Attributes of OUV and Integrity and Authenticity of the WHS.
- 3.3.3 Further information about the option identification process is contained in ES Chapter 3, Assessment of Alternatives.

#### HIA Scoping 2018

- 3.3.4 The HIA Scoping Report (Highways England 2018) considered the Statement of Outstanding Universal Value, Integrity and Authenticity (SoOUV) adopted by the World Heritage Committee in June 2013 (UNESCO 2013, 291–94), and the Attributes set out in the WHS Management Plan that express or convey that OUV (Simmonds and Thomas 2015). The Scheme was described in outline and the conditions at the WHS were summarised. The HIA Scoping Report detailed the background to the Scheme and set out how alternatives had been considered. The proposed methodology for the present HIA is set out in

the HIA Scoping Report, which is based on the ICOMOS Guidance (ICOMOS 2011). Information on the baseline data collection, study areas and the proposed survey and assessment methodology were provided. Information on consultation and stakeholder engagement was presented together with an outline programme for consultation and reporting.

- 3.3.5 The HIA Scoping was discussed and agreed with the A303 Heritage Monitoring and Advisory Group (HMAG) (Historic England, Wiltshire Council Archaeology Service, English Heritage and the National Trust), who provided detailed advice and feedback.
- 3.3.6 The HIA Scoping report formed part of the Briefing Pack issued to the 2018 Joint World Heritage Centre / ICOMOS Advisory Mission. The Advisory Mission Report (UNESCO / ICOMOS 2018) considered that the methodology outlined in the HIA Scoping was appropriate.

### **HIAs prepared by third parties**

- 3.3.7 Three preliminary assessments were undertaken to inform Historic England's (formerly English Heritage) and the National Trust's policy position regarding A303 Scheme options and design elements:
- a) Preliminary Outline Assessment of the impact of A303 improvements on the OUV of the WHS prepared by English Heritage and the National Trust (Snashall and Young 2014);
  - b) Outline Assessment of Options prepared by Historic England and the National Trust (Snashall and Young 2017a);
  - c) Addendum to Outline Assessment of the OUV of the WHS (assessing impacts of D081C) (Snashall and Young 2017b); and
  - d) Stonehenge A303 improvement: Assessment of aspects of the Preferred Route as at 4th December 2017 – Historic England and the National Trust (Snashall and Young 2018).
- 3.3.8 This HIA has adopted the approach of these prior HIAs with regard to the identification of Asset Groups. These prior HIAs have also influenced the development of the Scheme design.

## **3.4 Relationship between HIA and ES**

- 3.4.1 The ES is the primary document which reports the Scheme impacts and effects upon both designated and non-designated heritage assets, determining if there are likely significant effects. The ES assesses known and potential buried archaeological resources as well as historic landscape character and historic buildings, identifying the value of heritage assets and to what extent setting influences value, in the context of relevant legislation and policy, including the National Policy Statement

for National Networks (NPSNN) (DfT 2014), National Planning Policy Framework (NPPF) (MHCLG 2018) and DMRB guidance.

- 3.4.2 The ES describes in detail both inbuilt (embedded) design mitigation and specific mitigation measures designed to address significant effects. Where mitigation measures are an inherent part of the design, these are set out in ES Chapter 2.3, Description of the Proposed Development and cross-referenced in ES Chapter 6, Cultural Heritage.
- 3.4.3 The ES outlines the proposed archaeological mitigation strategy (ES Chapter 6 and Appendix 6.11), its scope and intended outcomes, to be agreed with HMAG (inside the WHS) and WCAS (for non-designated and designated assets) and Historic England (for designated assets) outside the WHS boundary.
- 3.4.4 The HIA addresses impacts on the WHS and associated sites and outlying areas, not the full length of the Scheme.
- 3.4.5 The HIA takes a holistic approach to assessment and considers the long term implications of the Scheme for OUV. The ES, in contrast, focuses on the detail of the construction and operational stages of the Scheme and splits effects out into temporary and permanent effects. The ES assesses impacts and effects on a standard 25-year scale common to other ES topics. This is a relatively short time span which is inappropriate to HIA, particularly given the antiquity of the remains. Although the ES and HIA are broadly aligned, scores may vary where the HIA scoring involves a judgement on the overall permanent impact on OUV in the long term.
- 3.4.6 The HIA aims to assess the potential negative and positive impacts of the Scheme on the OUV of the WHS. It addresses both designated and non-designated heritage assets relevant to OUV. The HIA deals only with impacts on OUV and does not examine impacts on other heritage assets that do not contribute to OUV as defined in the SoOUV.
- 3.4.7 Both the ES and HIA report the overall Scheme impacts and effects on OUV.

### **3.5 UNESCO / ICOMOS Advisory Missions**

- 3.5.1 A series of UNESCO / ICOMOS Advisory Missions have been invited by the State Party to comment on the Scheme during its development.
- 3.5.2 The first Advisory Mission in 2015 noted that a tunnel would be technically feasible but highlighted the challenges of sustaining OUV.
- 3.5.3 The second Advisory Mission in 2017 concluded that the options presented at public consultation, D061 and D062, would have an adverse impact on OUV and recommended that the route be reconsidered. Further information on these options are discussed in HIA Section 3.7, Public

consultation framework and responses and HIA Section 7.3, Assessment of Scheme alternatives.

- 3.5.4 The third Advisory Mission in 2018 considered the Scheme presented at statutory public consultation; its recommendations were considered at the 42nd session of the World Heritage Committee in June 2018. The outcome of the session and the 2018 World Heritage Committee decision regarding Stonehenge and the A303 are presented below.
- 3.5.5 Design measures adopted in response to the advice of Advisory Missions are set out in HIA Section 8.2, Iterative design and embedded mitigation and Table 9: Design changes to the Scheme within the WHS in response to cultural heritage concerns.

### **Joint UNESCO World Heritage Centre / ICOMOS Advisory Mission, 27 – 30 October 2015**

- 3.5.6 The Advisory Mission concerning the proposed dualling and tunnelling of the A303 Amesbury to Berwick Down was undertaken at the request of the State Party to seek technical assistance and to engage with the potential road Scheme at an early stage, as a first step in a process of on-going engagement.
- 3.5.7 The Advisory Mission took place from 27 to 30 October 2015 and involved presentation meetings with the relevant authorities, detailed field visits and a stakeholder session. The mission team comprised Chris Barker (Civil Engineer, ICOMOS), Nathan Schlanger (Archaeologist, ICOMOS) and Marie-Noël Tournoux (Project Officer Europe and North America Unit, UNESCO World Heritage Centre).
- 3.5.8 The Advisory Mission took place before Highways England commenced the option identification stage for the project, therefore no design proposal existed to be evaluated. The Advisory Mission sought to gain an understanding of the landscape within which a road improvement might take place, and to consider the broad issues, constraints and opportunities.
- 3.5.9 The mission report noted that, '*the length of the tunnel and the siting of the portals are the two key issues of this project.*' (UNESCO / ICOMOS 2016, 15). The report also noted, '*what is at stake here is not a technical issue in terms of either engineering or archaeology. Technically speaking the situation is fairly standard. The challenge is the process, the setting up of governance, monitoring systems and operational mechanisms, which will allow for high quality results and international standards to ensure an outcome that respects OUV.*' (UNESCO / ICOMOS 2016, 9).
- 3.5.10 The full mission report is published online at <http://whc.unesco.org/document/141037>.

### **Joint UNESCO World Heritage Centre / ICOMOS Advisory Mission, 31 January – 3 February 2017**

- 3.5.11 A second Advisory Mission was undertaken at the invitation of the State Party to assist in its planning and decision making process in relation to the A303 Amesbury to Berwick Down Scheme.
- 3.5.12 The Advisory Mission took place from 31 January to 3 February 2017. The mission team comprised Professor Christina Castel-Branco (Landscape Architect, ICOMOS), Professor Nathan Schlanger (Archaeologist, ICOMOS) and Isabelle Anatole-Gabriel (Chief of the Europe and North America Unit, UNESCO World Heritage Centre).
- 3.5.13 The Advisory Mission took place as Highways England was considering a 2.9km tunnel with two alternative approach roads, D061 and D062 (north or south of Winterbourne Stoke on the approach to the western tunnel portal).
- 3.5.14 The Advisory Mission report noted that, *'the position along which the tunneling [sic] will restore the visual integrity of one part of the Stonehenge WH property should be considered along with the consequential loss of physical integrity of the archaeological layers of the property which will be caused by the tunnel approach roads, as well as the loss by the public of direct visual access to Stonehenge, which might be perceived as a value for sharing this heritage, although not overtly part of its OUV. These are the issues that need to be assessed by HIAs, prepared in accordance with the applicable ICOMOS Guidance, and based on the best possible knowledge of the overall property in relation to its OUV, so that any impact on OUV can be clearly understood and assessed before any decisions are taken.'* (UNESCO / ICOMOS 2017, 12).
- 3.5.15 The full Advisory Mission report is published online at <http://whc.unesco.org/document/158727>. It was presented at the 41st session of the World Heritage Committee (2 – 12 July 2017) in Krakow, Poland.

### **Joint UNESCO World Heritage Centre / ICOMOS Advisory Mission, 5 – 7 March 2018**

- 3.5.16 A third Advisory Mission was undertaken at the invitation of the State Party and took place from 5 to 7 March 2018. The purpose of the Advisory Mission was to enable the State Party to receive the views of the UNESCO World Heritage Centre and ICOMOS on the Preferred Route Alignment for the proposed A303 road improvement.
- 3.5.17 The mission team comprised Dr Isabelle Anatole-Gabriel (Chief of the Europe and North America Unit, UNESCO World Heritage Centre),

Professor Toshiyuki Kono (President of ICOMOS) and Professor Richard Mackay (Archaeologist, ICOMOS).

3.5.18 The mission involved field visits, presentations and discussions. Direct stakeholder contact was set up as an integral part of Advisory Mission business, with a substantive face-to-face session taking place as part of the Advisory Mission. A list of the members of civil society who met with the Mission is provided in Annexure E to the Advisory Mission report (UNESCO / ICOMOS 2018).

3.5.19 The full Advisory Mission report is published online at <https://whc.unesco.org/document/168265>. It was presented at the 42nd session of the World Heritage Committee (24 June – 4 July 2018) in Manama, Bahrain. The 2018 World Heritage Committee decision regarding Stonehenge and the A303 noted the following:

*‘Decision: 42 COM 7B.32*

*The World Heritage Committee,*

*1. Having examined Document WHC / 18 / 42.COM / 7B.Add [Reports on the state of conservation of properties inscribed on the World Heritage List],*

*2. Recalling Decision 41 COM.7B.56, adopted at its 41st session (Krakow, 2017),*

*3. Commends the State Party for inviting three Advisory missions to advise on the proposed upgrading of the main A303 road, (which currently bisects the property), as part of a major infrastructure project;*

*4. Notes the additional investigations undertaken by the State Party to consider the southern surface (F10) by-pass route and alternative alignment and longer tunnel options to remove dual carriageway cuttings from the property, and further detailed investigations regarding tunnel alignment and both east and west portal locations;*

*5. Also notes the findings and recommendations of the 2018 Advisory mission, particularly that, although the current ‘Proposed Scheme’ shows improvement compared with previous plans and would also improve the situation in the centre of the property, the rigorous investigation, evaluation, iterative design and assessment process has revealed that, if the current length of tunnel solution is pursued, the damage inflicted by the dual carriageway cuttings would impact adversely on integrity and the Outstanding Universal Value (OUV) of the property, and therefore the proposed A303 upgrade project should not proceed with the current length of the*

*tunnel;*

*6. Notes with concern the impacts of the current design of the dual carriageway on the property, especially at the western end;*

*7. Urges the State Party to continue to explore further design refinement, with a view to avoiding impact on the OUV of the property, including longer tunnel options that do not require an open dual carriageway cutting within the property and to avoid impact due to noise, lighting and visibility; and urges furthermore, the State Party to minimize the length of the culvert part of the tunnel in order to reduce the impact on the cultural landscape and the archaeology;*

*8. Requests the State Party to address the findings and implement the recommendations of the March 2018 Advisory mission and encourages the State Party to continue to facilitate progress towards an optimal solution for the widening of the A303 with a view to avoiding adverse impact on the OUV of the property;*

*9. Further notes that the State Party has advised that it will manage the timing of the consent and other statutory processes for the A303 trunk road project to take into account Committee Decisions and to ensure that the World Heritage Centre, ICOMOS and the Committee can continue to contribute to the evaluation and decision-making processes at appropriate stages of the project;*

*10. Also requests the State Party to submit to the World Heritage Centre, by 1 February 2019, an updated report on the state of conservation of the property and the implementation of the above, for examination by the World Heritage Committee at its 43rd session in 2019.'*

## **3.6 Stakeholders**

3.6.1 Stakeholders for the Scheme include :

- The Stonehenge and Avebury WHS Partnership Panel (WHSPP);
- UNESCO World Heritage Centre (WHC) and ICOMOS International;
- Land managers, land owners, heritage interest groups, academics, WHS visitors, civil society, local communities and members of the public;
- Members of HMAG (Historic England, Wiltshire Council Archaeology Service, English Heritage and the National Trust) and the Scientific Committee;

- UK Government Department for Transport (DfT) and the Department for Digital, Cultural, Media and Sport (DCMS); and
  - Highways England, a UK Government-owned company established in 2015 to operate, maintain and improve the strategic road network in England. The Scheme is promoted by Highways England as part of its road investment strategy funded by the UK Government.
- 3.6.2 The Stonehenge and Avebury WHSPP is made up of four partners (English Heritage, Historic England, the National Trust and Wiltshire Council), the chairs of the two local steering committees and a representative from the Avebury and Stonehenge Archaeological and Historical Research Group (ASAHRG). Members of the WHSPP and ASAHRG have been consulted during the preparation of this HIA to advise on the scope and expectations of the HIA.
- 3.6.3 The UNESCO World Heritage Centre (WHC) and ICOMOS International are also stakeholders in relation to the impact of the Scheme on the OUV of the WHS. The development of the Scheme has benefited the advice of three UNESCO / ICOMOS Advisory Missions invited by the State Party, in October 2015, January 2017 and March 2018. The timing of the third Advisory Mission allowed the advice provided to inform the development of the Scheme prior to the formal submission of the DCO Application.
- 3.6.4 Consultative engagement with stakeholders and civil society has been achieved through the establishment of a Local Community Forum and through establishing Scheme links and liaison with stakeholder groups such as the ASAHRG.
- 3.6.5 In addition to the statutory consultation process, provision has been made for ongoing formal engagement with HMAG and the Scientific Committee to steer the development of the Scheme with regard to heritage considerations.
- 3.6.6 HMAG comprises a number of historic environment professionals who have an ongoing statutory or formal advisory role in the WHS. HMAG was set up partially in response to an UNESCO / ICOMOS recommendation from its 2015 Advisory Mission. The Group comprises representatives of Historic England, Wiltshire Council Archaeology Service, English Heritage and the National Trust and is tasked with providing independent heritage advice on the project. HMAG's role ranges from setting out and monitoring archaeological requirements and standards of work within the WHS, to advising on the HIAs undertaken to inform route choice and mitigation measures for inclusion in the project proposals to be taken forward for planning consent and construction.
- 3.6.7 HMAG members have been consulted throughout the development of the Scheme design and have participated in design meetings including those

associated with the design of the tunnel portals, approach cuttings, junction designs, bridge and viaduct designs, lighting and signage, the design of NMU routes, landscaping and fencing. Regular monthly HMAG meetings have also allowed the review of heritage documentation and ongoing review of the progress of the archaeological evaluations undertaken to support the Scheme.

- 3.6.8 The Terms of Reference agreed between the organisations represented on HMAG and Highways England is presented in appendix B of the HIA Scoping Report (Highways England 2018).
- 3.6.9 The Scientific Committee was also set up in response to UNESCO / ICOMOS recommendations from both the 2015 and 2017 Advisory Missions. Highways England assisted HMAG in setting up the Scientific Committee. Its membership comprises recognised, leading, independent experts who can provide additional advice and make a positive contribution to the development of the project. The members are all subject matter or period specialists with a specific skill set or depth of experience in aspects of the historic environment of the WHS. The Committee also includes representatives of HMAG who are members on behalf of their respective organisations: Historic England; English Heritage Trust; National Trust and Wiltshire Council.
- 3.6.10 The Committee plays an active part in advising on the scope and standards of archaeological assessment, evaluation and (ultimately) mitigation to be applied to the Scheme. The Committee also considers and provides advice on matters relating to the OUV of the WHS. The Committee has supported HMAG in overseeing the Project from the announcement of the Preferred Route onwards, and will continue to advise throughout its continuing development and its anticipated future construction.
- 3.6.11 The Committee is chaired by Sir Barry Cunliffe and works to Terms of Reference agreed by HMAG that enable it to fulfil the role described by UNESCO / ICOMOS in their 2017 recommendation (see appendix B of the HIA Scoping Report (Highways England 2018)).
- 3.6.12 The scope of the HIA was also discussed with Historic England's Head of International Advice in order to align the HIA with the expectations of the DCMS, as advised by Historic England.

## **3.7 Public consultation framework and responses**

### **Consultation framework**

- 3.7.1 Effective stakeholder engagement and consultation is intrinsic to and fundamental for the success of the Scheme.
- 3.7.2 Consultation on the HIA is linked to the wider consultation process for the

Scheme as part of the DCO Application, including engagement with stakeholders, Scheme working groups, landowners, local communities, interest groups and the wider public. Full details of the consultation process are set out in the Consultation Report submitted with the DCO Application.

### *Scheme stakeholders and working groups*

- 3.7.3 This HIA Report has been developed following consultation with heritage working groups set up to advise the Scheme, including HMAG and the Scientific Committee. These groups have been continuously consulted throughout the development of the HIA. Advice on the scope and expectations of the HIA have also been provided by the Stonehenge and Avebury WHS Partnership Panel and the DCMS, as advised by Historic England.
- 3.7.4 Other Scheme working groups were consulted during the development of the Scheme and information fed in to the HIA. These include:
- a) The Environmental Working Group; and
  - b) The Community Working Group (Local Community Forum).

### **HIA consultation calendar**

- 3.7.5 The calendar for consultation for the HIA included:
- a) Consultation meetings with HMAG, at least once a month;
  - b) Monthly meetings of the ICOMOS and UNESCO Working Group, which includes HMAG, DCMS, Highways England and their Technical Partner;
  - c) Attendance at the Environmental Working Group, the Community Working Group and other working groups, to discuss progress and provide presentations on the HIA process and seek feedback;
  - d) Quarterly meetings of the Scientific Committee;
  - e) Meetings of the WHSPP, Stonehenge WHS Committee and Advisory Forum and ASAHRG;
  - f) Design Team workshops attended by members of HMAG and the Technical Partner's heritage specialists to encourage the development of a design that incorporates elements that aim to protect the OUV of the WHS;
  - g) Non-statutory public consultation: 12 January to 5 March 2017

- h) ICOMOS Advisory Mission in March 2018;
- i) Statutory consultation on the Scheme more generally and impacts on the WHS, as set out in Section 4 of the Environmental Scoping Report from February to April 2018;
- j) Supplementary consultation Scheme, 17 July to 14 August 2018; and
- k) Public participation in examination of DCO Application: anticipated 2019.

### **Non-statutory public consultation: 12 January to 5 March 2017**

3.7.6 Non-statutory consultation on the proposed options for the A303 at Stonehenge was undertaken between 12 January and 5 March 2017. Two route options (D061 and D062) within Corridor D were selected for public and stakeholder consultation to further develop the design and undertake further appraisal to determine the preferred route for the Scheme. The proposals were for a 1.8 mile (2.9km) tunnel with approach roads inside the WHS, a new bypass for Winterbourne Stoke (passing either north or south of the village) and improvements to existing junctions with the A345 and A360.

3.7.7 Public responses subsequently helped to inform route selection and refine the initial design before it was recommended to the UK Government. The outcomes of the consultation are summarised in a booklet prepared by Highways England, *A303 Stonehenge Amesbury to Berwick Down – Moving forward – the preferred route* (Highways England 2017) and full detailed summaries of and responses to the consultation feedback are published in the *A303 Stonehenge, Amesbury to Berwick Down: Report on Public Consultation – September 2017* (Highways England 2017).

*‘To make sure as many as possible had the opportunity to comment [Highways England] directly contacted people living and working within about 5km of the scheme proposals, as well as their elected representatives, statutory bodies, organisations and interest groups, affected landholders, hard-to-reach groups and the wider public. A consultation leaflet was delivered to more than 17,000 homes and businesses. Letters and emails were sent to nearly 500 organisations and statutory bodies. Hard-to-reach groups were identified and contacted. Information points and deposit locations for project documents were also set up in public libraries.*

*Adverts were placed in local, regional and national newspapers, and social media was also used. There was a dedicated consultation website where people could access technical documents, get updates and submit feedback online. People could also submit feedback by email or freepost.*

*More than 9,000 people and organisations responded to the consultation, with over 3,500 responding through the consultation questionnaire and some 5,600 choosing to respond using one of two pro-forma responses produced independently by Stonehenge Alliance and Friends of the Earth. Around 2,500 people attended ten public exhibitions held at eight different venues, mainly close to the scheme, but also further west along the A303 route in Mere, south of the scheme in Salisbury, and in London at the Society of Antiquaries.’ (Highways England 2017, 8).*

- 3.7.8 The principal areas of concern for members of the public, stakeholder groups and statutory consultees are listed below. Key concerns revolved around:
- a) The impact of the Scheme on the OUV of the WHS, its Integrity and Authenticity;
  - b) The selection of a tunnel option within the WHS rather than F010, a southern surface route outside the WHS;
  - c) The selection of a tunnel of 2.9km rather than a longer tunnel beneath all of the WHS;
  - d) The location of the western portal within the WHS, in particular its proximity to the Normanton Down barrow group;
  - e) The location of the eastern portal within the WHS;
  - f) Potential impacts on the scheduled barrow groups to the north of Winterbourne Stoke from the Scheme and the Winterbourne Stoke bypass;
  - g) The impact of construction and piling on groundwater flows, particularly in relation to the Blick Mead spring and Mesolithic site;
  - h) Potential impacts on the alignment of the winter solstice sunset viewed from Stonehenge due to Scheme lighting, traffic headlights and the A303 / A360 Longbarrow Junction;
  - i) The potential impact of changes to noise and air quality on cultural heritage;
  - j) Concerns about how successful the Scheme would be at easing congestion and rat-running on surrounding roads, which impact the setting of the WHS;
  - k) Concerns about how Public Rights of Way (PRoW) would be maintained, as their use impacts upon the conservation of elements of the WHS and public access, understanding and appreciation of the

WHS;

- l) The removal of the view of Stonehenge from the A303; and
- m) Concerns about damage to known and unknown archaeology, particularly features of OUV in the WHS, but also some features outside it.

### **Scheme design changes in response to non-statutory public consultation**

- 3.7.9 The most significant improvements to the design, following public consultation, have been changes to the location of the western tunnel portal and the approach route through the western half of the WHS. The preferred route is now much closer to the line of the existing A303, avoiding impacts on newly-discovered barrows just to the east of the A360 (the 'Diamond Group' of Neolithic long barrows on the former D061 / 062 approach alignment and a hengiform enclosure, including a number of other Neolithic and Bronze Age sites, notably the cluster of scheduled round barrows just to the north-east of the Diamond). The modified alignment also avoids any risk of the road intruding on the view of the setting sun from Stonehenge during the winter solstice and reduces impacts on the Royal Society for the Protection of Birds (RSPB) reserve at Normanton Down.
- 3.7.10 A full description of the Scheme is contained in ES Chapter 2.3, Description of the Scheme, which is summarised in HIA Section 7.5, Assessed Scheme . The heritage considerations which have influenced the design of the Scheme are described in HIA Section 8.2, Iterative design and embedded mitigation. Key design developments are summarised in HIA Table 9: Design changes to the Scheme within the WHS in response to cultural heritage concerns.

### **Statutory public consultation: 8 February to 23 April 2018**

- 3.7.11 Further assessment and refinement of the route options presented for public consultation between January and March 2017 was undertaken, taking into consideration the feedback received. On 12 September 2017, the Secretary of State announced the preferred route for the Scheme. The preferred route has then been further developed, enabling detailed proposals to be put forward for further public consultation in early 2018.
- 3.7.12 Before an application for a DCO is submitted, the local community and other stakeholders are formally consulted on Highways England's proposals for schemes and the likely significant environmental effects based on the information available at the time. This statutory public consultation was undertaken between 8 February and 23 April 2018 to inform the continuing development of the Scheme prior to submission of

the DCO.

3.7.13 Alongside this public consultation, consultation was undertaken with the Statutory Environmental Bodies comprising: Historic England; Environment Agency; Natural England; and Wiltshire Council.

3.7.14 Statutory public consultation responses and corresponding design changes are included in the Scheme Consultation Report.

### **Supplementary consultation Scheme: 17 July to 14 August 2018**

3.7.15 Following statutory public consultation, the Scheme design was further developed based on feedback. Three further changes were identified, comprising:

- a) Removing the previously proposed link between Byways AMES11 and AMES12 in the Stonehenge WHS.

*This change responds to concerns that vehicles on the new link between Byways AMES11 and AMES12 would have an adverse impact on the adjacent Normanton Down Barrow Asset Group (AG19) and on the tranquillity of the WHS at this location. This aims to help to achieve the scheme objective to remove the sight and sound of traffic from much of the WHS landscape, a key aspiration of the WHS Management Plan.*

- b) Widening the green bridge proposed near the existing Longbarrow roundabout.

*It is now proposed that Green Bridge Four be located within the WHS and will be widened to approximately 150m. A wider green bridge at the proposed location will improve the physical and visual connection between the northern and southern parts of the WHS and the monuments within it.*

- c) Moving the proposed modification of Rollestone Crossroads.

*The scheme proposes to modify the layout of Rollestone crossroads to alter the traffic flow priorities and accommodate long vehicles. The new layout is more compact than that previously proposed. This change means that the junction will be located just inside the north-west corner of the WHS. However, the area has been surveyed and found to be free of archaeological remains and there will be no adverse effect on the OUV of the WHS.*

3.7.16 Supplementary consultation responses and corresponding design changes are included in the Scheme Consultation Report.

## Public participation in examination of Development Consent Order application: anticipated 2019

- 3.7.17 If the application for a DCO is accepted by the Secretary of State, there will be an examination of the application in which the public can participate. The statutory consultees will be invited to comment on the Scheme again. This examination will take a maximum of six months. The Examining Authority, appointed from the Planning Inspectorate to consider the application, then has three months to make a recommendation to the Secretary of State, who then has a further three months to make a final decision. If the application is approved, work on the Scheme is planned to start in 2021.
- 3.7.18 The DCO process and its programme and timing have been aligned with the World Heritage Committee timetable, in order to provide the opportunity for World Heritage Committee Decisions to influence the project and inform the consent authority decisions. The State Party's 2018 State of Conservation Report notes that:

*'The State Party has secured the adjustment of the consent and other statutory processes for the A303 trunk road so that the advice of the March 2018 Advisory Mission and the decision of the 2018 World Heritage Committee will be received and thoroughly considered before the A303 proposals are submitted as a Development Consent Order application, likely to be in the Autumn of 2018. Likewise, any further decision by the World Heritage Committee at its 2019 session will also be thoroughly considered by the State Party ahead of any decision on whether to grant the proposed scheme its Development Consent Order.'* (DCMS 2018).

## 4 Planning and policy context

4.1.1 The assessment has been prepared in accordance with the following international, national and local planning documents. Further details are set out in HIA Annex 1, Heritage and tourism planning and policy context.

### Heritage planning and policy context

4.1.2 International agreements include:

- a) The Convention Concerning the Protection of the World Cultural and Natural Heritage (UNESCO 1972);
- b) The Framework Convention on the Value of Cultural Heritage for Society (Faro Convention, Council of Europe 2005);
- c) The European Landscape Convention (Florence Convention, Council of Europe 2000);
- d) The European Convention on the Protection of the Archaeological Heritage (Revised) (Valletta Convention, Council of Europe 1992); and
- e) Convention for the Protection of the Architectural Heritage of Europe (Granada Convention, Council of Europe 1985).

4.1.3 National planning context:

- a) Planning Act 2008 (HMSO 2008);
- b) Infrastructure Planning (Decisions) Regulations 2010 (HMSO 2010);
- c) Planning (Listed Buildings and Conservation Areas) Act 1990 (HMSO 1990);
- d) Ancient Monuments and Archaeological Areas Act 1979 (HMSO 1979);
- e) National Policy Statement for National Networks (NPSNN) (DfT 2014);
- f) National Planning Policy Framework (NPPF) (MHCLG 2018);
- g) Planning Practice Guidance (PPG) (DCLG 2014);
- h) Historic Environment Good Practice Advice in Planning Note 3. The Setting of Heritage Assets (Historic England 2017);
- i) Historic Environment Good Practice Advice in Planning Note 2. Managing Significance in Decision Taking in the Historic Environment (English Heritage 2015);

- j) Town and Country Planning (General Permitted Development) Order 2015 – Schedule 1, Article 2(3) (Land) (HMSO 2015); and
- k) Stonehenge Regulations 1997 (HSMO 1997).

4.1.4 Local planning context:

- a) Adopted Wiltshire Core Strategy Development Plan 2015 – 2026 (Wiltshire Council 2015); and
- b) Salisbury District Council Stonehenge Article 4 Direction.

4.1.5 Management of the WHS:

- a) Stonehenge, Avebury and Associated Sites WHS Management Plan policies which form the framework for the protection of the WHS and its OUV (Simmonds and Thomas 2015);
- b) The Stonehenge and Avebury Research Framework 2015 (Wessex Archaeology) and the 2005 Stonehenge WHS Archaeological Research Framework (Darvill (ed) 2005); and
- c) Stonehenge and Avebury WHS Woodland Strategy (Chris Blandford Associates 2015).

### **Tourism planning and policy context**

4.1.6 The 2015 WHS Management Plan notes that: *‘The priority for the Stonehenge and Avebury WHS is the protection and conservation of the WHS and its attributes of OUV and for this reason the priority must be sustainable tourism in relation to the impact tourism has on the WHS and the local community and infrastructure.’* (Simmonds and Thomas 2015, 117).

4.1.7 Tourism policy considered in the preparation of this study includes:

#### **UK Government tourism policy**

- a) 2011 Government Tourism Policy (DCMS 2011);
- b) 2015 Tourism Strategy for the UK, Backing the tourism sector: a five point plan (DCMS 2015);
- c) 2016 Tourism Action Plan (DCMS 2016); and
- d) Industrial Strategy for Tourism (2017).

#### **National tourism policy (England)**

- a) England: a strategic framework for tourism 2010–2020 (VisitEngland

2011);

- b) Visit Britain Growth Strategy 2012–20 (VisitBritain 2012); and
- c) VisitEngland Priorities 2016–2020 (Visit England 2016).

#### **Local tourism policy**

- a) Wiltshire Core Strategy 2015 (Wiltshire Council 2015);
- b) Wiltshire and Swindon Destination Management and Development Plan (VisitWiltshire 2015); and
- c) Great West Way (VisitWiltshire 2017).

#### **Site-specific policy**

- a) WHS Management Plan 2015 (Simmonds and Thomas 2015); and
- b) Stonehenge WHS Strategy for Interpretation, Learning and Participation 2010–15 (English Heritage 2011).

#### **Guidance and good practice**

4.1.8 In addition to the above, the following guidance and good practice has been adopted:

#### **International guidance**

- a) Operational Guidelines for the Implementation of the World Heritage Convention, WHC 17 / 01 (UNESCO 2017);
- b) Guidance on HIAs for Cultural World Heritage Properties (ICOMOS 2011);
- c) Principles of the Xi'an Declaration on the Conservation of the Setting of Heritage Structures, Sites and Areas (ICOMOS 2005);
- d) Principles of the Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance (Australia ICOMOS 2013);
- e) Principles of the Nara Document on Authenticity (ICOMOS 2004);
- f) Principles of the Venice Charter (International Charter for the Conservation and Restoration of Monuments And Sites) (ICOMOS 1964); and
- g) Managing Cultural World Heritage (UNESCO 2013).

**Historic England guidelines** (including guidelines published by English

Heritage before the part of English Heritage responsible for the guideline changed its name to Historic England), including:

- a) Guidance on the Setting of Heritage Assets. Historic Environment Good Practice Advice in Planning Note 3 (2nd ed) (Historic England 2017);
- b) Understanding the Archaeology of Landscapes (Historic England 2017);
- c) Preserving Archaeological Remains. Decision-taking for Sites under Development (Historic England 2016);
- d) Easy Access to Historic Landscapes (Historic England 2015);
- e) Streets for All, Advice for Highway Engineers and Designers (Historic England 2015);
- f) Management of Research Projects in the Historic Environment. The MoRPHE Project Manger's Guide (Historic England 2015); and
- g) Historic Environment Good Practice Advice in Planning Note 2. Managing Significance in Decision Taking in the Historic Environment (English Heritage 2015).

**Other national guidelines**, including Protecting, Conserving and Providing Access to the Historic Environment in England (DCMS 2011).

- 4.1.9 A number of inter-related WHS-specific plans and strategies are either in preparation or will be commissioned by English Heritage, the National Trust, WHS PP and / or VisitWiltshire. Many of these arise from the policies and recommendations of the 2015 WHS Management Plan and include a WHS Boundary Review, WHS Landscape Access Strategy, WHS Sustainable Transport Strategy, WHS Setting Assessment, WHS Burrowing Animal Strategy, WHS Limits of Acceptable Change Model and WHS Sustainable Tourism Strategy. English Heritage and the National Trust are currently working with consultants to develop a Phase 2 – Partnership Plan for National Trust and English Heritage Trust Land and a Stonehenge Marketing Plan. Where outline information about these studies has been made available to the report authors, it has been included in this HIA.

## 5 Methodology

### 5.1 Overview

- 5.1.1 This HIA uses baseline data prepared as part of the 2018 ES as this provides a wider context for the WHS. The ES baseline has been established through a desk-based review of existing sources of information, supported where appropriate by the use of field survey, following the guidance set out in the Highways England's Design Manual for Roads and Bridges (DMRB); and the Chartered Institute for Archaeologists' Standard and Guidance for Historic Environment Desk-based Assessment (ClfA 2014) and Standard and Guidance for Archaeological Field Evaluation (ClfA 2014).
- 5.1.2 The ES baseline has been enhanced for the purposes of this report, to provide further details on the specific significance of the WHS, taking into consideration its OUV.

### 5.2 Data sources

#### Core documentation

- 5.2.1 The following core documentation has been used to support the development of the HIA:
- a) The WHS inscription criteria (Historic Buildings and Monuments Commission for England (HBMCE) 1985);
  - b) The Stonehenge, Avebury and Associated Sites SoOUV (UNESCO 2013);
  - c) The Attributes of OUV set out in the 2015 WHS Management Plan (Simmonds and Thomas 2015) (and originally outlined in the 2009 Stonehenge WHS Management Plan (Young, Chadburn and Bedu 2009)); and
  - d) The 2015 WHS Management Plan (Simmonds and Thomas 2015)
  - e) The Stonehenge and Avebury Research Framework 2015 (Wessex Archaeology 2016) and the 2005 Stonehenge WHS Archaeological Research Framework (Darvill (ed) 2005).
- 5.2.2 The HIA relies upon the planning and policy framework and guidance documents set out in HIA Section 4, Planning and policy context.

#### Published works

- 5.2.3 The HIA draws on the following published sources to compile inventories and inform aspects such as the historical development of the WHS, its

context, setting and, where appropriate, local, national and international values:

- a) The 2015 WHS Management Plan (Simmonds and Thomas 2015), and previous management plans (Young, Chadburn and Bedu 2009; English Heritage, 2000);
- b) WHS Periodic and State of Conservation Reporting (DCMS 2018) and WHC / ICOMOS Advisory Mission reporting (UNESCO / ICOMOS 2016; UNESCO / ICOMOS 2017; UNESCO / ICOMOS 2018);
- c) Stonehenge: the Master Plan (English Heritage and National Trust 1998) and Stonehenge Estate Land Use Plan (National Trust 2001);
- d) Results from major research projects within the Stonehenge landscape (subject to availability), e.g. Stonehenge Environs Project (Richards 1990), Stonehenge WHS Mapping Project (English Heritage 2002); Stonehenge Hidden Landscapes Project (Gaffney et al. 2012), Stonehenge Riverside Project (Parker Pearson et al. 2005; Parker Pearson 2007; Parker Pearson et al. 2008; Parker Pearson 2012); recent Historic England research (Historic England 2017);
- e) Readily available and relevant published results of other academic and development-led archaeological fieldwork and recording within the WHS.
- f) Previous studies on the relationship between the monuments that contribute to OUV and the skies and astronomy – including case studies of the Stonehenge WHS (Chadburn 2010; Chadburn and Ruggles 2017);
- g) The Stonehenge and Avebury Research Framework 2015 (Wessex Archaeology 2016) and the 2005 Stonehenge WHS Archaeological Research Framework (Darvill (ed) 2005); and,
- h) The Stonehenge WHS Strategy for Interpretation, Learning and Participation 2010–15 (English Heritage 2011).

#### 5.2.4 Other published works include:

- a) Academic publications reviewing and interpreting the function, meaning and chronology of Neolithic and Bronze Age aspects of the Stonehenge landscape.
- b) Published fieldwork reports including reporting on aerial photograph interpretation, earthwork survey, geophysical survey, fieldwalking, test pitting, evaluation and excavation.
- c) Published ES and HIA reports related to previous development in the

WHS, including those associated with the Stonehenge Environmental Improvement Project (SEIP) and earlier stages of this Scheme.

- d) Publications regarding sacred and spiritual aspects of the landscape.
- e) Published regional, local and site-specific tourism and visitor statistics and results of studies regarding visitor attitudes, visitor management and interpretation.
- f) Scheme-specific publications including Scheme design documentation indicating the development of the present Scheme, the assessed Scheme design and the published results of non-statutory and statutory public consultation (Highways England 2017; Highways England 2018).

5.2.5 Additional desk-based work specific to the HIA has also been undertaken to capture evidence of both tangible and intangible heritage attributes, and to relate the latter to the physical features which embody them. This includes a review of key published sources for:

- a) Archaeoastronomy aspects;
- b) Significance to the development of archaeology;
- c) Significance in art history; and
- d) Significance in literature and popular culture.

5.2.6 Relevant elements from this research are contained in the baseline and assessment, and baseline research is contained in HIA Annex 5: Archaeoastronomy; Annex 6: Influences on architects, historians and archaeologists; Annex 7: Influences of the monuments and landscape of the Stonehenge part of the WHS on artists and Annex 8: Influences of the monuments and landscape of the Stonehenge part of the WHS on literature and popular culture.

5.2.7 A bibliography is contained in HIA Section 13, Bibliography.

### **Unpublished reports**

5.2.8 Unpublished material utilised within the HIA includes:

- a) English Heritage and National Trust visitor surveys;
- b) The Stonehenge and Avebury WHS Woodland Strategy (Chris Blandford Associates 2015);
- c) The Stonehenge and Avebury WHS Condition Survey 2012 (Wessex Archaeology 2012);

- d) Historic mapping, including historic Tithe and Estate mapping (Wiltshire Record Office, Chippenham), and historic Ordnance Survey mapping.

### Databases

- 5.2.9 A common Project Geographical Information System (GIS) has been prepared for the EIA and HIA, which includes designated and non-designated cultural heritage assets within and in the vicinity of the WHS, including previous archaeological interventions, the results of archaeological fieldwork and recording related to the Scheme and mapping of buried archaeological sites from available aerial imagery and geophysical survey.
- 5.2.10 The HIA has drawn on the following databases to compile inventories to inform aspects such as the historical development of the WHS, its context, setting and, where appropriate, local, national and international values:
  - a) Designated asset data for the WHS and its environs – National Heritage List for England (NHLE);
  - b) Non-designated asset data for the WHS and its environs – Wiltshire and Swindon Historic Environment Record (WSHER);
  - c) Other baseline data, including Wiltshire Historic Landscape Characterisation (HLC) data;
  - d) Ordnance Survey mapping and digital 10m contour data;
  - e) Scheme-specific digital terrain modelling (Bluesky 5m<sup>2</sup>), which incorporates a bare-earth basis, woodland, buildings, and the Scheme earthworks outside the WHS;
  - f) Scheme-specific 3D-modelling, inter-visibility modelling and ZTVs;
  - g) Data from the National Mapping Programme (NMP) assessment of the

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<sup>2</sup> The Bluesky 5m Digital Terrain Model has a resolution / cell size of 5m and an integer elevation value which has been rounded to the nearest metre (Accuracy XY: ± Up to 1m root mean square error (rmse); Accuracy Z: ± Up to 1.5m rmse). These data are photogrammetrically interpolated from stereoscopic aerial photography and adjusted to record the ground surface elevation. Separate datasets record the difference between the measured and surface elevations, including buildings. 5m DTM data, registered to the British National Grid, is suited to more detailed landscape, visibility, inter-visibility and exposure studies.

Stonehenge landscape and Salisbury Plain Training Area, which used historic and recent aerial photographs and LiDAR data to identify potential archaeological sites and monuments;

- h) Analysis of newly acquired high resolution mosaiced digital aerial photographic imagery which yielded a small number of new sites and some additions to known sites;
- i) British Geological Survey data; and
- j) Scheme-specific studies of traffic, air quality, noise and vibration and hydrology (surface and groundwater).

## 5.3 Field surveys

5.3.1 Since the publication of the WHS Management Plan in 2015 (Simmonds and Thomas 2015), further archaeological work has been carried out within the WHS, including fieldwork and recording by Historic England and assessment and evaluation undertaken by Wessex Archaeology related to the Scheme development.

5.3.2 The HIA considers the results of all archaeological fieldwork and recording undertaken since the publication of the 2015 WHS Management Plan, in particular:

- a) The published results of Historic England's Stonehenge Southern WHS Survey project, which includes aerial mapping, geophysical survey, earthwork survey and excavations. Amongst other results, this project has excavated a newly discovered group of Neolithic pits on the southern extent of King Barrow Ridge at West Amesbury Farm (Historic England 2017).
- b) The published results of ongoing research excavations at Blick Mead spring, in the north-east of Vespasian's Camp, where possible Mesolithic settlement activity on the floor of the River Avon is being studied (Jacques et al. 2014; Jacques et al. 2018).
- c) Ghent University and the University of Birmingham's field testing in 2017 of anomalies identified within the core area of the Stonehenge part of the WHS by high-resolution electromagnetic induction (EMI) surveys from 2012 to 2015 (De Smedt 2017a; 2017b).
- d) The results of previous archaeological evaluations and fieldwork related to earlier A303 proposals. In particular, reference is made to fieldwork undertaken as part of the option selection and assessment work on revised Route Options D031 and D032. This confirmed the existence of two long barrows and a possible 'hengiform' monument in the area around the Diamond copse (part of 'the Diamond Group') in the course of field evaluation. The present Scheme is designed to

avoid these.

- e) The results of archaeological surveys for the Scheme undertaken within the WHS, including geophysical survey, ploughzone artefact collection (fieldwalking, hand sieved test pits and sieving of topsoil excavated in trial trenches), trial trenching and geoarchaeological investigations.

- 5.3.3 Baseline data includes the results of previous archaeological fieldwork and recording undertaken as part of the present assessment process, handled using ArcGIS to facilitate spatial querying.
- 5.3.4 The majority of the land within the Scheme boundary has been evaluated by recent detailed archaeological geophysical surveys, either as part of academic projects or in support of the Scheme. This provides a robust baseline against which to assess the impact of the Scheme.
- 5.3.5 Additional evaluation fieldwork has been completed for sections of the Scheme within and adjacent to the WHS (eastern portal and approaches, western portal and approaches, new Longbarrow Junction and approaches, and the Rollestone Corner improvement). Much of the Winterbourne Stoke bypass alignment was archaeologically evaluated for previous A303 improvement Schemes (see ES Chapter 6, Cultural Heritage, Appendix 6.10); further fieldwork to supplement and confirm the results of this previous fieldwork outside the WHS is currently ongoing and will be completed in the Autumn of 2018. The eastern section of the Scheme beyond the WHS has limited land take outside the existing highway boundary; archaeological evaluation fieldwork at Countess East and Amesbury Road has been completed.
- 5.3.6 An overview of previous archaeological fieldwork, recent archaeological discoveries and the results of archaeological surveys for the Scheme in the WHS is set out in HIA Section 6.8, Previous archaeological investigations in the WHS and field surveys related to the Scheme.
- 5.3.7 Potential Scheme impacts and effects on heritage assets identified during fieldwork are assessed in HIA Section 6.10, Discrete and isolated assets: Non-designated isolated and discrete assets.
- 5.3.8 Fieldwork results for the entire length of the Scheme are set out in ES Chapter 6, Cultural Heritage, Section 6.6, Baseline Conditions: Fieldwork undertaken for the present assessment.
- 5.3.9 Information on fieldwork and recording and mitigation methodologies is summarised in HIA Section 8, Mitigation measures incorporated into the Scheme with further details set out in ES Chapter 6, Cultural Heritage, Appendix 6.11, Outline Archaeological Mitigation Strategy.

## Site visits

- 5.3.10 Where access could be obtained from the landowner, heritage Asset Groups and discrete heritage assets expressing the OUV of the WHS were visited as part of this assessment. Site visits were undertaken between February 2017 and April 2018:
- to assess the condition and integrity of monuments;
  - to assess the physical surroundings and setting of monuments, Asset Groups and associated sites;
  - to identify viewpoints;
  - to assess the setting of each of the identified Asset Groups, inter-visibility and inter-relationships between them, and the relationships between them and the topography; and
  - to assess the relationship of Asset Groups to the Scheme and how the Scheme impacts upon them and their setting.
- 5.3.11 In cases where access to the precise site of the asset could not be obtained, these were viewed from adjacent land and PRoWs. This enabled all assets to be adequately observed, their current setting to be understood, and the impacts of the Scheme to be adequately assessed.
- 5.3.12 Site visits involved extensive walking through the landscape to experience changing views of Asset Groups when moving along permissive paths. The Stonehenge Visitor Centre was also visited as part of the assessment, in order to understand the visitor experience.
- 5.3.13 A record of the site visits was made using digital photography.

## Setting assessment and key views

### *Setting assessment*

- 5.3.14 The setting of an asset can form an important part of its significance and changes to its setting have the potential to affect its significance. The NPPF defines the setting of a heritage asset as *'the surroundings in which a heritage asset is experienced. Its extent is not fixed and may change as the asset and its surroundings evolve. Elements of a setting may make a positive or negative contribution to the significance of an asset, may affect the ability to appreciate that significance or may be neutral'* (NPPF Annex 2: Glossary; MHCLG 2018).
- 5.3.15 The Xi'an Declaration on the Conservation of the Setting of Heritage Structures, Sites and Areas (ICOMOS 2005) acknowledges the contribution of setting to the significance of heritage monuments, sites and

areas, defining the setting of a heritage structure, site or area ‘as the immediate and extended environment that is part of, or contributes to, its significance and distinctive character’. It notes that ‘Heritage structures, sites or areas of various scales [...] derive their significance and distinctive character from their perceived social and spiritual, historic, artistic, aesthetic, natural, scientific, or other cultural values. They also derive their significance and distinctive character from their meaningful relationships with their physical, visual, spiritual and other cultural context and settings [...]

- *The setting of a heritage structure, site or area is defined as the immediate and extended environment that is part of, or contributes to, its significance and distinctive character.*
- *Heritage structures, sites or areas of various scales, including individual buildings or designed spaces, historic cities or urban landscapes, landscapes, seascapes, cultural routes and archaeological sites, derive their significance and distinctive character from their perceived social and spiritual, historic, artistic, aesthetic, natural, scientific, or other cultural values. They also derive their significance and distinctive character from their meaningful relationships with their physical, visual, spiritual and other cultural context and settings.*
- *Understanding, documenting and interpreting the setting is essential to defining and appreciating the heritage significance of any structure, site or area.*
- *Understanding the setting in an inclusive way requires a multi-disciplinary approach and the use of diverse information sources. [...]*
- *Heritage impact assessments should be required for all new development impacting on the significance of heritage structures, sites and areas and on their settings.*
- *Development within the setting of heritage structures, sites and areas should positively interpret and contribute to its significance and distinctive character.*
- *The rate of change and the individual and cumulative impacts of change and transformation on the settings of heritage structures, sites and areas is an ongoing process which must be monitored and managed.*
- *Change to the setting of heritage structures, sites and areas should be managed to retain cultural significance and distinctive character.*

- *Monitoring should define approaches and actions to appreciate and measure as well as prevent or remedy decay, loss of significance or trivialisation and propose improvement in conservation, management and interpretation practices.'*

- 5.3.16 Policy 59 of the Wiltshire Core Strategy (Wiltshire Council 2015) advises that additional planning guidance be produced to ensure the effective implementation of the WHS policy, in order to protect of the WHS and its OUV. A setting study of the WHS will be developed as part of this guidance. The 2018 State of Conservation Report for the Stonehenge, Avebury and Associated Sites WHS report by the State Party notes that, '*A detailed draft brief has been developed and work will be commissioned in 2018–2019. The study is designed to provide guidance on the identification of the setting and the type of development that is likely to have an impact on it and the World Heritage and its OUV. It will also provide advice on the nature of evidence likely to be required from developers.*' (DCMS 2018).
- 5.3.17 This work is independent of the current assessment and was not available at the time of writing this HIA. A separate setting study has, therefore, been undertaken to inform the HIA. This assessment is informed by:
- a) The Stonehenge, Avebury and Associated Sites WHS Statement of OUV (UNESCO 2013);
  - b) Historic England's Guidance on the Setting of Heritage Assets. Historic Environment Good Practice Advice in Planning Note 3 (2<sup>nd</sup> ed) (Historic England 2017), which sets out guidance against the background of the NPPF (MHCLG 2018) and related guidance in the PPG (DCLG 2014) on managing change within the setting of heritage assets; and
  - c) ICOMOS Guidance on HIAs for Cultural World Heritage Properties (ICOMOS 2011).
- 5.3.18 In accordance with the advice on Integrity in the Operational Guidelines (UNESCO 2017), the setting assessment considers the '*Relationships and dynamic functions present in cultural landscapes, historic towns or other living properties essential to their distinctive character should also be maintained.*' (UNESCO 2017, para. 89).
- 5.3.19 The baseline setting assessment for the HIA takes a multi-disciplinary approach to understanding the contribution of setting to the cultural significance and distinctive character of Asset Groups. It considers both tangible and intangible values and visual and non-visual aspects of the setting of Asset Groups expressing Attributes of OUV that could be affected by the Scheme.

- 5.3.20 The setting assessment considers factors set out in Good Practice Advice in Planning 3, The Setting of Heritage Assets (Historic England 2017), Guidelines for Landscape and Visual Impact Assessment (GLVIA3) (Landscape Institute / Institute of Environmental Management and Assessment 2013) and DMRB Volume 11 Section 3 Part 5, Landscape Effects. Factors that may contribute to the setting of a heritage asset include, but are not limited to:
- a) Functional and physical relationships with other structures / heritage assets and how these have changed over time;
  - b) Inter-visibility;
  - c) Topographic features that influenced its location;
  - d) Natural environment and aesthetic values;
  - e) Physical character of the surrounding landscape or townscape, including any formal design or land use;
  - f) The original layout of the heritage asset and how this has changed;
  - g) Potential buried or archaeological elements surrounding the heritage asset;
  - h) Views to, from and including the heritage asset or place;
  - i) Formal or planned vistas;
  - j) The prominence of the heritage asset in views throughout the surrounding area;
  - k) Views associated with the aesthetic, functional or ceremonial purpose of the asset; for example, defensive sites, beacons or designed landscapes;
  - l) Historical, artistic, literary, place name, cultural or scenic associations might all contribute to the significance of a heritage asset;
  - m) Cultural traditions, rituals, spiritual practices and concepts related to heritage assets;
  - n) Other sensory elements, e.g. sounds or smell associated with the heritage asset; and
  - o) Remoteness, 'wildness'.
- 5.3.21 The principal impacts of the Scheme upon setting are both positive and negative, and are considered to arise from changes to:

- a) The visual setting (views 'of', 'from' and 'including' individual assets or Asset Groups);
- b) Interruption or re-creation of key monument-based or broad landscape sightlines;
- c) The location and levels of artificial lighting;
- d) Traffic flow and volume (visual impacts of Scheme infrastructure, moving / stationary vehicles, vehicle headlights, noise, air quality);
- e) Physical connectivity (both removed and created); and
- f) Access; increase or decrease of footfall numbers, seasonality, timing, duration of visits to the landscape.

5.3.22 The assessment of setting effects has been undertaken in accordance with the recommendations of *GPA3: The Setting of Heritage Assets* (2<sup>nd</sup> Edition). This document advocates a stepped approach to assessment, as follows:

- a) Step 1: Identify which heritage assets and their settings are affected;
- b) Step 2: Assess the degree to which these settings make a contribution to the significance of the heritage asset(s) or allow significance to be appreciated;
- c) Step 3: Assess the effects of the proposed development, whether beneficial or harmful, on that significance or on the ability to appreciate it;
- d) Step 4: Explore ways to maximise enhancement and avoid or minimise harm; and
- e) Step 5: Make and document the decision and monitor outcomes.

5.3.23 In accordance with GPA3, the archaeological setting of buried assets, or assets with little surface expression, is also considered. Whether or not a monument can be accessed by the public, or is accessed by small or large numbers of visitors is not deemed a material consideration in the assessment of setting. All assets are treated equally, regardless of the extent of public access or visitor footfall.

5.3.24 The setting assessment also considers existing noise and air quality data, traffic modelling and landscape and visual studies which all contribute to the experience of the asset. However, it is acknowledged that this does not define the historic setting of the asset, but rather identifies where this setting has been eroded or enhanced.

### *Inter-visibility*

- 5.3.25 The HIA considers both the visibility and the subjective *experience* of relationships, including hidden severance. As well as physical and contextual relationships between discrete heritage assets and Asset Groups, the inter-visibility – or lack of inter-visibility – between discrete heritage assets and Asset Groups has been taken into consideration in assessing the impact of the existing A303 on the setting of Asset Groups, and aspects that either detract from or contribute to Attributes of OUV. In particular, existing roads have resulted in severance, intrusion on solstitial alignments, restrictions on access and intrusion on views between discrete heritage assets and Asset Groups. Modern tree plantations also obscure current views.
- 5.3.26 One of the features of the Stonehenge landscape is that, in places, there are clear and uninterrupted visual relationships between sites, sometimes over considerable distances. This landscape has been the subject of several inter-visibility studies, perhaps the most prominent of which is *Stonehenge Landscapes: journeys through real-and-imagined worlds* (Exon et al. 2000). This adopted a digitally-driven analytical approach which considered, alongside other aspects, both static viewsheds and experiential traverses through the Stonehenge environs. Though drawing from a quantifiable baseline, this study was a deliberately speculative work. In considering the visual aspects of the ancient landscape it also contended with major problems – the first and most fundamental being whether inter-visibility mattered at all, and if so in which cases? Furthermore, as the authors acknowledged, the study was hampered (amongst other things) by the lack of accurate monument dates for practically all of the barrows, and by uncertainty about the extent to which the Stonehenge landscape was wooded, therefore precluding inter-visibility. The temporal aspect adds further complexity, given the dynamic nature of monument-building, woodland clearance, and the changing uses of the landscape during late prehistory and in subsequent periods.
- 5.3.27 The setting assessment adopts an approach in which it acknowledges where sightlines exist between monuments and Asset Groups in the present day. These are considered a positive attribute of setting for the modern visitor, without prejudice to whether it was a salient factor to those in the past. Retention or re-establishment of sightlines is considered positive; visual severance is considered negative. The assessment of a given asset does not attempt to consider all visual interconnections, focusing instead on those which are readily apparent and / or most prominent, irrespective of how great the intervening distance. These have been identified from on-site observations.
- 5.3.28 Whether views of, from and including a buried asset contribute to its setting, and could be impacted by the Scheme, is considered on a case-by-case basis.

- 5.3.29 The nature of existing views and inter-visibility are described in HIA Section 6.9, Asset Groups and 6.10, Discrete and isolated assets. The HIA then assesses potential Scheme impacts on the setting and context of the WHS which could result in impacts on Attributes of OUV.

*Bare earth modelling*

- 5.3.30 The 2015 WHS Management Plan recognises that much of the existing woodland and tree cover in parts of the WHS has been introduced in the 20<sup>th</sup> century, to screen intrusive modern development, or as part of modern land uses that have little or no link to historic activities in the landscape. Many of these modern woodland areas impact adversely on the OUV of the WHS. The aspiration for woodland management within the WHS is noted in the related WHS Woodland Strategy (unpublished; Chris Blandford Associates 2015). This seeks to encourage positive management of existing woodlands and to ensure that proposed new planting is sensitive to the WHS landscape. It advocates appropriate planting, replanting and management of woodland and trees within the WHS, but promotes a general presumption against new or replacement planting where these would cause a negative impact on the Attributes of OUV.
- 5.3.31 Accordingly, the HIA excludes existing woodland cover in assessing Scheme impacts on Attributes of OUV. The assessment of changes in the settings of heritage assets that contribute to Attributes of OUV, and changes in views between assets, assumes a 'bare earth' baseline derived from the digital terrain model.

*Noise and vibration*

- 5.3.32 The assets under assessment exist within a modern living landscape. The majority is agricultural land which, in terms of an acoustic baseline, is subject to the limited noise of farming activities. This is highly variable for any given location, depending on the precise land-use and the time of the year. Similarly, the proximity of the MOD training area to the north, and MOD Boscombe Down to the east, leads to a situation where aircraft regularly overfly the area, including military planes and helicopters at low level. Again, such overflights are periodic, and by definition are dynamic. In this assessment, these acoustic effects are generally not considered. Only where there is a permanent background level of noise (e.g. one that is a continuous aspect of a setting) is this factored into the assessment. In reality, this has tended to be traffic noise, since it is this aspect which the Scheme has most potential to alter. It is nevertheless recognised that the WHS and its environs do not occupy a noise-free environment and, while the Scheme can make a significant contribution to reducing ambient traffic noise, in isolation it cannot restore a wholly peaceful situation.
- 5.3.33 Noise itself represents an interesting issue for this assessment. In respect

of ancient monuments, peacefulness is generally considered as a positive aspect of setting – an entirely reasonable position where modern infrastructure or other development introduces noise into a previously quiet environment. Nevertheless, the notion of peacefulness is a comparatively recent concept which arose from the 18th and 19th century Romantic Movement; in the Neolithic and Bronze Age it is highly unlikely that it was recognised or appreciated in the same way. Therefore, while peacefulness is recognised as a positive attribute of setting, it is a modern concept of what is significant or important, and one likely to bear little resemblance to the thought-processes of prehistory.

- 5.3.34 This assessment draws from quantitative data about changing noise levels arising from the operation of the Scheme from ES Chapter 9, Noise and Vibration. Only those noise and vibration effects identified by ES Chapter 9 as significant are considered as having the potential to be significant in heritage terms (HIA Figure 17).
- 5.3.35 Finally, in respect of acoustics, note is taken of the existence of academic publications that consider the ‘archaeoacoustic’ properties of late prehistoric monuments. These, however, present speculative theories that are not capable of bearing the weight of formal assessment.

#### *Astronomical and solstitial sightlines*

- 5.3.36 Astronomical studies of the WHS have identified the monuments that convey the fourth attribute of OUV: *‘the design of Neolithic and Bronze Age funerary and ceremonial sites and assets in relation to the skies and astronomy’* (Ruggles 1997; 2010; Chadburn 2011). The latest ICOMOS-International Astronomical Union thematic study on astronomical heritage (Chadburn and Ruggles 2017) notes that six monuments in the Stonehenge element of the WHS are considered to have significant astronomical alignments. These are summarised in HIA Table 7 and illustrated in HIA Figure 19.
- 5.3.37 The setting assessment considers the impacts upon these six monuments and the associated astronomical alignments. For these, there is a reasonable consensus within the academic community that the evidence for an intentional connection between the monument and a given alignment is convincing. Other claimed alignments, for which the evidence is weaker, are not considered.

#### *Key views*

- 5.3.38 Important viewpoints for the HIA, for understanding the OUV of the WHS, were discussed and agreed with HMAG. Representative, specific and illustrative viewpoints have been identified and are used to illustrate effects on key views where applicable. Key viewpoints considered important by local communities, visitors, road users and those for whom

the WHS has spiritual associations were also considered.

- 5.3.39 The HIA also considers previous visual sensitivity mapping of the setting of the WHS published in the WHS Management Plan (Simmonds and Thomas 2015).
- 5.3.40 The HIA considers key views related to Attribute of OUV 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. Additional research has been undertaken into art historical aspects in order to identify key views, and is presented in HIA Annex 7 – Influences of the monuments and landscape of the Stonehenge part of the WHS on artists.

#### *Photomontages*

- 5.3.41 This HIA is supported by a combination of Visually Verifiable Montages (VVM) and computer-generated imagery (CGI) visualisations.
- 5.3.42 The purpose of a VVM is to present an accurate visualisation of the proposed development, enabling its impact on the skyline, surrounding area and setting to be objectively evaluated. The objective of a photomontage is to simulate the likely visual changes that would result from a proposed development, and to produce printed images of a size and resolution sufficient to match the perspective in the same view in the field. Photomontages use photographs of an actual scene modified by the insertion of an accurate representation of the visible changes brought about by the proposed development. They are subject to the same inherent limitations as photographs, for example only showing the scene as it would appear under the same conditions that prevailed when the original photograph was captured. A properly constructed photomontage can serve as a useful means of indicating the potential visual impact of a future development.
- 5.3.43 The photomontages have been created according to formal LVIA guidelines and may be considered as ‘verifiable’ images. Photomontages from key viewpoints were prepared in accordance with Landscape Institute Advice Note 1 / 11: Photography and photomontage in landscape and visual impact assessment (LI 2011) and Landscape Institute Guidance Note 02 / 17: visual representation of development proposals (LI 2017).
- 5.3.44 The methodology used for the production of these graphics is set out in the Visually Verifiable Montage Methodology Statement, contained in ES Chapter 7, Landscape and Visual: Appendix 7.11.
- 5.3.45 The montages depict the present situation, and that 15 years after the completion of Scheme construction, i.e. when any Scheme planting is fully

established. No planting is proposed within the WHS.

5.3.46 The HIA considers key views in and out of the WHS, particularly in relation to the western and eastern portals, towards the Till viaduct and the Countess flyover. Photomontage locations have been selected to illustrate the level of change in specific sightlines from and to Asset Groups.

5.3.47 Photomontages have been created for 17 key views to the Scheme from a range of Asset Groups and other areas. These were agreed with HMAG. Thirteen of these graphics form the basis of assessment in this HIA. Viewpoint locations are set out in Table 1 and are illustrated in ES Chapter 6, Cultural Heritage: Appendix 6.9.

**Table 1: Viewpoint graphics: photomontages**

ID	View direction	Asset / Asset Group Subject	NGR X	NGR Y
CH02	N	AG13 The Diamond Group View from the south-west side of the present junction of the A303 and A360. It looks northwards across the site of ploughed-out barrow NHLE 1011045, which is arguably an outlier of the Winterbourne Stoke Crossroads group (centre background, largely obscured by woodland). This view encompasses the current junction arrangements, and those proposed as part of the Scheme. (See ES Chapter 6, Cultural Heritage: Appendix 6.9, Figure 3)	409797	141086
CH03	SW	AG12 Winterbourne Stoke Crossroads Barrows View from the north-eastern end of the long barrow at Winterbourne Stoke Crossroads (NHLE 1011841). The image shows the setting of this monument, in relation to the existing A303 / A360 roundabout and the proposed Longbarrow Junction arrangements. (See ES Chapter 6, Cultural Heritage: Appendix 6.9, Figure 4)	409992	141495
CH05	SW	AG15 Lesser Cursus (NHLE 1010901) View from the western end of the Lesser Cursus towards the proposed location of the River Till viaduct. Two of the Lesser Cursus barrows stand in the foreground (NHLE 1010899; 1010900), in front of the concrete silo. (See ES Chapter 6, Cultural Heritage: Appendix 6.9, Figure 6)	410386	143447

ID	View direction	Asset / Asset Group Subject	NGR X	NGR Y
CH06	NW	AG13 The Diamond Group View from long barrow NHLE 1010830, taking in the existing view of Longbarrow Roundabout and, beyond, the connections with the Winterbourne Stoke Crossroads barrows, the more easterly elements of which are visible to the right of the woodland. The Scheme mainline would run in cutting c. 200m north of this viewpoint. (See ES Chapter 6, Cultural Heritage: Appendix 6.9, Figure 7)	410400	141180
CH08	SW	AG23 Greater Cursus, Amesbury 56 and Winterbourne Stoke 30 Round Barrows, and the Amesbury 42 Long Barrow (NHLE 1009132) View from the western end of the Greater Cursus, south-west in the direction of the proposed location of the River Till viaduct. (See ES Chapter 6, Cultural Heritage: Appendix 6.9, Figure 9)	411010	142920
CH09	NE	AG19 Normanton Down Barrows View north-east from the Sun Barrow (NHLE 1012370) towards Stonehenge, along the north-east / south-west solstitial axis. (See ES Chapter 6, Cultural Heritage: Appendix 6.9, Figure 10)	411502	141610
CH10	W	AG19 Normanton Down Barrows View from long barrow NHLE 1008953. This location is directly on the line of the tunnel, and looks down its alignment towards the western portal (190m distant), the canopy and approach road. The present view includes the A303, with the Sun Barrow (NHLE 1012370) as a prominent element to the south of the present road. (See ES Chapter 6, Cultural Heritage: Appendix 6.9, Figure 11)	411541	141751
CH11	S	AG18 Cursus Barrows West View from the most easterly barrow in the cluster scheduled as NHLE 1012401. The image shows the interconnection with Stonehenge and Normanton Down, and illustrates the present views of the A303 and the situation after its decommissioning. This is the opposing view to the photomontage generated from Normanton Down (CH12). (See ES Chapter 6, Cultural Heritage: Appendix 6.9, Figure 12)	411859	142783

ID	View direction	Asset / Asset Group Subject	NGR X	NGR Y
CH12	N	AG19 Normanton Down Barrows View north from Byway 11, in a central position within the Normanton Down barrow cemetery (NHLE 1009614). The image shows the interconnection with Stonehenge and the Greater Cursus from Normanton Down, and illustrates the present views of the A303 and the situation after its decommissioning. This is the opposing view to the photomontage generated from the Cursus Barrows West (CH11). (See ES Chapter 6, Cultural Heritage: Appendix 6.9, Figure 13)	411997	141253
CH15	SE	AG23 Greater Cursus, Amesbury 56 and Winterbourne Stoke 30 Round Barrows, and the Amesbury 42 Long Barrow (NHLE 1009132) View from the long barrow at the eastern end of the Greater Cursus, in the direction of Countess Roundabout and the proposed location of the eastern portal. (See ES Chapter 6, Cultural Heritage: Appendix 6.9, Figure 16)	413747	143188
CH17	SW	AG31 Countess Farm Barrows View from ploughed-out barrow NHLE 1002143. The present A303 runs 130m to the south of this location, intermittently visible behind the tree belt on the field margins. The Scheme mainline would be at the surface adjacent to this location; the eastern portal lies in the centre-field of this image, c. 300m distant. (See ES Chapter 6, Cultural Heritage: Appendix 6.9, Figure 18)	414339	142239
CH18	SE	AG31 Countess Farm Barrows View from barrow NHLE 1009150, which is one of the more northerly elements of the group. View south-east in the direction of Countess Roundabout, including the proposed location of the eastern portal. (See ES Chapter 6, Cultural Heritage: Appendix 6.9, Figure 19)	414417	142622
CH20	S	AG02 Durrington Walls, Woodhenge and Associated Sites (NHLE 1009133) View from the centre of the Woodhenge monument, in the direction of Countess Roundabout and the proposed location of the eastern portal. (See ES Chapter 6, Cultural Heritage: Appendix 6.9, Figure 21)	415082	143406

### *Computer-generated 360 degree visualisations*

5.3.48 A digital base model of the existing landscape was produced by the Technical Partner's Visualisation and Virtual Reality Team using digital terrain data and aerial photographs. Features such as Stonehenge have

been scanned to create 3D representations. The Scheme model was then integrated to include the proposed horizontal and vertical highway alignment, junctions, tunnel portals, bridges and viaducts, landscaping, lighting and roadside features. The digital model was used to create fully rendered views from six key viewpoints agreed with HMAG (Table 2).

- 5.3.49 The CGI graphics, while also an accurate representation of the present baseline and future situation, are a new technique for which industry guidelines have not yet been created. However, visualisations take account of relevant elements of the London Charter for the Computer-based Visualisation of Cultural Heritage (Denard 2009) and the Seville Principles (International Principles of Virtual Archaeology) (International Forum of Virtual Archaeology 2011).
- 5.3.50 These 360 degree visualisations were then explored in Augmented Reality (AR) such that, from a selected view point, the viewer is able to rotate through 360 degrees or zoom in / out from that agreed viewpoint using tablet computers and virtual reality headsets. These visualisations were available at public consultation events in January – April 2018 and were provided to the ICOMOS Advisory Mission in March 2018.
- 5.3.51 Stills from computer-generated 360 degree visualisations are illustrated in ES Chapter 6, Cultural Heritage: Appendix 6.9.

**Table 2: Viewpoint graphics: computer-generated 360 degree visualisations**

ID	Asset / Asset Group Subject	NGR X	NGR Y
CH04	AG12 Winterbourne Stoke Crossroads Barrows 360° view from a large upstanding barrow in the northern part of the Winterbourne Stoke Crossroads barrow group (NHLE 1012368). This view takes in the current situation, i.e. the A303 and A360 <i>in situ</i> , and that after construction of the Scheme, i.e. the new alignment of the A303 and A360 and the new arrangements of Longbarrow Junction. (See ES Chapter 6, Cultural Heritage: Appendix 6.9, Figure 5)	410114	141785
CH07	AG13 Diamond Group 360° view from barrow NHLE 1010830, taking in the current situation (i.e. A303 <i>in situ</i> ), and the proposed locations of the western portal and canopy, as seen from the western part of the WHS. The view includes the setting of NHLE 1010832 and discrete asset NHLE 1010833 (Wilsford G1). (See ES Chapter 6, Cultural Heritage: Appendix 6.9, Figure 8)	410712	141464

ID	Asset / Asset Group Subject	NGR X	NGR Y
CH13	AG21 Stonehenge Barrows 360° view from Stonehenge Down Barrows (NHLE 101238311). This graphic takes in the central portion of the Scheme, showing the present A303 <i>in situ</i> , and the situation after its decommissioning. (See ES Chapter 6, Cultural Heritage: Appendix 6.9, Figure 14)	412014	142116
CH14	AG29 Coneybury Henge and Associated Monuments 360° view from a bowl barrow on Coneybury Hill (NHLE 1012390), taking in nearby monuments including the King Barrow and longer views towards the Cursus, Stonehenge and King Barrow Ridge. The present view includes the A303 as an intervening feature. Elements of the Scheme in this view include the eastern portal and Countess flyover, together with the decommissioned A303. (See ES Chapter 6, Cultural Heritage: Appendix 6.9, Figure 15)	413503	141510
CH16	AG27 The Avenue (NHLE 1010140). 360° view from a location east of King Barrow Ridge, immediately north of where the Avenue is currently bisected by the present A303. In terms of the Scheme, the graphic shows the decommissioning of the A303 and, to the east, the location of the eastern portal and its approach road, looking in the direction of Countess Roundabout. (See ES Chapter 6, Cultural Heritage: Appendix 6.9, Figure 17)	413934	142149
CH19	360° view from a location that is presently in the centre of the A303. The northern toe of Vespasian's Camp is immediately to the south, c. 25m distant. In terms of the Scheme, this graphic takes in the eastern portal and its approach road (to the west of this viewpoint) and Countess flyover to the east. (See ES Chapter 6, Cultural Heritage: Appendix 6.9, Figure 20)	414552	142111

### Associated technical studies

- 5.3.52 A number of technical studies have been undertaken to inform the ES and HIA. The HIA draws on data from these studies to inform understanding of the baseline and the potential impacts and effects of the Scheme. Other technical disciplines include: Air Quality; Biodiversity; Geology; Landscape; Noise and Vibration; Ground Water; Surface Water; Flood Risk; Road Drainage; Planning; Materials and Waste; Traffic; People and Communities; Major Events; Circular Economy; Climate Change; Natural Capital; Equality Impact Assessment; and the highways and tunnel design.
- 5.3.53 Full details of these studies are contained in the ES. Particularly relevant sections of the ES that have informed this HIA include:

- ES Chapter 3, People and Communities considers impacts and effects on driver views from the road, amenity, tourists as NMUs, PRoW users, community facilities and open space.
  - ES Chapter 5, Air Quality describes the existing environment and assesses the potential air quality impacts of the construction and operation of the Scheme.
  - ES Chapter 6, Cultural Heritage, considers impacts and effects on designated and non-designated heritage assets. It contains extensive baseline information and assessment of Scheme impacts on sites and monuments both within and beyond the WHS, including those heritage assets that do not contribute to OUV.
  - ES Chapter 7, Landscape and Visual, describes the landscape, assesses visual receptors and addresses aspects including tranquillity and the character of the night sky. The LVIA assesses the visual and landscape effects of the Scheme.
  - ES Chapter 8, Biodiversity, describes the existing environment and the anticipated impacts and effects of the Scheme. In particular, it considers lichens at Stonehenge and badger activity, which can damage barrows and other archaeological assets.
  - ES Chapter 9, Noise describes the existing environment and assesses the potential noise and vibration impacts of the construction and operation of the Scheme
  - ES Chapter 10, Geology and Soils, describes ground conditions and geotechnical hazards and includes assessment of land contamination and ground instability.
  - ES Chapter 11, Road Drainage and the Water Environment, considers groundwater and surface water conditions including aquifers and springs, potential effects on groundwater flow, routine road runoff, dewatering and the potential effects on the archaeological site at Blick Mead. It also sets out groundwater / surface water monitoring.
- 5.3.54 Studies prepared as part of the EIA include Traffic Modelling. Data from this study have been considered in this HIA. The *A303 Stonehenge South West Regional Transport Model (SWRTM) (DCO): Traffic Forecasting Report* forms part of the DCO documentation.
- 5.3.55 The *Combined Modelling and Appraisal (ComMA) Report* documents the transport modelling and economic assessment process for transport Schemes. Impacts relating to tourism in general are considered through the assessment of the *Economic Case of the Outline Business Case*

(OBC). These also form part of the DCO documentation.

## 5.4 Impact assessment methodology

### Heritage Impact Assessment method

#### *Introduction*

- 5.4.1 This HIA has assessed Scheme impacts on the OUV, Integrity and Authenticity of the WHS.

#### *Assessment of impacts on Attributes of OUV*

- 5.4.2 Attributes are a direct tangible expression of the OUV of the property (UNESCO 2017, 100). At the Stonehenge, Avebury and Associated Sites WHS, all these Attributes are ultimately derived from the 2008 Statement of Significance and the nomination and evaluation documentation of 1985. Taken together the Attributes define the reasons for the OUV of the Stonehenge and Avebury WHS. (Simmonds and Thomas 2015, 261).
- 5.4.3 Attributes are defined in the SoOUV which was formally adopted by the World Heritage Committee in 2013 (UNESCO 2013, 291–94) and are further explained in the 2015 WHS Management Plan (Simmonds and Thomas 2015).
- 5.4.4 The existing A303 is assessed as currently having an adverse effect on the OUV of the WHS. This effect is highlighted in the nomination documents and all three WHS Management Plans. The Scheme aims to address Management Plan objectives regarding the removal of the existing road. Both positive and negative impacts or changes are reported in this HIA. The removal of a current adverse impact from any Attribute so that it no longer exists is a positive impact that is recorded as such in the HIA.
- 5.4.5 The value of both Asset Groups and discrete heritage assets that contribute to the OUV of the WHS is assessed according to the method set out in HIA Section 5.7, Evaluation of heritage resource.
- 5.4.6 The HIA identifies the changes that would arise as a result of the construction and operation of the Scheme. These changes impact heritage assets or groups of assets that express Attributes of OUV. The method of assessing the scale of impact is set out in HIA Section 5.8, Assessment of scale of specific impact and change.
- 5.4.7 The HIA presents a qualitative assessment of the impact of the Scheme on the Attributes of OUV identified in the 2015 WHS Management Plan (Simmonds and Thomas 2015).
- 5.4.8 For each Attribute a short description of the positive and negative impacts

is presented, with a summary conclusion on the overall Scheme impact in relation to that Attribute. The impact assessment identifies the range of unmitigated impacts on individual heritage assets, or groups of assets, that contribute to the OUV of the WHS. The scale or severity of impacts or changes (both adverse and beneficial) is then assessed without regard to the value of the asset. The significance of effect is then assessed. This gives a balanced judgement of the importance of the change based on the value of the asset. The assessment methodology for this is set out in HIA Section 5.8, Assessment of scale of specific impact and change.

- 5.4.9 Mitigation proposals are put forward and the resultant significance of effect, following mitigation, is also rated. Design is an iterative process, and a number of design changes have been made to avoid potentially harmful consequences. Where mitigation measures are proposed, these would be secured through appropriate DCO requirements, or in Scheme documentation such as the Environmental Statement, the Outline Archaeological Mitigation Strategy (OAMS) and the Outline Environmental Management Plan (OEMP) (Application Document 6.3, Appendix 2.2). Further information is contained in HIA Section 8, Mitigation measures incorporated into the Scheme and ES Chapter 6, Cultural Heritage: Appendix 6.11, Outline Archaeological Mitigation Strategy.
- 5.4.10 A narrative description of the positive and negative impacts is presented for each Attribute of OUV, with a summary conclusion on the overall impact of the Scheme. This describes how the Scheme would affect the Attribute.

#### *Assessment of impacts on Integrity and Authenticity*

- 5.4.11 The potential impact of the Scheme on the Integrity and Authenticity of the WHS are described in a narrative manner. Attributes are greater than individual components and include the characteristics which convey the values identified in the Statement of OUV.

#### *Integrity*

- 5.4.12 In relation to Integrity, the Operational Guidelines (UNESCO 2017) state in paragraphs 88 and 89 that:

*‘88. Integrity is a measure of the wholeness and intactness of the natural and / or cultural heritage and its Attributes. Examining the conditions of integrity therefore requires assessing the extent to which the property:*

*Includes all elements necessary to express its Outstanding Universal Value;*

- Is of adequate size to ensure the complete representation of*

*the features and processes which convey the property's significance;*

- *Suffers from adverse effects of development and / or neglect;*
- *This should be presented in a statement of integrity.*

*89. For properties nominated under criteria (i) to (vi)<sup>3</sup>, the physical fabric of the property and / or its significant features should be in good condition, and the impact of deterioration processes controlled. A significant proportion of the elements necessary to convey the totality of the value conveyed by the property should be included. Relationships and dynamic functions present in cultural landscapes, historic towns or other living properties essential to their distinctive character should also be maintained.'*

- 5.4.13 These factors are taken into account when assessing the potential impact on the Integrity of the WHS.

#### Authenticity

- 5.4.14 Paragraph 82 of the 2016 Operational Guidelines for the Implementation of the World Heritage Convention (UNESCO 2017) provides guidance on the types of factors that can usefully be considered when addressing the Authenticity of a WHS. This states that:

*'Depending on the type of cultural heritage, and its cultural context, properties may be understood to meet the conditions of Authenticity if their cultural values (as recognized in the nomination criteria) are truthfully and credibly expressed through a variety of attributes including:*

*Form and design;*

*Materials and substance;*

*Use and function;*

*Traditions, techniques and management systems;*

*Location and setting;*

*Language, and other forms of intangible heritage;*

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<sup>3</sup> Paragraph 89 applies as the WHS was inscribed under Criteria (i), (ii) and (iii).

*Spirit and feeling; and*

*Other internal and external factors.'*

- 5.4.15 In relation to the Stonehenge, Avebury and Associated Sites WHS, the primary factors that express its Authenticity also relate to the Attributes of OUV. These factors, as set out in the WHS Management Plan 2015 may be considered to relate to:
- a) Form and design – the form and design of monuments and the inter-relationships between monuments;
  - b) Materials and substance – the materials used to construct monuments and the continuing conservation of those materials; and
  - c) Location and setting – the relationships between monuments and the landscape and the horizon-based celestial/astronomical alignment phenomena.
- 5.4.16 Considerations of intangible heritage, spirit and feeling are relevant, particularly to present-day visitors and those for whom the WHS has spiritual associations, as these are important indicators of character and sense of place.
- 5.4.17 Materials and substance are considered key to Attributes. Most archaeological remains in the WHS comprise earthworks, buried archaeological deposits and objects such as pottery, stone, metal, organic materials, human and animal bone. The date and chronological sequence of heritage assets and Asset Groups is also relevant.
- 5.4.18 The value of Attributes which convey OUV have not been separated into component parts. Potential Scheme impacts on discrete heritage assets and Asset Groups expressing Attributes of OUV are assessed, and the resulting overall impact on the OUV and the cultural values of the WHS are assessed. A Scheme impact on an Attribute is also an impact on OUV. Factors contributing to or detracting from Integrity and Authenticity are also considered.

#### *Assessment of impacts on other aspects of the WHS*

- 5.4.19 The HIA assesses Scheme impacts from several angles, considering impacts on:
- Archaeological remains;
  - Lighting, including night-time lighting and ambience of WHS;
  - Astronomical aspects;

- Biodiversity related to the conservation and character of the WHS;
- Public visibility of monuments;
- Tourism and the visitor economy;
- Changing patterns of access in the WHS;
- WHS conservation related to changes in tourism;
- The Avebury part of the WHS;
- Intangible cultural heritage; and
- Public understanding of OUV.

*Alignment of Scheme with WHS Management Plan vision, aims and policies*

- 5.4.20 The HIA considers the ways in which the Scheme delivers against the aims and policy set out in the 2015 WHS Management Plan in HIA Section 12.1, World Heritage Convention
- 5.4.21 The Convention Concerning the Protection of the World Cultural and Natural Heritage (the World Heritage Convention) is the principal global instrument for the protection of cultural and natural heritage. The UK ratified the Convention on 29 May 1984. Article 4 of the Convention sets out the duties of States Parties:

*‘Each State Party to this Convention recognizes that the duty of ensuring the identification, protection, conservation, presentation and transmission to future generations of the cultural and natural heritage referred to in Articles 1 and 2 and situated on its territory, belongs primarily to that State. It will do all it can to this end, to the utmost of its own resources and, where appropriate, with any international assistance and co-operation, in particular, financial, artistic, scientific and technical, which it may be able to obtain.’ (UNESCO 1972).*

## **5.5 Operational Guidelines for the Implementation of the World Heritage Convention**

- 5.5.1 The Operational Guidelines note that ‘each nominated property should have an appropriate management plan or other documented management system which must specify how the Outstanding Universal Value of a property should be preserved, preferably through participatory means.’ (UNESCO 2017, para. 108). ‘States Parties are responsible for implementing effective management activities for a World Heritage property. State Parties should do so in close collaboration with property managers, the agency with management authority and other partners, and stakeholders in property management.’ (ibid., para. 117).

- 5.5.2 In England, these commitments are fulfilled through the statutory planning system, designation of specific assets within World Heritage properties and the development of WHS Management Plans.
- 5.5.3 The 2015 WHS Management Plan (Simmonds and Thomas 2015) is in place to protect and manage the property as required by the World Heritage Convention. It deals with policy aspects, legal status and protective measures and with the practicalities of day-to-day administration and management.
- 5.5.4 Alignment with WHS Management Plan vision, aims and policies.

*Cumulative and in combination impact assessment methodology*

- 5.5.5 Cumulative impacts comprise either:
- Impacts which, in combination with impacts associated with other proposed development, are likely to result in an effect of greater significance than the Scheme in isolation; or
  - Combinations of impacts which have been identified as part of the assessments reported in other topics which are considered likely to affect a single receptor.
- 5.5.6 A review of current and previous planning applications, DCO and Transport and Works Act Order (TWAO) applications, hybrid bills and development plan documents and frameworks was undertaken to identify relevant development. The developments and allocations were considered in terms of whether they would be likely to generate impacts which could combine to result in cumulative effects in combination with the Scheme. The result of this process was a defined short list of developments and allocations, which were then assessed.
- 5.5.7 In addition, the potential combinations of impacts which are considered likely to affect a single receptor have also been assessed.
- 5.5.8 Further details on methodology and outcomes are set out in ES Chapter 15, Cumulative Effects. Cumulative impacts on Attributes of the OUV of the WHS are considered in HIA Section 1, Cumulative impact assessment .

*Assessment of impacts on OUV*

- 5.5.9 The HIA considers the overall impacts and effects of the Scheme as a whole on the OUV of the WHS, including its Attributes, Integrity and Authenticity, and comes to an overall conclusion regarding both the adverse and beneficial effects of the Scheme on the OUV of the WHS.
- 5.5.10 The method of evaluation of overall impact on OUV is set out in HIA

Section 5.9, Evaluation of overall impact.

### **Tourism Impact Assessment method**

- 5.5.11 A tourism impact assessment has been prepared as part of the HIA. Detailed information is contained in HIA Annex 9, Tourism and visitor experience.
- 5.5.12 A methodology for assessing a tourism management baseline is currently being developed by the UNESCO World Heritage Centre as part of the World Heritage and Sustainable Tourism Programme. The Programme has prepared a series of 'How To' guides focused on best practice approaches to sustainable economic development through tourism, advocating a sustainable destination management approach (UNESCO 2018). This guidance, particularly Guide 1: Understanding, has been drawn upon during the preparation of the tourism baseline.
- 5.5.13 A variety of sources were used to compile the tourism assessment. Secondary data sources include: current data from the South West Tourism Alliance, the South West Visitor Survey, VisitWiltshire, VisitEngland, Visit Britain and the Association of Leading Visitor Attractions (ALVA).
- 5.5.14 Primary data sources include interviews with heritage site managers from English Heritage and the National Trust. The study has collated available data on current visitor attendance patterns to both the wider WHS and the Stonehenge Visitor Centre and performance assessment of both the WHS (using information provided by the National Trust) and the Visitor Centre (using information provided by English Heritage) including:
- a) Programme of pedestrian counters installed in Stonehenge Landscape 2011–13.
  - b) Summary information from English Heritage's Phase 1 Visitor Survey, which aimed to increase understanding of visitor behaviour and motivations.
- 5.5.15 It is understood that English Heritage and the National Trust have jointly commissioned consultancy advice to support the Phase 2 – Partnership Plan for National Trust and English Heritage Trust Land. The Phase 2 – Partnership Plan aims to gain insight into changes in visitor behaviour and make recommendations for a joint visitor and landscape strategy (during and after the construction of the Scheme). It will consider the management of visitor impact to protect the WHS, transport to and movement through the landscape, developing a seamless visitor offer (interpretation, physical boundaries and barriers), solstice and equinox observances, understanding and planning for impact on Avebury and linking the two parts of the WHS. This Phase 2 – Partnership Plan is still

in progress at the time of writing, and not sufficiently advanced to be able to inform the HIA.

- 5.5.16 Where made available, information on historic attendance to the Visitor Centre and the WHS has been analysed and related to the historic available market sizes (penetration rate analysis). Both English Heritage and the National Trust have business plans for their respective properties but these are not public documents. Limited information was available regarding entry tickets and registries.
- 5.5.17 The tourism impact assessment explores the initial plans and concept ideas related to the reunification of the WHS via interviews with the National Trust and English Heritage. It has analysed available markets, evaluating the scale of the primary and secondary resident and tourist markets available to the attractions. The baseline catchment baseline isochrones were redrawn on the basis of the Scheme having been constructed. Using the same ratios to the new market sizes, the impact of the Scheme construction has been assessed to forecast any changes in numbers and visitor behaviour.
- 5.5.18 A qualitative assessment has been undertaken with reference information provided on the attendance performance of the WHS and the Stonehenge Visitor Centre, and on the characteristics and quality of the visitor experience.
- 5.5.19 The tourism impact assessment has been prepared in coordination with reporting on the Assessment of the Visitor Economy and Local Economy Benefits of the A303 Improvements, undertaken as part of the Economic Case of the Outline Business Case (OBC).
- 5.5.20 The HIA considers elements of the tourism impact assessment relevant to OUV, including Integrity and Authenticity. This includes potential changes in visitor numbers, dwell times, footfall numbers and anticipated changes to access as a result of the Scheme that may have an impact on the OUV of the WHS.
- 5.5.21 The HIA considers approaches to addressing the loss of the 'free' view of Stonehenge for people in vehicles travelling along the existing A303 (noting that there would be no change to 'free' views from the inalienable National Trust land surrounding the Stones that is currently, and would remain, permissive open access) (see HIA Section 6.14, Public visibility of monuments).

## **5.6 Scope of assessment**

### **Assessment parameters**

- 5.6.1 In accordance with the ICOMOS Guidance (ICOMOS 2011), the HIA involves the following key elements:

- a) Identification of heritage potentially at risk and its contribution to the OUV of the WHS;
- b) Identification of how change or development would impact on OUV, positively or negatively;
- c) Identification of how change or development would impact on Integrity and Authenticity, positively or negatively; and
- d) Consideration of how adverse impacts of the Scheme might be mitigated.

5.6.2 The assessment includes the following elements:

- a) Assessment of potential impacts on Asset Groups that convey the Attributes of OUV; and
- b) Assessment of the potential impact of the Scheme on discrete assets that convey the Attributes of OUV;
- c) Assessment of potential overall impacts on each of the Attributes of OUV of the WHS;
- d) A qualitative assessment of the likely impact of the Scheme on the fabric and setting of the designated and non-designated discrete assets that contribute to OUV. This characterises the heritage resource and identifies assets that convey Attributes that express the OUV. The potential impacts of the construction and operation of the Scheme on the fabric and setting of the designated and non-designated assets that contribute to OUV is assessed; and
- e) The 'do nothing' scenario is also assessed, with reference to the 2015 WHS Management Plan (Simmonds and Thomas 2015) and the 2012 WHS Condition Survey (Wessex Archaeology 2012).

5.6.3 From this, the overall impact of the Scheme upon the Attributes of OUV of the WHS and its OUV, Integrity and Authenticity is then assessed.

5.6.4 The alignment of the Scheme with the 2015 WHS Management Plan vision, aims and policies is assessed.

### **Temporal scope**

5.6.5 The timescales considered by the HIA span the construction, operation and maintenance of the Scheme.

5.6.6 Should the Scheme be approved, it is anticipated that construction would commence in 2021 and the Scheme would open in 2026.

- 5.6.7 The Scheme is being designed as permanent infrastructure. The design life expectancy of the Scheme is 120 years. It is anticipated that this use life would be extended by the continual maintenance and replacement of components. It is not anticipated that it would be decommissioned.
- 5.6.8 The Business Case Model for the Scheme spans 90 years (three generations).

*Indicative design working life*

- 5.6.9 The indicative design working life of the Scheme is based on BS EN 1990, Eurocode – Basis of structural design, UK National Annex to BS EN 1990:2002 Basis of Structural Design, in accordance with DMRB Volume 1 Highway Structures: Approval Procedures and General Design, Section 3 General Design, Part 19 BD 100 / 16 The use of Eurocodes for the design of highway structures (Highways England 2016).
- 5.6.10 The design working life for Category 5 components (monumental building structures, bridges and other civil engineering structures) is 120 years. Elements include bridges, tunnels, retaining walls and buried structures.
- 5.6.11 Some components are expected to need renewal. These are design working life Category 2 components (replaceable structural parts, e.g. gantry girders, bearings), with up to 50 years design working life. These include expansion joints, safety barriers, waterproofing systems and parapets.
- 5.6.12 The pavement design life assumption is 40 years. The drainage elements will vary in life expectancy from 20 years for the proprietary treatment system in the base of the infiltration basins to 120 years for rigid pipework.
- 5.6.13 Ongoing maintenance would ensure the tunnel lasts beyond its design life span.

*Operational maintenance and theoretical decommissioning*

- 5.6.14 There are no plans to decommission the Scheme and decommissioning is excluded from the Highways England design brief. This is addressed in ES Chapter 2, The Scheme.
- 5.6.15 This HIA considers the theoretical decommissioning of the Scheme as this was recommended in the 2018 Joint WHC-ICOMOS Advisory Mission (UNESCO / ICOMOS 2018), although given the many variables involved, it is not assessed that it is possible to make any realistic assessment of impacts and effects in this timeframe.
- 5.6.16 Operational maintenance and theoretical decommissioning aspects are considered in HIA Section 9.2, Impacts and effects of Scheme: overview: Theoretical decommissioning.

## Assessment assumptions and limitations

- 5.6.17 The information gathered to date is considered sufficient to provide the basis of the assessment for HIA purposes. However, the following assumptions and limitations apply:
- a) Whilst primary source material has been consulted where practicable, given the volume of past scholarship relating to the Stonehenge landscape, reliance has necessarily been placed on secondary syntheses – particularly, for example, in relation to historic archaeological investigations.
  - b) The correctness and completeness of the NHLE and HER databases is assumed. Where there is a variance between scheduled areas and or other features plotted from historic aerial photographs or geophysics, the most recently acquired geophysical survey data is assumed to be the accurate data source.
  - c) The NHLE data used for this assessment was that available to download on 9 May 2018. The HER data used was provided on 05 June 2018. Any subsequent changes to these datasets have not been captured by this assessment.
  - d) In several instances, the scheduled monument boundaries and formal descriptions do not precisely correspond with the positions of sites, in particular barrows, indicated by the WSHER data. In part, this may be due to the lack of surface expression of several of the monuments, which are known largely from assessments of aerial photographs, antiquarian investigations and occasional modern interventions. As a result, the exact number and morphologies of certain monuments is unclear.
  - e) This assessment recognises that there has been far more intensive study of Stonehenge and the northern part of the WHS, with comparatively little work in the WHS to the south of the A303, and in areas to the east and west of the WHS boundaries. This is reflected in the desk-based baseline, with a sparser distribution map of sites in the less investigated areas. The fieldwork undertaken as part of this assessment addresses this data imbalance within the footprint of the Scheme.
  - f) Most heritage assets were directly visited where access to private land was available. Where this was not possible heritage assets were observed from adjacent rights of way. The principal exceptions have been Vespasian's Camp Barrows (AG32), the south-western elements of the Rollestone Barrows (AG10) south-west of Rollestone Corner, and monuments north of the Packway in areas of ongoing building work (Larkhill Causewayed Enclosure (AG39)) and within the military

base (Knighton Long Barrow (AG37)). A full earthwork survey has been undertaken at Vespasian's Camp by Historic England (Bowden 2016). In none of these cases, where direct access was not possible, is this deemed to have affected the ability to understand the physical character of the asset(s) in question or to correctly assess the impacts of the Scheme.

- g) No new LiDAR survey or aerial photographic surveys were commissioned to supplement the existing Environment Agency LiDAR data and aerial photograph mosaic. The existing datasets, combined with the results of intensive fieldwork programmes, provide a high level of confidence regarding the archaeological baseline identified within the footprint of the Scheme.
- h) Unpublished geophysical survey data for the Scheme and within a limited buffer was kindly released to the A303 project from the Stonehenge Hidden Landscapes Project team. This has supplemented data published as part of Historic England's Southern WHS project and data acquired for the Scheme.

### Variations from HIA Scoping

5.6.18 The layout of this HIA varies in places from the chapter order / titles in ICOMOS 2011 guidance. The following changes have been made to bring the impact and effect of the Scheme on the OUV of the WHS to the fore:

- The A303 project anticipates that the majority of archaeological mitigation works that require archaeological fieldwork and recording would be undertaken prior to construction. Therefore in this HIA the mitigation section is not split into 'Mitigation measures needed before the development or change proceeds' and 'Mitigation measures needed during construction or change'.
- Rather than the 2008 Operational Guidelines for the Implementation of the World Heritage Convention noted in the ICOMOS 2011 guidance, this HIA applies the principles of the 2017 Operational Guidelines (UNESCO 2017).
- An additional section on abbreviations is provided (HIA Section 15, Abbreviations).

5.6.19 The following elements of the HIA vary from those proposed in the HIA Scoping report (Highways England 2018):

- The initial Asset Groups set out in the HIA Scoping have been refined and subdivided to enable clarity in the assessment of Scheme impacts and effects. The Normanton Down Barrows (AG19), the King Barrows (AG26) and the Countess Farm Barrows

(AG31) have been subdivided to better assist assessment of different impacts and effects on these very extensive Asset Groups.

- The Winterbourne Stoke Hill Group Ring-ditches (AG05) and the Bulford Barrow Cemetery (AG34) are both located beyond the current WHS boundary. They have limited relationships with assets conveying Attributes of OUV located within the WHS. These two Asset Groups are therefore not considered to convey Attributes of OUV and are therefore addressed in ES Chapter 6, Cultural Heritage, rather than in this HIA.

5.6.20 The assessment of Scheme impacts on Asset Groups and discrete heritage assets is set out in HIA Section 6.9, Asset Groups: baseline description and assessment of Scheme impacts and effect and Section 6.10, Discrete and isolated assets: baseline description and assessment of Scheme impacts and effect. This change in structure from the HIA Scoping report aims to avoid splitting up the text. Overall impacts on various aspects of the WHS, Attributes of OUV, Integrity, Authenticity and OUV are considered in HIA Sections 9, Assessment and evaluation of overall impact of the proposed changes and 11, Evaluation of overall impact and significance of effect of Scheme on the OUV of the WHS.

5.6.21 Throughout the text, for clarity, the terms Integrity, Authenticity and Attributes have been capitalised where they relate to the Integrity and Authenticity of the WHS and Attributes of OUV and have specific meanings in HIA (see HIA Section 13). However, the terms are not capitalised where they appear in citations in which they were not originally capitalised.

## 5.7 Evaluation of heritage resource

5.7.1 The evaluation method used is that set out in appendix 3a of the ICOMOS Guidance (ICOMOS 2011). The value of heritage assets is assessed in relation to statutory designations (international, national and local), but linked to the components identified in the SoOUV. Where necessary, qualitative assessments have been made using professional judgement to determine the value of the heritage resource. *'Whilst this method should be used as objectively as possible, qualitative assessment using professional judgement is inevitably involved.'* (ICOMOS 2011).

5.7.2 The value attributed to heritage assets is based on relevant legislation and policy:

- a) ICOMOS Guidance on HIAs for Cultural World Heritage Properties (ICOMOS 2011);
- b) National Policy Statement for National Networks (NPSNN) (DfT 2014);
- c) National Planning Policy Framework (NPPF) (MHCLG 2018);

- d) Planning Practice Guidance (PPG) (DCLG 2014);
- e) DMRB Volume 11 Environmental Assessment, Section 3 Environmental Topics, Part 2 HA 208 / 07 Cultural Heritage (Highways Agency 2007);
- f) Research potential, in line with the Research Framework for the Stonehenge, Avebury and Associated Sites WHS (Wessex Archaeology 2016).

5.7.3 The values of the assets and attributes are defined using the following graded scale, in accordance with Table 3 below:

**Table 3: Method for the assessment of the value of heritage resources (based on ICOMOS 2011 appendix 3A: Example Guide for assessing value of heritage assets)**

Value / level of significance	Heritage attributes
Very High	<p>Sites, structures or landscapes of acknowledged international importance inscribed as a WH property. Individual attributes that convey OUV of the WH property. Assets that contribute significantly to acknowledged international research objectives.</p> <p>Landscapes of acknowledged international importance inscribed as a WH property. Individual attributes that convey OUV of the WH property. Historic landscapes of international value, whether designated or not. Extremely well-preserved historic landscapes with exceptional coherence, time-depth, or other critical factors.</p> <p>Associations with particular innovations, technical or scientific developments or movements of global significance. Associations with particular individuals of global importance.</p>
High	<p>Scheduled monuments and non-designated assets of the quality and importance to be scheduled. Assets that can contribute significantly to acknowledged national research objectives.</p> <p>Grade I and II* listed buildings and Grade II listed buildings with exceptional qualities. Conservation Areas containing very Important buildings. Non-designated structures of clear national importance.</p> <p>Nationally-designated and non-designated historic landscapes of outstanding interest, high quality and national importance. Well-preserved historic landscapes with considerable coherence, time depth or other critical factors.</p> <p>Associations with particular innovations, technical or scientific developments or movements of national significance. Associations with particular individuals of national importance.</p>

Value / level of significance	Heritage attributes
Medium	<p>Designated or non-designated archaeological assets that can contribute significantly to regional research objectives.</p> <p>Grade II listed buildings and non-designated buildings that have exceptional qualities or historical associations. Conservation Areas containing buildings that contribute significantly to its historic character.</p> <p>Designated special historic landscapes. Non-designated historic landscapes that would justify special historic landscape designation. Landscapes of regional value. Averagely well preserved historic landscapes with reasonable coherence, time depth or other critical factors.</p> <p>Associations with particular innovations or developments of regional or local significance. Associations with particular individuals of regional importance.</p>
Low	<p>Designated or non-designated assets of local importance. Assets compromised by poor preservation and / or poor survival of contextual associations. Assets of limited value, but with potential to contribute to local research objectives.</p> <p>Locally listed buildings and historic (unlisted) buildings of modest quality in their fabric or historical associations.</p> <p>Robust non-designated historic landscapes. Historic landscapes with importance to local interest groups. Historic landscapes whose value is limited by poor preservation and / or poor survival of contextual associations.</p> <p>Associations with particular individuals of local importance. Poor survival of physical areas in which activities occur or are associated.</p>
Negligible	<p>Assets with little or no surviving archaeological interest.</p> <p>Buildings or urban landscapes of no architectural or historical merit; buildings of an intrusive character.</p> <p>Landscapes of little or no significant historical interest.</p> <p>Few associations or intangible cultural heritage vestiges surviving.</p>
Unknown	<p>The importance of the asset has not been ascertained.</p> <p>Buildings with some hidden (i.e. inaccessible) potential for historic significance.</p> <p>Little is known or recorded about the intangible cultural heritage of the area.</p>

5.7.4 The value of both Asset Groups and discrete heritage assets that contribute to the OUV of the WHS and individual attributes (located both within and without the WHS) which convey the OUV of the WHS is assessed. The HIA describes Asset Groups and discrete heritage assets, and assesses their condition, value, inter-relationships and sensitivity.

5.7.5 In assessing value, consideration is given to the contribution made by archaeological remains to OUV for the evidential and historic values, as well as their condition. For example, the value of materials damaged by ploughing or pig rooting action, or *ex situ* remains removed from their archaeological context, is considered to be lower than that of *in situ* remains.

### *International value*

#### World Heritage Site

- 5.7.6 The Stonehenge, Avebury and Associated Sites WHS is a designated heritage asset. The WHS is internationally important for its complexes of outstanding prehistoric monuments.
- 5.7.7 *'The monuments of the Stonehenge, Avebury, and Associated Sites World Heritage Sites property demonstrate outstanding creative and technological achievements in prehistoric times. The World Heritage Site provides an outstanding illustration of the evolution of monument construction and of the continual use and shaping of the landscape over more than 2000 years, from the Early Neolithic to the Bronze Age. The monuments and landscape have had an unwavering influence on architects, artists, historians, and archaeologists, and still retain a huge potential for future research. The complexes of monuments at Stonehenge and Avebury provide an exceptional insight into the funerary and ceremonial practices in Britain in the Neolithic and Bronze Age. Together with their settings and associated sites, they form landscapes without parallel.'* (HBMCE 1985).

### *National value*

#### Scheduled monuments

- 5.7.8 The landscape surrounding Stonehenge contains archaeological features such as barrow cemeteries / groups, other henges, and earthworks (e.g. linear boundaries). Evidence of these features survives as upstanding monuments or buried features, but is also recorded from earlier fieldwork, aerial photography and historic documents. The WHS includes 175 scheduled monuments including approximately 415 individual archaeological items or features.
- 5.7.9 All scheduled monuments that contribute to the OUV of the WHS are considered internationally important or of Very High value.

#### Guardianship monuments

- 5.7.10 Two monuments, Stonehenge and Woodhenge, together with adjacent land are in State Guardianship under the terms of the Ancient Monuments and Archaeological Areas Act 1979, as is part of a third monument, Durrington Walls. All responsibilities for the management of Guardianship sites rest with the State.

#### Area of Special Archaeological Significance

- 5.7.11 The whole of the WHS and the surrounding area is identified as an Area of Special Archaeological Significance within the adopted Local Plan. This

designation covers a very extensive area north of Salisbury, including much of Salisbury Plain; the archaeological significance of the designated area relates to the rich prehistoric landscape, which extends across this part of southern Wiltshire.

#### Other categories of designated heritage asset

- 5.7.12 Other categories of designated heritage asset, including listed buildings, registered parks or gardens, conservation areas and historic hedgerows and boundaries do not express Attributes of OUV and have no immediate chronological or spatial relationship with those prehistoric assets which express Attributes of OUV.
- 5.7.13 However, in accordance with HIA guidelines (ICOMOS 2011), a description of nationally designated sites is contained in Section 6.5, Nationally and locally designated sites and non-designated heritage assets.
- 5.7.14 ES Chapter 6, Cultural Heritage, sets out:
- Scheme impacts on high-value assets on which there may be an impact upon setting, up to 2km beyond the Scheme boundary; and
  - Scheme impacts on designated heritage assets within 500m of the Scheme boundary.

#### *Local value*

- 5.7.15 In accordance with HIA guidelines (ICOMOS 2011), a description of locally designated and non-designated heritage assets is contained in HIA Section 6.5, Nationally and locally designated sites and non-designated heritage assets.
- 5.7.16 Scheme impacts on all heritage assets within 500m of the Scheme boundary, including local and non-designated heritage assets, are set out in ES Chapter 6, Cultural Heritage.

#### *Other values*

- 5.7.17 The 2015 WHS Management Plan notes that *'In addition to the Outstanding Universal Value, which gives the Site its international significance, there are other national and local values which have to be taken into account in management decisions. These are set out in the two management plans for Stonehenge and Avebury. They include the archaeological and historical significance of other periods from the Mesolithic onwards, continually augmented by new discoveries, social value and local needs, educational resource, ecological value, tourism, agriculture and other economic activities.'*

- 5.7.18 These other values are not pertinent to OUV, and therefore are beyond the remit of the HIA. They are considered within the ES as follows:
- a) Heritage assets of national and local value and other periods are considered in ES Chapter 6, Cultural Heritage.
  - b) Ecological value is considered in ES Chapter 8, Biodiversity.
  - c) Social value and local needs, educational resource, tourism, agriculture and other economic activities are considered in ES Chapter 13, People and Communities and in the Economic Case of the Outline Business Case (OBC).

5.7.19 *'The movable artefacts from the World Heritage Site are important in developing our understanding of prehistoric culture. Many of them are held at the nearby Wiltshire Heritage Museum in Devizes, the Salisbury and South Wiltshire Museum, Salisbury and the Alexander Keiller Museum at Avebury itself.'* (Simmonds and Thomas 2015, 23). The objects in these collections are an important educational asset, and also inform people's sense of identity, wonder and connection with ancestors.

## **5.8 Assessment of scale of specific impact and change**

- 5.8.1 The scale of impact is assessed based on Guidance on HIAs for Cultural World Heritage Properties (ICOMOS 2011, appendix 3A). The scale or severity of impacts or changes (both adverse and beneficial) takes into account their direct and indirect effects and whether they are temporary or permanent, reversible or irreversible, transient, and related to visual, physical, social, cultural and economic aspects. The scale of impacts is assessed without regard to the value of the asset.
- 5.8.2 The cumulative effect of separate impacts is considered (see HIA Section 1, Cumulative impact assessment).
- 5.8.3 The scale or severity of impact is ranked as:
- No change;
  - Negligible change;
  - Minor change;
  - Moderate change;
  - Major change (ICOMOS 2011, para 5–7).
- 5.8.4 Table 4 sets out the method used for assessing the magnitude of impact.

**Table 4: Method for the assessment of the magnitude of impact upon heritage resources (based on ICOMOS 2011 Appendix 3B: Example guide for assessing magnitude of impact)**

Impact grading	Heritage attributes
Major	<p>Changes to attributes that convey OUV of WH properties. Most or all key archaeological materials, including those that contribute to OUV such that the resource is totally altered. Comprehensive changes to setting.</p> <p>Change to key historic building elements that contribute to OUV such that the resource is totally altered. Comprehensive changes to the setting.</p> <p>Change to most or all key historic landscape elements, parcels or components; extreme visual effects; gross change of noise or change to sound quality; fundamental changes to use or access; resulting in total change to historic landscape character unit and loss of OUV.</p> <p>Major changes to area that affect the Intangible Cultural Heritage (ICH) activities or associations or visual links and cultural appreciation.</p>
Moderate	<p>Changes to many key archaeological materials, such that the resource is clearly modified. Considerable changes to setting that affect the character of the asset.</p> <p>Changes to many key historic building elements, such that the resource is significantly modified. Changes to the setting of an historic building, such that it is significantly modified.</p> <p>Change to many key historic landscape elements, parcels or components; visual change to many key aspects of the historic landscape; noticeable differences in noise or sound quality; considerable changes to use or access; resulting in moderate changes to historic landscape character.</p> <p>Considerable changes to area that affect the ICH activities or associations or visual links and cultural appreciation.</p>
Minor	<p>Changes to key archaeological materials, such that the resource is slightly altered. Slight changes to setting.</p> <p>Change to key historic building elements, such that the asset is slightly different. Change to setting of an historic building, such that it is noticeably changed.</p> <p>Change to few key historic landscape elements, parcels or components; slight visual changes to few key aspects of historic landscape; limited changes to noise levels or sound quality; slight changes to use or access; resulting in limited change to historic landscape character.</p> <p>Changes to area that affect the ICH activities or associations or visual links and cultural appreciation.</p>
Negligible	<p>Very minor changes to key archaeological materials, or setting.</p> <p>Slight changes to historic building elements or setting that hardly affect it.</p> <p>Very minor changes to key historic landscape elements, parcels or components; virtually unchanged visual effects; very slight changes in noise levels or sound quality; very slight changes to use or access; resulting in a very small change to historic landscape character.</p> <p>Very minor changes to area that affect the ICH activities or associations or</p>

Impact grading	Heritage attributes
	visual links and cultural appreciation.
No change	No change archaeological fabric or setting. No change to elements, parcels or components; no visual or audible changes; no changes in amenity or community factors. No change to area that affect the ICH activities or associations or visual links and cultural appreciation.
Unknown	The significance of the change has not been ascertained.

5.8.5 It should be noted that in many cases impacts on individual assets, groups of assets, or Attributes can potentially be multiple, from different construction activities or resulting from different elements of the Scheme. Impacts can be both negative and positive. In cases where a range of impacts are anticipated, both negative and positive impacts are described, and a judgement has been made assessing the overall impact and effect of the Scheme on Attributes of OUV.

5.8.6 ICOMOS guidance notes that, '*Direct impacts resulting in physical loss are usually permanent and irreversible; they normally occur as a consequence of construction and are usually confined within the development footprint. The scale or magnitude of these impacts will depend on the proportion of the attribute affected, and whether its key characteristics or relation to OUV would be affected.*' (ICOMOS 2011, para 5–4).

5.8.7 The significance of the effect of change on an attribute is a function of the importance of the attribute and the scale of change, thus reflecting the weighting of value in the assessment of impact. Change can be adverse or beneficial. The significance of effect is expressed on a nine-point scale with 'neutral' as its central point:

- Major beneficial;
- Moderate beneficial;
- Minor beneficial;
- Negligible beneficial;
- Neutral;
- Negligible adverse;
- Minor adverse;
- Moderate adverse; and
- Major adverse (ICOMOS 2011, para 5–8).

5.8.8 The principles of the significance of effect assessment matrix below (Table 5) have been applied to score the significance of effect as a function of the value of the heritage asset and the scale of change.

**Table 5: Significance of effect assessment matrix (based on ICOMOS 2011, p.9)**

VALUE OF HERITAGE ASSET	SCALE and SEVERITY OF CHANGE / IMPACT				
	No Change	Negligible Change	Minor Change	Moderate Change	Major Change
For WH properties Very High – attributes which convey OUV	SIGNIFICANCE OF EFFECT OR OVERALL IMPACT (EITHER ADVERSE OR BENEFICIAL)				
	Neutral	Slight	Moderate / Large	Large / Very Large	Very Large
For other heritage assets or attributes	SIGNIFICANCE OF EFFECT (EITHER ADVERSE OR BENEFICIAL)				
Very High	Neutral	Slight	Moderate / Large	Large / Very Large	Very Large
High	Neutral	Slight	Moderate / Slight	Moderate / Large	Large / Very Large
Medium	Neutral	Neutral / Slight	Slight	Moderate	Moderate / Large
Low	Neutral	Neutral / Slight	Neutral / Slight	Slight	Slight / Moderate
Negligible	Neutral	Neutral	Neutral / Slight	Neutral / Slight	Slight

5.8.9 The condition of sites and assets expressing Attributes of OUV is also considered. For example, the effect of a direct impact on a plough-reduced barrow may produce a lower significance of effect than one on an extant barrow, if the condition of the site affects the value of the heritage asset and its contribution to expressing Attributes of OUV.

5.8.10 The location and relationships of sites within and beyond the WHS to each other, and to the Scheme, is also considered.

5.8.11 Temporary impacts may be short-, medium- or long-term but they are reversible; irreversible impacts are described as permanent. Short-term would normally mean impacts that did not last longer than the construction period, medium-term impacts would persist beyond the construction period, but no more than 15 years, while long-term impacts would be longer than 15 years but are still reversible. Temporary impacts can still harm the OUV of the WHS.

- 5.8.12 Heritage assets and Asset Groups that contribute to the Attributes of OUV cannot be replaced or regenerated if they are physically damaged or destroyed, without damaging the authenticity of the WHS. All damaging impacts on the fabric of remains are, therefore, permanently negative.
- 5.8.13 All physical impacts are considered to be permanent and non-reversible. Impacts on the setting and visual relationships between assets that convey OUV and between those assets and the topography can be permanent (whether due to construction or operation of the Scheme) or temporary in nature.
- 5.8.14 Impact assessment takes into account the SoOUV, Attributes of OUV, Integrity and Authenticity, and considers the relationship between Attributes of OUV, Integrity and Authenticity. The effects of changes arising from development upon Integrity and Authenticity are assessed.

## 5.9 Evaluation of overall impact

- 5.9.1 Careful consideration has been given to the balance of beneficial and adverse impacts in HIA Section 11, Evaluation of overall impact and significance of effect of Scheme on the OUV of the WHS
- 5.9.2 The World Heritage Committee adopted the Budapest Declaration on World Heritage in 2002 (UNESCO 2002), which notes that States Parties should '*ensure an appropriate and equitable balance between conservation, sustainability and development, so that World Heritage properties can be protected through appropriate activities contributing to the social and economic development and the quality of life of our communities*'.
- 5.9.3 ICOMOS guidance notes that '*Every reasonable effort should be made to eliminate or minimise adverse impacts on significant places. Ultimately, however, it may be necessary to balance the public benefit of the proposed change against the harm to the place.*' (ICOMOS 2011, para 2-1-5).
- 5.9.4 When assessing a range of impacts on heritage assets, the HIA has taken into account both positive and negative impacts to arrive at an overall conclusion regarding the effect of the Scheme on the asset or group of assets. In making this balanced judgement, a precautionary approach has been adopted so as to avoid overstating positive impacts and beneficial effects where these arise.
- 5.9.5 The same approach is also applied when considering the impacts and effects of the Scheme on individual Attributes of OUV and the Integrity and Authenticity of the WHS. Again, a precautionary approach has been adopted.
- 5.9.6 The question of who may or may not benefit from the Scheme and its

effects has been explored. The HIA considers:

- a) The consultation processes undertaken in 2017 and 2018 to see the views of, and the engagement with, residents, communities, businesses, local organisations and other groups to ensure that people were able to have a say in proposals that affect them;
- b) Potential Scheme effects on people and communities are addressed in the ES, covering topics including community facilities (including tourism / leisure); local economy; land use; housing; transport systems / usage in the area; social profile of the study area; and health profile of the study area (ES Chapter 13, People and Communities); and
- c) Potential Scheme effects on socio-economics are addressed in the Outline Business Case.

## **5.10 Definition of the assessment area**

### **Assessment area**

- 5.10.1 The HIA considers and assesses the impact of the Scheme on Attributes of the OUV of the WHS, including the setting and relationships between the monuments within the visual envelope of the WHS. The Assessment Area is defined as the area within which significant effects may occur, taking into account both the visual envelope of the Scheme and the nature and scale of change arising from the proposals.
- 5.10.2 The HIA Assessment Area comprises the whole of the Stonehenge part of the Stonehenge, Avebury and Associated Sites WHS and its setting<sup>4</sup>. The HIA acknowledges that the effects of the Scheme may extend beyond the boundaries of the Stonehenge part of the WHS, and therefore also considers:
  - a) Impacts on assets outside the boundaries of the WHS that may contribute to one or more Attributes of OUV;
  - b) Impacts on assets outside the WHS boundary which have relationships with assets within the WHS expressing OUV;
  - c) Impacts upon the character of the setting of the WHS that would impact on Attributes of OUV within the WHS; and

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<sup>4</sup> A World Heritage Property Setting Study is currently being commissioned by the WHS Coordination Unit, but work had not been completed in time to include relevant information from it in this HIA report. After the World Heritage Property Setting Study has been completed, the boundary review at Stonehenge will be progressed (DCMS 2018).

- d) Indirect, secondary, in combination and cumulative impacts and effects upon the OUV of the Avebury part of the WHS.

5.10.3 Regarding boundaries, the 2015 WHS Management Plan notes:

*'It could be argued that some elements which might help us to better understand the significance of the Stonehenge part of the WHS are outside its boundaries. It therefore follows that it may not be of adequate size to ensure complete representation of the features which convey its OUV. There are Neolithic and Bronze Age funerary, ceremonial and communal monuments close to, but outside, the current boundary of the WHS, the remains of which, along with their physical and topographical inter-relationships should be considered for inclusion in a boundary extension. The obvious candidates include the causewayed enclosure of Robin Hood's Ball and the long barrows in this general area to the north and west of the WHS, one of which is only a few metres north of the current boundary.'*

5.10.4 A minor boundary review at the Stonehenge part of the WHS began in 2012, but is still in progress and will be reviewed following the preparation of a WHS Setting Assessment. It was agreed that monuments that were not visible from the immediate vicinity of the WHS and distant features should not be included. The review considers, having regard to the advice in the Management Plan, well-preserved Neolithic or Early Bronze Age sites nominated in the original statement of significance (e.g. Robin Hood's Ball, long barrows) but located beyond the present boundary, and physically related archaeological features that contribute to OUV. Mooted changes include:

- a) The removal of houses along Countess Road North (West) from within the boundary;
- b) The extension of the boundary to the north and west of the existing WHS boundary, including:
  - i. Scheduled enclosures, round barrows, long barrows and causewayed enclosure associated with Robin Hood's Ball;
  - ii. Scheduled barrows and section of linear boundary earthwork on Winterbourne Stoke Down;
  - iii. Scheduled barrows at Rollestone;
  - iv. Scheduled barrows and enclosure at Longbarrow Crossroads;
  - v. Scheduled barrows north of the Packway;
  - vi. Scheduled Knighton long barrow;

- vii. Scheduled long barrow in Larkhill Camp; and
- viii. Unscheduled barrows of the Net Down group.

5.10.5 This HIA considers impacts upon both sites located with the current WHS boundary, and physically related archaeological features that contribute to OUV located outside the current boundary.

### **Asset Groups and discrete assets**

5.10.6 There are over 1700 known archaeological features (including find spots) recorded within the Stonehenge part of the WHS, and 175 scheduled assets, many of them covering extensive areas and multiple sites. These 175 scheduled monuments include approximately 415 further individual archaeological items or features (Simmonds and Thomas 2015, 320).

5.10.7 To enable assessment, a range of Asset Groups and discrete heritage assets that convey the Attributes of OUV of the WHS have been identified. Although these are not in themselves individually of OUV, they collectively express the Attributes that are the basis of the designation of the WHS as identified in the 2008 Statement of Significance (UNESCO 2008).

5.10.8 Heritage assets have been grouped with reference to the Attributes of OUV in relation to their location (e.g. proximity and topography), date and inter-relationships (e.g. inter-visibility and grouping). This approach was endorsed in the 2015 Joint World Heritage Centre / ICOMOS Advisory Mission report (ICOMOS 2016, 10).

5.10.9 The definition of Asset Groups associated with the WHS has been guided by previous assessment work related to developments within the WHS, including:

- a) ESs and / or HIAs for the Stonehenge Environmental Improvements Project (Wessex Archaeology 2009) and the new Stonehenge Visitor Centre and associated works (Chris Blandford Associates 2009; Chris Blandford Associates 2014; Chris Blandford Associates 2016).
- b) Assessments undertaken at the option selection stage for the A303 Scheme (Highways England 2016a; Highways England 2016b).
- c) Outline Assessments undertaken in relation to the A303 improvement by Historic England and the National Trust (Snashall and Young 2014; *ibid.* 2017).

5.10.10 The Asset Groups used in this HIA, their extents and their components were discussed and agreed with HMAG.

5.10.11 Desk-based research has been undertaken to inform the baseline and

understand which Asset Groups and isolated and discrete heritage assets express which Attributes of OUV. This information is presented in Sections 6.8, Previous archaeological investigations in the WHS and field surveys related to the Scheme; 6.9, Asset Groups and 6.10, Discrete and isolated assets. HIA Annexes 6, 7 and 8 explore OUV Attribute 7, the influence of the remains of the Neolithic and Bronze Age funerary and ceremonial monuments, and their landscape setting on architects, historians and archaeologists.

- 5.10.12 Archaeoastronomy is considered in HIA Sections 6.8, Previous archaeological investigations in the WHS and field surveys related to the Scheme; 6.9, Asset Groups and 6.10, Discrete and isolated assets and in Section 6.15, Archaeoastronomical aspects of the Stonehenge WHS (Chadburn and Ruggles 2017).
- 5.10.13 Asset Groups and discrete heritage assets that convey the attributes of the OUV of the WHS have been updated to include recent discoveries related to archaeological evaluation for the Scheme (see HIA Section 6.8, Previous archaeological investigations in the WHS and field surveys related to the Scheme).
- 5.10.14 These Asset Groups are subjective. The meaning, use and function of prehistoric sites, and movement through the landscape in the past, are not fully known or understood, and are subject to changing interpretations. There are still major gaps in our current understanding the chronological relationships between monuments, groups, and past landscapes.
- 5.10.15 It is recognised that some groups extend over considerable areas, and that the impacts of the Scheme may not occur uniformly across a given group. Where this occurs, the differential effects upon the component elements (e.g. individual monuments) are drawn out in the discussion. The most extensive groups have been sub-divided in order to aid this differentiation.

*Asset Groups within the Stonehenge part of the Stonehenge, Avebury and Associated Sites WHS boundary*

- 5.10.16 The identification of the key groups expressing the seven Attributes of OUV reflects the results of recent archaeological survey work, site visits and topographical and geographical connections noted using the project GIS. Site visits and the visual sensitivity model in the 2015 WHS Management Plan have been used together with the Scheme's evolving ZTV model, a bare earth digital terrain model derived from aerial LiDAR surveys and AR visualisations for the Scheme to help to identify relevant relationships.
- 5.10.17 Both designated and non-designated assets have been considered in identifying groupings. Assessment is confined to those monument groups

which are potentially affected by the Scheme (physical or setting impacts). Assessment takes account of the present-day baseline (the 'do-nothing scenario'), including the presence of the existing A303 in the landscape.

- 5.10.18 The identification of Asset Groups takes account of sites and monuments with no surface expression, including ploughed-down earthworks. Archaeological features such as pit clusters and artefact scatters in the ploughzone are also considered. Their significance is assessed as part of the 'Associated Sites' element of the WHS and in relation to their research potential, in line with, for example, the Research Framework for the Stonehenge, Avebury and Associated Sites WHS (Leivers and Powell 2016), and the contribution they can make to the Attributes of OUV of the WHS.
- 5.10.19 Asset Groups are also referred to in ES Chapter 6, Cultural Heritage. The numbering and contents of the Asset Groups in the ES and the HIA are the same. Numbering goes from west to east. Asset Groups outside the WHS boundary are illustrated on ES Chapter 6, figure 6.6; discrete scheduled monuments are illustrated in ES Chapter 6, figure 6.2 and 6.3a–e and discrete non-designated assets in ES Chapter 6, figure 6.8a–e.
- 5.10.20 For the purposes of assessment, some Asset Groups have been divided into subgroups to enable transparent assessment and avoid blurring the assessment of differing impacts and effects across wide areas.
- 5.10.21 Identified Asset Groups that convey Attributes of the OUV of the WHS within the WHS boundary comprise:
- AG10 – Rollestone Barrows
  - AG11 – Lesser Cursus Barrows and Pit Circle
  - AG12 – Winterbourne Stoke Crossroads Barrows
  - AG13 – The Diamond Group
  - AG15 – The Lesser Cursus
  - AG16 – North Kite Enclosure and Lake Barrows
  - AG17 – Barrow West of Stonehenge
  - AG18 – The Cursus Barrows (West)
  - AG19 – Normanton Down Barrows
    - AG19A – Normanton Down barrow group – north

- AG19B – Normanton Down barrow group – central
- AG19C – Normanton Down barrow group – south-west
- AG19D – Normanton Down barrow group – south-east
- AG20 – Durrington Down Barrows
- AG21 – Stonehenge Barrows
- AG22 – Stonehenge
- AG23 – The Greater Cursus (The Greater Cursus, Amesbury 56 and Winterbourne Stoke 30 Round Barrows, and the Amesbury 42 Long Barrow)
- AG24 – Stonehenge Bottom / Luxenborough Barrows
- AG25 – Packway Barrows
- AG26 – The King Barrows (Old and New King Barrows, excluding outliers to the west which are not part of the main ridge group)
  - AG26A – King Barrows – Old King Barrows – north
  - AG26B – King Barrows – New King Barrows – south
- AG27 – The Avenue
- AG28 – The Cursus (East) – long barrow situated at its eastern end and Cursus east end barrows
- AG29 – Coneybury Henge and Associated Monuments
- AG30 – The Avenue Barrows (including some barrows scheduled under Stonehenge and The Avenue)
- AG31 – Countess Farm Barrows
  - AG31A – Countess Farm barrow group – north
  - AG31B – Countess Farm barrow group – south-west
  - AG31C – Countess Farm barrow group – south-east
- AG32 – Vespasian’s Camp Barrows
- AG33 – Durrington Walls, Woodhenge and Associated Sites

- 5.10.22 In addition to Asset Groups, the WHS also contains a wide range of discrete and isolated heritage assets which do not readily conform to topographic or geographical groupings, but do contribute to expressing Attributes of OUV and the wider significance of the WHS. These are also considered in the HIA, where it is considered that the Scheme may impact upon their fabric or setting.
- 5.10.23 The Stonehenge and Avebury WHS Research Framework identified six broad themes, reflecting the various aspects of the unique character of these landscapes: connected landscapes, ceremonial monuments, burials and barrows, landscape history and memory, human generations and daily life (Leivers and Powell 2016, 12). Discrete and isolated sites include sites related to these themes, as well as geographically or thematically isolated sites, and also include isolated barrows and burials.
- 5.10.24 Some aspects of settlement and activity within the landscape may exist only as artefactual remains. Physical remains may be ephemeral, or may have been lost to modern land use; however, artefactual evidence may remain in the topsoil. Finding settlement sites within the WHS is rare; however, associated sites that may contribute to Attributes of OUV include:
- a) Neolithic occupation / pits at King Barrow Ridge;
  - b) Neolithic settlement at Durrington Walls (part of AG33);
  - c) Isolated Neolithic pits and pit groups.

*Asset Groups outside the Stonehenge part of the Stonehenge, Avebury and Associated Sites WHS*

- 5.10.25 There are a range of potentially related Asset Groups that do not fall within the current boundaries of the WHS. Robin Hood's Ball, Neolithic long barrows and Early Bronze Age round barrows are specifically noted in the nomination document (HBMCE 1985). All of these monuments were once situated within a more expansive and unified cultural landscape, only the core of which is encompassed by the formal boundary of the Stonehenge WHS. A boundary review is underway by the Stonehenge and Avebury WHS Coordination Unit. It is not being undertaken as part of this HIA. Assets groups of Neolithic and early to mid-Bronze Age date, which fall within the setting of the WHS, and whose significance is reinforced by relationships with assets conveying Attributes of OUV located within the WHS, have been assessed in this HIA. Such Asset Groups located outside the current WHS boundary comprise:
- AG06 – Net Down Barrow Cemetery
  - AG08 – Winterbourne Stoke Down Barrows

- AG14 – Robin Hood’s Ball and Associated Sites
  - AG37 – Knighton Long Barrow
  - AG38 – Larkhill Camp Long Barrow
  - AG39 – Larkhill Causewayed Enclosure
- 5.10.26 Two isolated heritage assets outside the WHS boundary of Early Neolithic to early to mid-Bronze Age date fall within the setting of the WHS and contribute demonstrably to conveying Attributes of OUV. These comprise:
- A scheduled Bronze Age enclosure and bowl barrow 100m west of Longbarrow Cross Roads on Winterbourne Stoke Down (NHLE 1011048); and
  - A scheduled bowl barrow 450m south south-west of Airman's Corner on Winterbourne Stoke Down (NHLE 1008949).
- 5.10.27 Potential indirect Scheme impacts upon the Avebury part of the Stonehenge, Avebury and Associated Sites WHS are considered in HIA Section 9.3, Potential impacts and effects of Scheme: aspects of the WHS: Impacts and effects on the Avebury part of the WHS.
- 5.10.28 It is assessed that effects on other sites and monuments within the assessment area would not be significant due to the intervening topography and the scale of change over existing conditions.

*Asset Groups scoped out of the HIA*

- 5.10.29 The SoOUV clearly sets out that those sites that contribute to OUV relate to monuments built c. 3700 to 1600 BC i.e. the Early Neolithic to the Early Bronze Age (inclusive). The following assets do not convey the Attributes of OUV defined in the SoOUV. For this reason, they have been scoped out of the HIA. They are, however, considered in the ES (Highways England 2018):
- a) Mesolithic sites, including four large early Mesolithic post settings west of Stonehenge on the site of the previous Stonehenge car park (Wiltshire HER MWI12433), lithic and faunal evidence for sustained or repeated Mesolithic activity at the spring line at Blick Mead (MWI74473 and MWI74449) and other Mesolithic finds identified within the WHS, including findspots of worked stone.
  - b) Middle Bronze Age and later settlement at the Longbarrow Crossroads (MWI6924); possible settlement at Fargo Plantation (MWI12537; MWI12532; MWI12531) and south of Stonehenge Cottages (MWI12533); field systems including Wessex Linears (although some may predate the Middle Bronze Age, this has not yet been proven) and

Middle Bronze Age burials (MWI75682, West Amesbury).

- 5.10.30 A number of Asset Groups and discrete assets inside the WHS boundary, but on its southern edge, have been scoped out of the HIA due to intervening topography. Potential harmful impacts from the Scheme upon these Asset Groups was screened out based on site visits and ZTV modelling, and following discussion and agreement with HMAG:
- a) Rox Hill Barrow Cemetery;
  - b) Wilsford Barrow Cemetery;
  - c) Lake Down Barrow Cemetery; and
  - d) Lake House Barrow Cemetery.
- 5.10.31 Outside the WHS boundary to the west, Asset Groups scoped out of the HIA due to intervening topography and lack of inter-visibility with monuments that contribute to the OUV of the WHS within it include:
- a) Winterbourne Stoke West round barrow cemetery and the Coniger enclosure (Asset Group AG03, addressed in ES Chapter 6, Cultural Heritage);
  - b) Winterbourne Stoke East round barrow cemetery and earthwork enclosure on Fore Down (AG04, addressed in ES Chapter 6, Cultural Heritage); and
  - c) Winterbourne Stoke Hill ring-ditches (AG05, addressed in ES Chapter 6, Cultural Heritage).
- 5.10.32 Outside the WHS boundary to the north, the scheduled long barrow east of Netheravon Bake has been scoped out of HIA due to intervening topography (NHLE 1009520).
- 5.10.33 Outside the WHS boundary to the east and the south-east, those potential Asset Groups scoped out of the HIA, due to intervening topography and lack of inter-visibility with monuments that contribute to OUV within the WHS, include:
- a) Bulford Barrow Cemetery (AG34, addressed in ES Chapter 6, Cultural Heritage);
  - b) Earls Farm Down Barrow Cemetery (AG35, addressed in ES Chapter 6, Cultural Heritage);
  - c) Boscombe Down Airfield Barrow Cemetery;
  - d) Amesbury Down Barrow Cemetery;

- e) King's Gate, Amesbury; and
- f) Archaeological remains located at Archers Gate, Amesbury.

## 6 Site history and description

### 6.1 Introduction

- 6.1.1 This part of the HIA sets out the spatial context, geology, topography and chronological context of the study area. It considers nationally and locally designated and non-designated heritage assets. It describes the historical development and character of the study area, considering the historic landscape, including field patterns, boundaries and extant historic elements of the landscape and cultural heritage.
- 6.1.2 It sets out the OUV of the WHS, including inscription criteria, Statement of Significance (UNESCO 2008), the SoOUV (UNESCO 2013), and the description of the Attributes which convey OUV and which contribute to Integrity and Authenticity described in the 2015 WHS Management Plan (Simmonds and Thomas 2015).
- 6.1.3 This section describes the condition of the whole and of individual Attributes and components, physical characteristics, sensitive viewpoints and intangible associations which may relate to Attributes. Although it focuses on the areas affected, it includes a description of the whole.

### 6.2 Spatial context, geology and topography

- 6.2.1 The 2005 Stonehenge WHS Archaeological Research Framework (Darvill (ed) 2005, 35–36) describes the spatial context of the area as follows:

*‘Physically, the Stonehenge Landscape comprises a substantial block of rolling chalk downland on the southern edge of Salisbury Plain [...] Two rivers, the Avon to the east and the Till to the west, run broadly north to south through the landscape, subdividing it into three principal geo-topographical units [...] Both rivers drain southwards, the Avon being the main river, emptying into the English Channel at Christchurch in Hampshire. The River Till is a north-bank tributary of the Wylye which itself flows into the Avon via the Nadder at a confluence near modern-day Salisbury.*

*Geologically, the area is dominated by the middle and Upper Chalk which is an essentially calcareous bedrock giving rise to neutral or alkaline free-draining soils. This provides suitable geochemical conditions for the fair to good survival of many kinds of archaeological materials, including bone and calcium-rich materials such as molluscan remains. The area was subject to major geomorphological changes during the late Pliocene and Pleistocene (Kellaway 1991; 2002). Glacial and periglacial action in particular led to the formation of superficial deposits such as clay with flints, chalky drift, and loess that are less calcareous, and provide important parent material for the formation of soils (mainly rendzinas, brown*

*calcareous earths, and argillic brown earths). Together with buried soils these create microenvironments whose chemistry ranges from neutral to slightly acidic where calcareous material is less well preserved or absent, but pollen does occasionally survive. Bands of nodular flint occur within the chalk and where near the surface give rise to stony soils. Descriptions of soil cover and the effects on the archaeology of the area have been provided by Richards (1990, 6–7); Findley et al. (1984) provide the broader regional context (see also Darvill 1991a, 37–45).*

*The downland east of the Avon rises steadily from around 100m OD along the river valley to about 140m OD at Silk Hill just 2.5km east of the river. A relatively elevated plateau represented by (from south to north [...]) Boscombe Down, Earl's Farm Down, Bulford Field, Milston Down, Ablington Down, and Figheldean Down is characterized by thin soils and extensive views westwards. The central block of downland between the Avon and the Till is more undulating and relatively low-lying with most of the land between 70m and 100m OD comprising large open fields and isolated tree clumps. The highest points are at about 140m OD in the south near Druid's Lodge and at Larkhill in the north. Several named areas of downland can be recognized (from south to north [...]): Lake Down, Horse Down, Wilsford Down, Normanton Down, Stonehenge Down, Winterbourne Stoke Down, Durrington Down, Knighton Down, and Alton Down.*

*Throughout this region there are numerous small dry or seasonally running river systems, for example Stonehenge Bottom, and low eminences and ridges such as King Barrow Ridge. Stonehenge itself lies on such an eminence at about 100m OD. Some of the smaller valleys are fairly steep-sided. This land is mainly of agricultural grades 3 and 4 (Darvill 1991a, 41–2).*

*The land east of the Till is very similar in character to the central block, again with numerous small valley systems running westwards from the main river. Parsonage Down and High Down are the two main named areas of downland [...]. Both the Avon and the Till run through relatively narrow but pronounced valleys typically 1km wide. The rivers meander through these valleys and have built up fairly well-developed alluvial floodplains. A low terrace consisting of loamy flinty drift flanks the Avon Valley, while the alluvium of the floodplain floor is clayey and calcareous.*

*Some of the seasonal valleys and dry valleys that carried rivers in earlier times also contain alluvial deposits which are believed to mask underlying archaeological evidence and which have recently been shown to preserve useful environmental sequences (Allen 1997, 120; Cleal et al. 2004).*

*Colluvium deposits do not appear to be well represented in the Stonehenge Landscape, or at least in the areas examined to date. Accumulations up to 1.5m thick were reported within the southern part of the interior of Durrington Walls (Wainwright and Longworth 1971, 23). Rather less substantial deposits were revealed in a slight hilltop saddle occupied by Coneybury henge (Richards 1990, 124), and may be inferred from the presence of lynchets associated with early field systems. However, a sampling programme involving the investigation of eight locations undertaken within the context of the Stonehenge Environs Project in 1981–2 failed to identify significant deposits (Richards 1990, 210–11). More recently, deposits of colluvium have been recognized on Coneybury Hill (WA 1993a), on the west side of the River Avon below Durrington Walls (Richards 1990, 263), and within and around the foot-slopes of Vespasian's Camp where its accumulation may be dated to the later prehistoric, Roman, and medieval periods (Hunter-Mann 1999).*

*Visibility and inter-visibility within and across the Stonehenge Landscape has been explored using GIS technology to examine viewsheds under a range of predefined conditions. This analysis demonstrates not only the very strong visual relationship between Stonehenge and numerous contemporary monuments but also the inter-visibility of the sites with each other (Batchelor 1997, 71; Cleal et al. 1995, 34–40; Exon et al. 2000).'*

- 6.2.2 Much of the landscape was divided into the current pattern of landholdings in the 20<sup>th</sup> century, while other areas were reserved for military use (Simmonds and Thomas 2015, 22). To the north, the large modern buildings of a military base at Larkhill dominate the rising slopes on the edge of Salisbury Plain while to the east, the buildings at Boscombe Down are prominent on the skyline. The new distribution centre at Solstice Park has a significant impact on views from many locations in the WHS including Stonehenge (Simmonds and Thomas 2015, 23). The pockets of woodland found in the WHS are typically of two main types: firstly, clumps of mixed deciduous trees, including a high proportion of beech, were planted in the 18<sup>th</sup> and 19<sup>th</sup> centuries. Examples can be seen on King Barrow Ridge and Winterbourne Stoke Clump. Secondly, there are plantations of pine, mainly Scots and Corsican, most of which were planted at the end of the Second World War, such as the west and east Larkhill Plantations (Simmonds and Thomas 2015, 23).

## 6.3 Chronological context

6.3.1 Where mentioned in the text, the main archaeological periods are broadly defined by the following date ranges:

- Palaeolithic c. 500 000 – 10 000 BC
- Mesolithic c. 10 000 – 4000 BC
- Neolithic c. 4000 – 2500 BC
- Bronze Age c. 2500 – 800 BC
- Iron Age c. 800 BC – AD 43
- Romano-British AD 43 – 410
- Anglo-Saxon AD 410 – 1066
- Medieval AD 1066 – 1540
- Post-medieval AD 1540 – 1800
- Modern AD 1800 – present

6.3.2 The following detailed archaeological description of the Stonehenge and Avebury WHS is presented in appendix K of the 2015 WHS Management Plan (Snashall in Simmonds and Thomas 2015):

### *'Palaeolithic and Mesolithic*

*Evidence of Palaeolithic activity in the Avebury area is sparse, much of it on the clay with flints but with a presence now apparent around the headwaters of the River Kennet. Evidence at Cherhill, in Butler's Field and in the area later occupied by Falkner's Circle suggests a transient presence during the later Mesolithic in the Avebury area with more sustained activity further down the Kennet valley around Newbury and Thatcham.*

*The sockets for four very large early Mesolithic posts (c 8,000 BC) were found on the site of the previous Stonehenge car park. Such monumental activity is exceptionally rare in Britain during the Mesolithic. On the spring line overlooked by what later became Vespasian's Camp at Blick Mead, lithic and faunal evidence suggests a sustained or repeated large-scale presence throughout much of the Mesolithic.*

### *Earlier Neolithic (c. 4,000–3,000 BC)*

*The earliest ceremonial and funerary monuments in and around the Stonehenge portion of the WHS date from the Earlier Neolithic and include about a dozen long barrows (some of which were burial mounds) and Robin Hood's Ball [AG14], a causewayed enclosure just outside the WHS. These monuments were built in within what was already by then a largely open, grassland environment. The Cursus (a long thin earthwork enclosure bounded by a ditch and bank) [AG23] was constructed around 3,630–3,370 BC, and the Lesser Cursus (a smaller rectangular enclosure) [AG11] was also built towards the end of this period.*

*The years between about 3,700 and 3,300 BC saw the construction of a number of earthen long barrows and chambered tombs in the Avebury part of the WHS. Among the earliest are the chambered examples at West Kennet and Millbarrow. Unlike the earthen long barrows such as South Street and Horslip, that were built slightly later, both West Kennet and Millbarrow had a mortuary aspect to their use.*

*A recent radiocarbon dating programme suggests that the causewayed enclosure at Windmill Hill was built within a few years of West Kennet Long Barrow, though the enclosure itself was preceded by earlier activity and it remained a focal point for deposition into the Early Bronze Age.*

### *Later Neolithic (c. 3,000–2,200 BC)*

*Stonehenge itself [AG22] and Avebury Henge and Stone Circles are both the products of a long sequence of construction and modification. The construction of the small circular enclosure at Stonehenge was begun around 3,000 BC and a similar early phase of construction evident beneath the final henge bank at Avebury may date from around the same time. To the west of the Henge the Longstones enclosure was also constructed during this period, though its form echoes that of the much earlier enclosure on Windmill Hill. At Stonehenge the principal entrance was on the north-east side and a secondary one to the south. Around this time fifty-six circular pits, known as the 'Aubrey Holes' after their original discoverer John Aubrey (1626–1697), were dug inside the bank at Stonehenge. These once held either stout timber posts or stones, but when these rotted or were removed cremations were placed within them.*

*The Avebury Henge ditch and bank seem to have been built c 2600 BC. The sequence of stone settings here is not firmly established but may have begun with the Cove and inner settings and been followed*

*by the Outer Circle. Likewise the date of Falkner's Circle is uncertain. The Sanctuary on Overton Hill and linked to Avebury by the West Kennet Avenue, represents another circular ceremonial monument, in this case built initially of timber posts which were subsequently replaced by sarsen stones. Neither the West Kennet nor the Beckhampton Avenues are well dated but appear to have been built after the Henge and Stone Circles towards the end of the Later Neolithic; while Silbury Hill was constructed between c 2400 BC and 2300 BC. The West Kennet Palisade Enclosures, which today survive only below ground, are also of Later Neolithic date.*

*At Stonehenge [AG22] the sequence of the erection, dismantling and re-erection of the stone settings (comprised of bluestones from the Preseli Hills in West Wales, sarsens and, in one case, old red sandstone) is complex and still the subject of some debate but recent parchmark evidence suggests that contra to previous suggestions the outer sarsen circle was once complete. Very few other megalithic stone structures exist which have the architectural and technical sophistication of Stonehenge. It was uniquely built using woodworking techniques which may have been used in timber structures of the period such as those at Durrington Walls and Woodhenge [AG33].*

*To the east of Stonehenge, on Coneybury Hill, stood the smaller monument known as Coneybury Henge [AG29], while to the north-east stood the massive henge enclosure of Durrington Walls with the smaller Woodhenge situated close by to the south [AG33]. The timber structures at Durrington Walls were constructed perhaps a generation earlier than the encircling bank and ditch which formed the henge enclosure. Their original use appears to be associated with the remains of at least ten late Neolithic houses situated inside and just outside the area later encircled by Durrington Walls henge excavated as part of the Stonehenge Riverside Project. The excavators have suggested that they may be the surviving elements of a much larger village of many hundreds of houses in use at the time of the construction of the main sarsen phase of Stonehenge. This would make it the largest village in north-west Europe at that time.*

*Stonehenge and Avebury would both have served as major ceremonial centres drawing large populations to the area both during their construction and subsequently. Recent evidence from stable isotope analysis suggests that some of the people visiting the site may have travelled considerable distances coming from well outside of the region.*

*A deep shaft known as the Wilsford Shaft was excavated at this time, and continued in use until the Roman period. The open nature*

*of the countryside was maintained by grazing animals.*

#### *Early Bronze Age (c. 2,200–1,600 BC)*

*Hundreds of round barrows of various forms were raised during the Early Bronze Age at both Avebury and Stonehenge. The discovery of Beaker graves unmarked by any mounds next to naturally occurring sarsens to the north of the Avebury part of the WHS and at the foot of stones in the West Kennet Avenue show that barrows were not the only places of burial in the landscape at this time. At West Kennet there is clear evidence that the Earlier Neolithic tomb was deliberately blocked during the later Neolithic and there is also evidence of Beaker period activity within the tomb. And the Stone settings within the Henge at Avebury were still being maintained and used. From their earliest construction Stonehenge and Avebury were individual components within landscapes in which the visual relationships between monuments and the contingent histories of particular places were important. There was a strong visual relationship between the round barrow cemeteries surrounding Stonehenge and Avebury and the pre-existing Later Neolithic monuments. This is perhaps more readily apparent today at Stonehenge with among others the King Barrow Ridge Barrows [AG26], the Cursus Barrows [AG18; AG28], the Normanton Down Barrows [AG19] and the Winterbourne Stoke Barrows all built on prominent ridges within the landscape and situated in direct relationship to earlier monuments.*

*In the Early Bronze Age Stonehenge was linked physically with the River Avon by the construction of an Avenue [AG27] consisting of a pair of parallel banks and ditches. At the Avenue's junction with the Avon at West Amesbury stood a small henge which appears to have contained a stone circle (both of which are of uncertain date), and from which the stones were subsequently removed. The construction of the portion of the Avenue stretching from Stonehenge Bottom to the north-eastern entrance to Stonehenge coincides with the path of what appear to be a series of parallel peri-glacial stripes. It has been suggested that the pre-existence of this natural feature, oriented as it is on the midsummer sunrise and midwinter sunset may be the reason for the construction of not only the later Avenue but of Stonehenge itself.*

*At some point in the Earlier Bronze Age or possibly earlier a large wooden palisade situated running to the west and north of Stonehenge would have had a transformative effect on the landscape dividing it up in an entirely new way, disrupting visual relationships between monuments and possibly restricting access to some areas and monuments for certain groups.*

### *Later Bronze Age (c. 1,600–1,000 BC)*

*Some of the round barrows in both landscapes have middle Bronze Age cremations but no major new monuments were built at this time. Over much of the Marlborough Downs there are Bronze Age field systems which post date Beaker period deposits and on Overton Down pre date a number of Late Bronze Age settlements which then adapted and modified the existing field systems.*

*There is evidence for a diverse range of activities in the area around Stonehenge during the Later Bronze Age including formalised settlements and field systems in some areas of the Stonehenge landscape. Linear banks and ditches, such as those across Wilsford Down and Lake Down, formally divided up the landscape. Although they encroached as far as the Cursus field systems are absent from the immediate area surrounding Stonehenge itself.*

### *Iron Age (c. 800 BC– AD 43)*

*At Avebury the principal evidence for late Iron Age occupation comes from the hillforts beyond the WHS, such as Oldbury and the more distant Barbury. On the Marlborough Downs the pattern of Late Bronze Age fields and settlements continued into the Early Iron Age and the settlements continued in use among the fields on the higher downland. But while major enclosures such as these indicate a significant Iron Age presence in the region, little evidence of Iron Age settlement or agriculture is apparent in the Avebury area.*

*Likewise there is little evidence for the continued ceremonial status of Stonehenge itself in later prehistory. The farming activities which were practised within the WHS in the Iron Age have left little evidence, though an impressive hill fort was constructed near Amesbury, now known as Vespasian's Camp.*

### *Roman (c. 43–410 AD)*

*The occurrence of Romano-British artefacts at Stonehenge itself shows that the monument was visited and used at that time; recent excavations have shown that a 'shaft' was dug into the monument during this period. However the pattern of these artefacts suggests that Stonehenge was already partly ruinous. Farmsteads and small un-enclosed towns of the Roman period are known across Salisbury Plain. Within the WHS itself, a small Roman building interpreted as a rural shrine has been excavated near to the Cuckoo Stone and a short distance to the south a Bronze Age barrow became a focal point for Roman burials.*

*At Avebury a Roman ladder settlement of 2<sup>nd</sup> to 3<sup>rd</sup> century date lay*

*immediately south of Silbury Hill close to Swallowhead springs and the Winterbourne and beside the Roman road running west from Cunetio to Bath. The settlement's size and location, together with the presence of a series of shafts containing what may be votive deposits, suggest something more than a mere farming settlement. Geophysical survey has revealed what may be either a mausoleum or a shrine of the period. Evidence also exists of substantial buildings and at least one burial on the western slopes of Waden Hill beside the Winterbourne. To the east on Overton Hill rare Roman barrows were built beside the road of the same period.*

#### *Saxon (c. AD 410–1066)*

*There is evidence of an early Saxon settlement at Avebury itself, on the site of the current visitor car park, together with pagan Saxon barrows and other burials reusing the Bronze Age cemetery on Overton Hill. From the late Saxon period onwards there is documentary as well as archaeological evidence of the development of the landscape. Saxon charters provide evidence of the estates which came to form the medieval parishes and identify various features which the boundaries followed or crossed, including the Ridgeway which cuts across the prehistoric and Roman field systems on Overton Down. Green Street leading out of Avebury to the east was probably part of an important east-west route at this period if not before. Evidence for the Saxon origins of Avebury church is still apparent in its fabric. In the late Saxon period the summit of Silbury Hill was remodelled and a wooden fortification constructed, possibly to serve as a lookout post.*

*Amesbury was the centre for a widespread royal estate during the Saxon period, and the abbey was founded in AD 979. It is probable that the town itself grew up around these establishments but little is known of the way in which the surrounding landscape was utilised. However, the remains of several Saxon sunken-featured buildings were revealed at the Countess East site which may have been an early Saxon settlement which later shifted to the town of Amesbury. Stonehenge itself may have become an execution site during this period; a decapitated Saxon man was buried around AD 645 at the monument. It is even possible that the name, Stonehenge from the Saxon stone and heng may refer to this function, or may mean that, to Saxon eyes, the great stone trilithons resembled a gallows. Alternatively it may simply refer to the extraordinary hanging lintels of the Stone Circle.*

#### *Medieval to Modern (AD 1066 onwards)*

*In the 12th century the alien cell of a Benedictine priory was established at Avebury, probably on, or close to the site of the*

*present Avebury Manor. A documented run of bad harvests in the early 14<sup>th</sup> century, which resulted in the desertion of the downland farmstead on Fyfield Down, followed by the Black Death later marked the end of early medieval expansion. Marginal arable reverted to pasture and there is evidence of settlement contraction or shift in most of the settlements along the Kennet, including Avebury itself and Avebury Trusloe.*

*From the 14<sup>th</sup> century onwards the practice of stone burial reduced many of the Avebury megalithic settings significantly. This process accelerated during the post-medieval period with Stukeley recording a period of particularly rampant stone destruction in the 1720s; though archaeological evidence suggests that the destruction may have started as early as the late 15<sup>th</sup> century.*

*The earliest surviving parts of Avebury Manor date to the mid-16th century. It is at about this time and during the 17<sup>th</sup> century that parts of the common downland pasture on West Hill, Windmill Hill and Knoll Down were enclosed. Most of the open fields were not enclosed until the 18<sup>th</sup> century, but a notable exception, still extant, was the enclosure of an area just east of the West Kennet Avenue. Parts of the meadowland along the valley floor at Avebury were enclosed in the 17<sup>th</sup> century, and at various points along the floor of the valley, at Avebury and around the foot of Silbury Hill. At West Overton and Avebury there are the earthworks of managed water meadow systems some probably originating in the 17<sup>th</sup> century and surviving in use until the 19<sup>th</sup> or early 20<sup>th</sup> century.*

*Parliamentary enclosure occurred in 1795 at Avebury and in 1813 to 1814 at Winterbourne Monkton and the Overton group of parishes, resulting in the creation of large rectangular fields, many bounded by quickset hedges, alongside the more limited areas of old enclosure. The Napoleonic Wars saw a re-expansion of arable, and this became even more marked around the time of the First World War and then again after the Second World War when much remaining downland was ploughed up.*

*In the post-medieval and modern era there have been elements of conscious design in the development of the landscape in and around Avebury, reflecting different attitudes to the concept of landscape. This includes the 17<sup>th</sup> century designed parkland belonging to Avebury Manor and the tree clumps, known locally as 'hedgehogs', on the barrows along the skyline of the Ridgeway scarp east of Avebury. In the 1920s and 1930s Alexander Keiller embarked on his remarkable campaign of 'megalithic landscape gardening'. This not only opened up the interior of the Henge, removing a number of buildings, but also involved restoration and reconstruction of substantial parts of Avebury Stone Circles and the West Kennet*

*Avenue - making them far more visible features in the landscape than they had been for hundreds of years.*

*During the medieval period most of the Stonehenge part of the WHS reverted to downland used for the grazing of large flocks of sheep. In the 18<sup>th</sup> century Stukeley recorded much of the landscape at the point when arable agriculture was progressively expanding. However, it was the vast expanses of open grassland and the low land values which made the Plain suitable for acquisition for military training from 1897 onwards. Since then, the expansion and reconfiguration of military installations has been the most conspicuous use of the southern fringe of Salisbury Plain Training Area, including the northern part of the WHS. However, the acquisition of the Plain by the military has ensured the survival of huge numbers of archaeological sites and large areas of chalk grassland, as it was not subjected to intensive agricultural techniques.*

*Until the 18<sup>th</sup> century the extent of woodland around Stonehenge seems to have been minimal. The clumps of trees on ridgelines which we now associate with this landscape were a product of planting in the 18<sup>th</sup> and 19<sup>th</sup> centuries. There are a number of listed buildings within the WHS and also the remains of an important park and garden at Amesbury Abbey, which once stretched as far as King Barrow Ridge. It incorporated the planting on Vespasian's Camp and the 'Nile Clumps' which date to this period.'*

## **6.4 Historic landscape context**

- 6.4.1 The following section summarises the Wiltshire and Swindon Historic Landscape Characterisation (HLC) analysis relevant to the Stonehenge element of the WHS (based on Sunley 2016, 108–128). The HLC of the area forms the landscape setting of the monuments and the WHS itself.
- 6.4.2 The HLC of the Stonehenge part of the WHS comprises substantial areas of unimproved land and fields, with a substantial woodland component, zones of military activity in the north and clear elements of designed or ornamental landscape. This is a typical Wiltshire chalkland landscape that is rural, sparsely occupied, open with big viewsheds (partly impacted by woodland plantations) and little modern infrastructure / development to serve settlements.
- 6.4.3 Farms within the Stonehenge part of the WHS account for the proliferation of modern fields, but the implementation of management plan policies have mitigated field expansion. The central part of the Stonehenge WHS is dominated by open or unimproved land and the fields by and large exist in the peripheral parts of the landscape. Almost none of the fieldscapes that dominate the current Stonehenge landscape survive in their historic

form. Virtually no planned, parliamentary, piecemeal or assarted fields exist. Fieldscapes are overwhelmingly modern with few surviving medieval or post-medieval examples. Reversion to downland / grassland due to management practices has helped to reverse the trend of expanding fieldscapes.

- 6.4.4 Woodland is a significant recent component of the Stonehenge landscape. While there are large blocks of woodland, most are plantations set out in the 18<sup>th</sup> / 19<sup>th</sup> century to enhance views of the landscape or contribute to the growing agricultural economy.
- 6.4.5 The part of the Stonehenge part of the WHS to the south of the existing A303 has been encroached upon by post-medieval landscaped estates. Their parkland is located in areas of former occupation / settlement – such as the Lake deserted medieval village or at Vespasian’s Camp Iron Age hillfort. These estates are focused on the river valleys.
- 6.4.6 The northern part of the Stonehenge part of the WHS has been encroached upon by the modern expansion of military activities at Bulford / Durrington / Larkhill. Military character takes the form of installations / residential areas. These are more dominant / intrusive landscape types and tend to destroy earlier character features. The proportion of land dominated by military character (installations, housing and practice areas) is limited, but these military landscapes are striking and do have some impact on the survival of previous character.
- 6.4.7 Historic settlement areas lie at the periphery, concentrated to the east in the river valleys. They have grown little, retain historic form and character and utilise water meadows.
- 6.4.8 A degree of more modern landscape character can be observed in relation to the role of Stonehenge as a visitor attraction generating need for the associated Visitor Centre and parking zones. The modern infrastructure has had a limited impact on the character of the wider landscape.
- 6.4.9 Routeways have helped to shape the more recent historic landscape character, as the presence of roads, trackways and rivers has influenced the grain of land use.
- 6.4.10 The single major watercourse in the Stonehenge component of the WHS is the Avon, which lies on its eastern periphery and influences settlement form. All the historic settlements line the river and have expanded little over time and retain their historic character through plan form and re-use of historic buildings. The villages and hamlets are part of the classic river valley parish layout that can be seen throughout the south of the county; especially in the Salisbury area. These parishes have central riverside settlements, surrounded by agricultural fields, meadows in the hinterland

and then grazing areas in the higher downland areas. The presence of the river was drawn in to enhance the ornamental landscapes (parks) developed around some historic manors and their associated planting. The river has clearly influenced the creation of previous ceremonial, occupation and potentially defensive landscapes. The river may have been a barrier, a focus, a line of communication, a routeway for transport / trade or a combination of all of these from the prehistoric era onwards. The associated landscapes remain legible in the HLC as hillforts, deserted settlements and funerary historic landscapes. The only surviving historic fields (planned enclosures in the Normanton area) lie adjacent to the river, a pattern repeated elsewhere in the county.

6.4.11 The underlying geology has had a clear influence on the character of the WHS, particularly at Stonehenge where it lies fully on the chalk. In the late post-medieval period, the historic landscape character of the WHS was more or less entirely consistent with other chalk land areas of Wiltshire. Downland predominated and few large scale fields and enclosed areas existed, with agriculture focused on the river valley and lowland areas. Settlement and amenities were sparse in these chalk landscapes and the local economy likely relied on pastoral agriculture. Unless relating to substantial ancient Royal Forest, woodland was sparse and mainly planted for aesthetic purposes.

6.4.12 In summary:

- a) The WHS is by and large a typical chalk downland landscape that bears similarities with other areas set on similar geology elsewhere in the county.
- b) The survival (assisted by reversion Schemes) of this landscape's character is highly unusual and contributes to the 'special' qualities of the WHS.
- c) The survival and density of the archaeology within the WHS affected relatively recent land use and character, and is the major reason for the survival of these archaeologically-rich chalk landscapes.
- d) The nature of the ownership and land management has led to the retention and enhancement of the important very early prehistoric aspects embedded within its present historic character.
- e) There has been a lack of modern development, with few landscapes dominated by infrastructure or recreational facilities. This may reflect the successes of late 20<sup>th</sup> century management initiatives.
- f) Woodland is a recent (late post-medieval and modern) addition to Stonehenge.

- g) While farming and agriculture has had an impact on the WHS, particularly since the late post-medieval period, there are still areas of farmland where the prehistoric character remains legible across substantial areas.
- h) It is the legibility of the prehistoric character that particularly sets the WHS apart. The proportion, extent and survival of prehistoric to Roman coaxial fields, brick shaped fields and ceremonial / ritual sites within the WHS are exceptional and unusual.
- i) The presence of watercourses has influenced both the present and previous historic character of the rich landscape at both Avebury and Stonehenge. The HLC (and much recent research) seems to show that landscapes dominated by ritual / ceremonial activity are associated with the rivers and streams and some of the historic fields were situated at riverine locations.
- j) Both parts of the WHS had post-medieval water meadows which made use of the river for grazing and hay production.
- k) Villages / hamlets at Avebury and Stonehenge have expanded little over time and bear many similarities in form and character to other river valley settlements elsewhere.
- l) Farm location and size, when considered with the field size and morphology, suggests a pastoral agricultural history even though much land is now arable.
- m) Few ornamental areas are recorded as the dominant current character.

## **6.5 Nationally and locally designated sites and non-designated heritage assets**

### **Nationally designated heritage assets**

#### *World Heritage Site*

- 6.5.1 The Stonehenge, Avebury and Associated Sites WHS is a nationally designated heritage asset. The inscription criteria, Attributes of OUV, Integrity and Authenticity are detailed in HIA Section 6.6, OUV of the World Heritage Site.

#### *Scheduled monuments*

- 6.5.2 The Stonehenge element of the WHS contains 175 scheduled monuments. Most of these date to the Neolithic and Bronze Age.

*‘A small number of areas in southern England appear to have acted*

*as foci for ceremonial and ritual activity during the Neolithic and Bronze Age periods. Two of the best known and earliest recognised areas are around Avebury and Stonehenge, now jointly designated as a World Heritage Site.*

*The area of chalk downland which surrounds Stonehenge contains one of the densest and most varied groups of Neolithic and Bronze Age field monuments in Britain. Included within the area are Stonehenge itself, the Stonehenge cursus, the Durrington Walls henge, and a variety of burial monuments, many grouped into cemeteries.*

*The area has been the subject of archaeological research since the 18<sup>th</sup> century when Stukeley recorded many of the monuments and partially excavated a number of the burial mounds. More recently, the collection of artefacts from the surfaces of ploughed fields has supplemented the evidence for ritual and burial by revealing the intensity of contemporary settlement and land-use. In view of the importance of the area, all ceremonial and sepulchral monuments of this period which retain significant archaeological remains are identified as nationally important.' (Historic England, NHLE).*

- 6.5.3 Scheduled monuments are further detailed in HIA Annex 2, Inventory and illustrated on HIA Figures 3 to 5.
- 6.5.4 The NHLE identification codes for each asset are listed in the inventory and, where applicable, cross-referenced to the project-specific unique identity numbers (UIDs) used in ES Chapter 6, Cultural Heritage.

#### *Listed buildings*

- 6.5.5 The Stonehenge element of the WHS contains 52 listed buildings dating to the medieval, post-medieval and modern periods, including:
- Two Grade I listed structures: the late medieval Lake House (1183238) and West Amesbury House (1318515);
  - Five grade II\* listed structures: The medieval Church of St Michael (1284143); Wilsford House built in 1904–6 (1131008); a Chinese Temple (1131080) and Gay's Cave and Diamond (1131081) within the gardens and pleasure grounds of Amesbury Abbey (Grade I listed, located beyond WHS boundary); and five aircraft hangars built at Durrington Camp in 1910 (1391475)
  - There are 45 grade II listed structures, including six milestones; historic farms, houses and associated structures; churchyard monuments; two memorials to airmen and one telephone kiosk.
- 6.5.6 Listed buildings do not bear directly upon the OUV of this WHS. Potential Scheme impacts upon listed buildings within 1km of the Scheme

boundary are discussed in ES Chapter 6, Cultural Heritage.

#### *Registered parks and gardens*

- 6.5.7 The Stonehenge element of the WHS contains two Registered Parks and Gardens located in the valley of the River Avon: Grade II\* listed Amesbury Abbey (1000469) and Grade II Listed Lake House (1001237).
- 6.5.8 Registered Parks and Gardens do not bear directly upon the OUV of this WHS. Potential Scheme impacts upon Registered Parks and Gardens within 500m of the Scheme boundary are assessed in ES Chapter 6, Cultural Heritage.

#### *Conservation Areas*

- 6.5.9 The Stonehenge element of the WHS contains four Conservation Areas:
- Amesbury Conservation Area;
  - West Amesbury Conservation Area;
  - Wilsford Conservation Area; and
  - Lake Conservation Area.
- 6.5.10 These Conservation Areas are focussed on medieval and post-medieval settlement foci, and therefore do not bear directly on the OUV of this WHS. Potential Scheme impacts upon Conservation Areas within 2km of the Scheme boundary are assessed in ES Chapter 6, Cultural Heritage.

#### *Other*

- 6.5.11 There are no Registered Battlefields or Protected Wreck Sites within the WHS.

### **Locally designated heritage assets**

- 6.5.12 Buildings of local importance are noted in the Conservation Area Appraisals for Amesbury and Wilsford. They do not directly bear upon the OUV of the WHS. Potential Scheme impacts on buildings of local importance within 500m of the Scheme boundary are assessed in ES Chapter 6, Cultural Heritage.
- 6.5.13 Potential Scheme impacts on archaeological sites recorded in the Wiltshire HER within 500m of the Scheme boundary are considered in ES Chapter 6, Cultural Heritage.

### **Non-designated heritage assets**

#### *Historic Environment Record*

- 6.5.14 A search was undertaken covering the area of the WHS with a buffer of 100m in June 2018. A total of 1736 entries for monuments or findspots of known or potential Neolithic and Bronze Age date were retrieved. A total of 863 archaeological interventions or events are recorded.
- 6.5.15 Due to the very large volume of HER data, entries are not considered individually, but are mostly aggregated into Asset Groups (HIA Section 6.9, Asset Groups); discrete and isolated assets are considered separately (HIA Section 6.10, Discrete and isolated assets). Summary information is provided in HIA Annex 2, Inventory with summary descriptions of Asset Groups, individual sites and elements.
- 6.5.16 The NHLE identification codes for each asset are listed in the inventory and, where applicable, cross-referenced to the project-specific unique identity numbers (UIDs) used in ES Chapter 6, Cultural Heritage.

#### *Historic Landscape Characterisation*

- 6.5.17 The Wiltshire and Swindon Historic Landscape Characterisation (HLC) considers the HLC of Stonehenge, Avebury and Associated Sites WHS in detail in a case study (Sunley 2016, 108–128). This considers how the present landscape character of the WHS relates to its historic usage and development and will inform management decisions and planning policies.
- 6.5.18 Policy 3c of the 2015 WHS Management Plan is to maintain and enhance the setting of monuments and sites in the landscape and their inter-relationships and astronomical alignments with particular attention given to achieving an appropriate landscape setting for the monuments and the WHS itself. The HLC case study (Sunley 2016) will inform the WHS Landscape Strategy, which is currently in preparation.
- 6.5.19 Detailed descriptions of Historic Landscape Character Areas and an assessment of the impacts of the Scheme is contained in ES Chapter 6, Cultural Heritage and mapped in ES figures 6.10 and 6.11a–e. As these HLC Areas are predominantly post-medieval and modern, they are not assessed in the HIA. However, they do form the landscape setting for the monuments and the WHS itself, so HLC analysis relevant to the Stonehenge element of the WHS is summarised in HIA Section 6.4, Historic landscape context (based on Sunley 2016, 108–128).

#### *Built heritage*

- 6.5.20 In addition to designated and locally designated historic buildings, further non-designated historic buildings are noted in the WSHER, and others were noted during site visits. These are considered in ES Chapter 6, Cultural Heritage.

## 6.6 OUV of the World Heritage Site

### Background development of Statement of OUV

#### 1985–6 World Heritage Site nomination

6.6.1 The WHS nomination document sent to UNESCO in 1985 notes that:

*‘Stonehenge and Avebury, in Wiltshire, are among the most famous groups of megaliths in the world. These two sanctuaries are formed of circles of menhirs arranged in a pattern whose astronomical significance is still unexplained. These holy places and various nearby Neolithic sites offer an incomparable testimony to prehistoric times’. (HBMCE1985).*

6.6.2 The WHS was inscribed on the World Heritage List in 1986.

6.6.3 The three original UNESCO definitions of Criteria i, ii and iii for inscription on the world heritage list, which were current and in use in 1985–6, are:

*‘Criterion (i) – represent a unique artistic achievement, a masterpiece of creative genius.*

*The monuments of the Stonehenge, Avebury, and Associated Sites World Heritage Sites property demonstrate outstanding creative and technological achievements in prehistoric times.*

*Criterion (ii) – have exerted great influence, over a span of time or within a cultural area of the world, on developments in architecture, monumental arts or town planning and landscaping.*

*The World Heritage Site provides an outstanding illustration of the evolution of monument construction and of the continual use and shaping of the landscape over more than 2000 years, from the Early Neolithic to the Bronze Age. The monuments and landscape have had an unwavering influence on architects, artists, historians, and archaeologists, and still retain a huge potential for future research.*

*Criterion (iii) – bear a unique or at least exceptional testimony to a civilisation which has disappeared.*

*The complexes of monuments at Stonehenge and Avebury provide an exceptional insight into the funerary and ceremonial practices in Britain in the Neolithic and Bronze Age. Together with their settings and associated sites, they form landscapes without parallel.’*

6.6.4 These criteria are further described in the Adopted Statement of OUV, cited below.

- 6.6.5 It is a serial WHS, meaning that it is split into two separate landscape areas: Stonehenge and Avebury. In the main, only the Stonehenge element of the WHS would be affected by the Scheme, and this part of the combined WHS is the predominant focus of this HIA. However, where the Scheme has the potential for temporary effects on the Avebury part of the WHS, for instance following possible changes in visitor patterns during construction, these are also assessed.

*2008 Statement of Significance*

- 6.6.6 The first Statement of Significance for the Stonehenge, Avebury and Associated Sites WHS was developed by the Stonehenge and Avebury WHS Coordinators and the Stonehenge and Avebury WHS Steering Committees and was approved by the UNESCO World Heritage Committee in July 2008 (Young, Chadburn and Bedu 2009). It became part of the overall SoOUV, updated to include assessments of Integrity and Authenticity, which was agreed by the World Heritage Committee in 2013.

*2009 Stonehenge World Heritage Site Management Plan*

- 6.6.7 The 2009 Stonehenge WHS Management Plan (Young, Chadburn and Bedu 2009) defined seven Attributes of OUV, based on the Statement of Significance, along with assessments of Integrity and Authenticity. It highlighted that all Neolithic and Early Bronze Age funerary and ceremonial monuments and associated sites, their inter-relationships and their relationships with the landscape are Attributes of OUV and need to be treated as such.
- 6.6.8 The 2009 Management Plan took a more holistic approach to the OUV of the WHS than the 1999 English Heritage / National Trust Master Plan and the 2000 Management Plan, moving away from the focus on Stonehenge and the 'Stonehenge Bowl' by presenting a broader view of OUV. This recognises the equal consideration that must be afforded to all Attributes of OUV.

*2013 Adopted Statement of Outstanding Universal Value*

- 6.6.9 The retrospective SoOUV was submitted to the Department for Culture Media and Sport (DCMS) in 2010 and a version was formally adopted by the World Heritage Committee in 2013 (UNESCO 2013, 291–94). The SoOUV forms the focus of all protection and management decisions. The SoOUV clearly sets out in detail the reasons why and the criterion for the WHS having OUV and how the WHS embodies this. It also sets out the Integrity and Authenticity of the WHS as well as detailing the future protection and management requirements of the WHS.

### 2015 Stonehenge World Heritage Site Management Plan

6.6.10 The vision for the WHS set out in the 2015 WHS Management Plan is:

*'The Stonehenge and Avebury World Heritage Site is universally important for its unique and dense concentration of outstanding prehistoric monuments and sites which together form a landscape without parallel. We will work together to care for and safeguard this special area and provide a tranquil, rural and ecologically diverse setting for it and its archaeology. This will allow present and future generations to explore and enjoy the monuments and their landscape setting more fully. We will also ensure that the special qualities of the World Heritage Site are presented, interpreted and enhanced where appropriate, so that visitors, the local community and the whole world can better understand and value the extraordinary achievements of the prehistoric people who left us this rich legacy. We will realise the cultural, scientific and educational potential of the World Heritage Site as well as its social and economic benefits for the community.'* (Simmonds and Thomas 2015, 8).

6.6.11 *'The on-going and overarching priority of the Management Plan is to encourage the sustainable management of the WHS, balancing its needs with those of the farming community, nature conservation, access, landowners and the local community.'* (Simmonds and Thomas 2015, 8).  
The Management Plan priorities are:

- 1. Protect buried archaeology from ploughing and enhance the setting of sites and monuments by maintaining and extending permanent wildlife-rich grassland and managing woodland and scrub*
- 2. Protect monuments from damage from burrowing animals*
- 3. Reduce the dominance and negative impact of roads and traffic and ensure any improvements to the A303 support this*
- 4. Improve the interpretation and enhance the visitor experience of the wider landscape*
- 5. Ensure any development is consistent with the protection and where appropriate enhancement of the monuments and their settings and the wider WHS landscape and its setting*
- 6. Spread the economic benefits related to the WHS to the community and wider county*
- 7. Encourage local community engagement with the WHS*
- 8. Encourage sustainable archaeological research and education to*

*improve and communicate the understanding of the WHS.'*  
(Simmonds and Thomas 2015, 8).

- 6.6.12 In relation to proposals to upgrade the A303, the 2015 WHS Management Plan notes that:

*'The WHS is recognised by the Department for Transport as a key environmental consideration [...] Options identified would need to be assessed for their likely impact on the WHS and its Attributes of OUV including the interrelationship of monuments, their relationship to the landscape and the integrity of the wider WHS landscape. Significant developments within the WHS should be assessed using the Guidance on Heritage Impact Assessments for Cultural World Heritage Properties produced by the International Commission for Monuments and Sites. ICOMOS is the advisory body to UNESCO on proposals for change affecting cultural WHSs which are referred to in NPPF Planning Practice Guidance. It provides a framework for assessing impacts on the Attributes of OUV and the OUV of the WHS itself. In addition, any such significant scheme would need to undergo assessment against the full range of economic, social and environmental impact criteria required by the planning system'.*  
(Simmonds and Thomas 2015, 170).

### **Adopted Statement of OUV**

- 6.6.13 The Statement of OUV (SoOUV) sets out a summary of the World Heritage Committee's reasons why the Site has OUV (UNESCO 2013, 291–94), as follows:

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

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

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

*the precision with which it was built.*

- *At Avebury, the massive Henge, containing the largest prehistoric stone circle in the world, and Silbury Hill, the largest prehistoric mound in Europe, demonstrate the outstanding engineering skills which were used to create masterpieces of earthen and megalithic architecture.*
- *There is an exceptional survival of prehistoric monuments and sites within the World Heritage property including settlements, burial grounds, and large constructions of earth and stone. Today, together with their settings, they form landscapes without parallel. These complexes would have been of major significance to those who created them, as is apparent by the huge investment of time and effort they represent. They provide an insight into the mortuary and ceremonial practices of the period, and are evidence of prehistoric technology, architecture, and astronomy. The careful siting of monuments in relation to the landscape helps us to further understand the Neolithic and Bronze Age.*

### **Criteria for inscription on the World Heritage List**

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

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

*Criterion (ii): The World Heritage property provides an outstanding illustration of the evolution of monument construction and of the continual use and shaping of the landscape over more than 2000 years, from the early Neolithic to the Bronze Age.*

*The monuments and landscape have had an unwavering influence on architects, artists, historians and archaeologists, and still retain a huge potential for future research.*

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

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

*Today, the property has spiritual associations for some.*

*Criterion (iii): The complexes of monuments at Stonehenge and Avebury provide an exceptional insight into the funerary and ceremonial practices in Britain in the Neolithic and Bronze Age. Together with their settings and associated sites, they form landscapes without parallel.*

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

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

### ***Integrity***

*The boundaries of the property capture the Attributes that together convey Outstanding Universal Value at Stonehenge and Avebury. They contain the major Neolithic and Bronze Age monuments that exemplify the creative genius and technological skills for which the property is inscribed. The Avebury and Stonehenge landscapes are extensive, both being around 25 square kilometres, and capture the*

*relationship between the monuments as well as their landscape setting.*

*At Avebury the boundary was extended in 2008 to include East Kennet Long Barrow and Fyfield Down with its extensive Bronze Age field system and naturally occurring Sarsen Stones. At Stonehenge the boundary will be reviewed to consider the possible inclusion of related, significant monuments nearby such as Robin Hood's Ball, a Neolithic causewayed enclosure. The setting of some key monuments extends beyond the boundary. Provision of buffer zones or planning guidance based on a comprehensive Setting Study should be considered to protect the setting of both individual monuments and the overall setting of the property.*

*The survival of the Neolithic and Bronze Age monuments at both Stonehenge and Avebury is exceptional and remarkable given their age – they were built and used between around 3700 and 1600 BC. Stone and earth monuments retain their original design and materials. The timber structures have disappeared but postholes indicate their location. Monuments have been regularly maintained and repaired as necessary.*

*The presence of busy main roads going through the World Heritage property impacts adversely on its integrity. The roads sever the relationship between Stonehenge and its surrounding monuments, notably the A344 which separates the Stone Circle from the Avenue. At Avebury, roads cut through some key monuments including the Henge and the West Kennet Avenue. The A4 separates the Sanctuary from its barrow group at Overton Hill.*

*Roads and vehicles also cause damage to the fabric of some monuments while traffic noise and visual intrusion have a negative impact on their settings. The incremental impact of highway-related clutter needs to be carefully managed.*

*Development pressures are present and require careful management. Impacts from existing intrusive development should be mitigated where possible.*

### **Authenticity**

*Interventions have been limited mainly to excavations and the re-erection of some fallen or buried stones to their known positions in the early and mid-twentieth century in order to improve understanding. Ploughing, burrowing animals and early excavation have resulted in some losses but what remains is remarkable in its completeness and concentration. The materials and substance of the archaeology supported by the archaeological archives continue*

*to provide an authentic testimony to prehistoric technological and creative achievement.*

*This survival and the huge potential of buried archaeology make the property an extremely important resource for archaeological research, which continues to uncover new evidence and expand our understanding of prehistory. Present day research has enormously improved our understanding of the property.*

*The known principal monuments largely remain in situ and many are still dominant features in the rural landscape. Their form and design are well-preserved and visitors are easily able to appreciate their location, setting and interrelationships which in combination represent landscapes without parallel.*

*At Stonehenge several monuments have retained their alignment on the Solstice sunrise and sunset, including the Stone Circle, the Avenue, Woodhenge, and the Durrington Walls Southern Circle and its Avenue.*

*Although the original ceremonial use of the monuments is not known, they retain spiritual significance for some people, and many still gather at both stone circles to celebrate the Solstice and other observations. Stonehenge is known and valued by many more as the most famous prehistoric monument in the world.*

*There is a need to strengthen understanding of the overall relationship between remains, both buried and standing, at Stonehenge and at Avebury.*

### **Protection and Management Requirements**

*The UK Government protects World Heritage properties in England in two ways: firstly, individual buildings, monuments and landscapes are designated under the Planning (Listed Buildings and Conservation Areas) Act 1990 and the 1979 Ancient Monuments and Archaeological Areas Act, and secondly through the UK Spatial Planning system under the provisions of the Town and Country Planning Acts. The individual sites within the property are protected through the Government's designation of individual buildings, monuments, gardens and landscapes.*

*Government guidance on protecting the Historic Environment and World Heritage is set out in National Planning Policy Framework and Circular 07 / 09. Policies to protect, promote, conserve and enhance World Heritage properties, their settings and buffer zones are also found in statutory planning documents. The protection of the property and its setting from inappropriate development could be*

*further strengthened through the adoption of a specific Supplementary Planning Document.*

*At a local level, the property is protected by the legal designation of all its principal monuments. There is a specific policy in the Local Development Framework to protect the Outstanding Universal Value of the property from inappropriate development, along with adequate references in relevant strategies and plans at all levels.*

*The Wiltshire Core Strategy includes a specific World Heritage Property policy. This policy states that additional planning guidance will be produced to ensure its effective implementation and thereby the protection of the World Heritage property from inappropriate development.*

*The policy also recognises the need to produce a setting study to enable this. Once the review of the Stonehenge boundary is completed, work on the setting study shall begin. The Local Planning Authority is responsible for continued protection through policy development and its effective implementation in deciding planning applications with the management plans for Stonehenge and Avebury as a key material consideration. These plans also take into account the range of other values relevant to the site in addition to Outstanding Universal Value. Avebury lies within the North Wessex Downs Area of Outstanding Natural Beauty, a national statutory designation to ensure the conservation and enhancement of the natural beauty of the landscape.*

*About a third of the property at both Stonehenge and Avebury is owned and managed by conservation bodies: English Heritage, a non-departmental government body, and the National Trust and the Royal Society for the Protection of Birds which are both charities.*

*Agri-environment schemes, an example of partnership working between private landowners and Natural England (a non-departmental government body), are very important for protecting and enhancing the setting of prehistoric monuments through measures such as grass restoration and scrub control. Much of the property can be accessed through public rights of way as well as permissive paths and open access provided by some agri-environment schemes. Managed open access is provided at Solstice. There are a significant number of private households within the property and local residents therefore have an important role in its stewardship.*

*The property has effective management plans, coordinators and steering groups at both Stonehenge and Avebury. There is a need for an overall integrated management system for the property which*

*will be addressed by the establishment of a coordinating Stonehenge and Avebury Partnership Panel whilst retaining the Stonehenge and Avebury steering groups to enable specific local issues to be addressed and to maintain the meaningful engagement of the community. A single property management plan will replace the two separate management plans.*

*An overall visitor management and interpretation strategy, together with a landscape strategy needs to be put in place to optimise access to and understanding of the property. This should include improved interpretation for visitors and the local community both on site and in local museums, holding collections excavated from the property as well as through publications and the web. These objectives are being addressed at Stonehenge through the development of a visitor centre and the Interpretation, Learning and Participation Strategy. The updated Management Plan will include a similar strategy for Avebury. Visitor management and sustainable tourism challenges and opportunities are addressed by specific objectives in both the Stonehenge and Avebury Management Plans.*

*An understanding of the overall relationship between buried and standing remains continues to be developed through research projects such as the 'Between the Monuments' project and extensive geophysical surveys. Research Frameworks have been published for the Site and are regularly reviewed. These encourage further relevant research. The Woodland Strategy, an example of a landscape level management project, once complete, can be built on to include other elements of landscape scale planning.*

*It is important to maintain and enhance the improvements to monuments achieved through grass restoration and to avoid erosion of earthen monuments and buried archaeology through visitor pressure and burrowing animals.*

*At the time of inscription the State Party agreed to remove the A344 road to reunite Stonehenge and its Avenue and improve the setting of the Stone Circle. Work to deliver the closure of the A344 will be complete in 2013.<sup>22</sup> The project also includes a new Stonehenge visitor centre. This will provide world class visitor facilities including interpretation of the wider World Heritage property landscape and the removal of modern clutter from the setting of the Stone Circle. Although substantial progress is being made, the impact of roads and traffic remains a major challenge in both parts of the World Heritage property. The A303 continues to have a negative impact on the setting of Stonehenge, the integrity of the property and visitor access to some parts of the wider landscape.*

*A long-term solution remains to be found. At Avebury, a World*

*Heritage Site Traffic Strategy will be developed to establish guidance and identify a holistic set of actions to address the negative impacts that the dominance of roads, traffic and related clutter has on integrity, the condition and setting of monuments and the ease and confidence with which visitors and the local community are able to explore the wider property.'*

### **Attributes which convey OUV**

- 6.6.14 UNESCO's Operational Guidelines for the Implementation of the World Heritage Convention define attributes as '*a direct tangible expression of the OUV of the property*' (UNESCO 2017, 100). The World Heritage Convention (UNESCO 1972) is a property-based convention. Attributes that convey OUV are expressed by physical elements and tangible or intangible aspects that must meet the conditions of Integrity and Authenticity.

*'Attributes are aspects which convey or express the OUV of the WHS and which contribute to and enhance understanding of the OUV. The key purpose of identifying attributes is so that they can be protected, managed and monitored and are needed in order to assess planning applications, when considering planning allocations and when planning projects or other interventions.'* (UNESCO 2017, Paras 88 and 89, and Annex 5).

*'Attributes are a means of understanding how OUV is conveyed, and they enable the definition of the cultural values and significance of a heritage place to society. This 'values-led' approach is recommended as a planning tool for managing World Heritage properties.'* (UNESCO / ICCROM / ICOMOS / IUCN 2013).

- 6.6.15 Attributes are not themselves individually of OUV but together they express the OUV of the WHS (Simmonds and Thomas 2015, 29).
- 6.6.16 A number of Attributes expressing the OUV of the WHS have been identified from the Statement of OUV. The Operational Guidelines note that Attributes are the direct tangible expression of the OUV of the property (UNESCO 2017). At Stonehenge and Avebury, all these Attributes are ultimately derived from the 2008 Statement of Significance (UNESCO 2008) and the nomination and evaluation documentation of 1985 / 6 (HBMCE 1985). Taken together the Attributes define the reasons for the OUV of the Stonehenge and Avebury WHS (Simmonds and Thomas 2015, 261).

6.6.17 The seven Attributes of OUV for the entirety of the WHS are:

- (1) Stonehenge itself as a globally famous and iconic monument.*
- (2) The physical remains of the Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape.*
- (3) The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape.*
- (4) The design of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the skies and astronomy.*
- (5) The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other.*
- (6) The disposition, physical remains and settings of the key Neolithic and Bronze Age funerary, ceremonial and other monuments and sites of the period, which together form a landscape without parallel.*
- (7) The influence of the remains of the Neolithic and Bronze Age funerary and ceremonial monuments and their landscape setting on architects, artists, historians, archaeologists and others.*

6.6.18 All of these Attributes are represented within the Stonehenge part of the WHS. The following extracts from the 2015 WHS Management Plan explain the Attributes in more detail:

*(1) Stonehenge itself as a globally famous and iconic monument*

*Stonehenge itself as a globally famous and iconic monument is an attribute of OUV. This monument is both an important and enduring symbol of [people's] prehistoric past, and an internationally recognised symbol of Britain. It is difficult to overstate its importance as one of the best-known and most inspirational monuments in the world.*

*(2) The physical remains of the Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape*

*In the Stonehenge and Avebury WHS, the physical remains of the Neolithic and Bronze Age ceremonial and funerary monuments and associated sites are an attribute of OUV. In particular, it is considered that Stonehenge, the most architecturally sophisticated stone circle in the world, is a masterpiece of human creative genius. This monument, a focal point within the WHS, survives well and is unrivalled in its design and unique engineering.*

*In a similar way, the physical remains of some other monuments at Stonehenge are also considered to be masterpieces of human creative genius. These include the henge at Durrington Walls, the largest in Britain, which demonstrates the masterly ability of prehistoric peoples to organise and construct massive structures. Other such massive monuments include the Stonehenge Cursus and the Stonehenge Avenue. All of these sites are relatively well-preserved and have upstanding remains.*

*The physical remains of other Neolithic and Bronze Age ceremonial and funerary monuments are also considered to be attributes of OUV, and bear an exceptional testimony to a now-disappeared civilization. As well as the sites described [above], they include, at Stonehenge: Woodhenge, the Lesser Cursus and the densest concentration of Bronze Age burial mounds in Britain... They provide an insight into the mortuary and ceremonial practices of the period. Some of these sites and monuments have upstanding, visible remains. Others, such as the Lesser Cursus at Stonehenge ... are now ploughed flat and survive only below ground; however, they retain some of their integrity through the survival of buried archaeological remains.*

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

*The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape including rivers and water is also an attribute of OUV. For example, it is now known that the monuments of Durrington Walls and Stonehenge were linked via their Avenues to the River Avon and possibly thence to each other... Some barrow cemeteries were clearly built on prominent ridge-lines for their visual impact and in line with earlier burials... Whatever its original function, the Stonehenge Cursus seems to have been laid out in such a way as to link outward views over the Till and Avon valleys.*

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

*The design of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the skies and astronomy is an attribute of OUV. A number of sites within the WHS are aligned on the midsummer sunrise and midwinter sunset axes, for example, Stonehenge, Woodhenge and parts of the Stonehenge Avenue. At Stonehenge, this factor appears to have been an extremely important one from the earliest stages of the monument and throughout its subsequent development. The midwinter sunrise–midsummer sunset solstitial axis may also be of importance. In*

*addition, the solstitial sightline extending south-eastwards from the southern circle at Durrington Walls is of importance as well as the north-west to south-east axis of the station-stone rectangle at Stonehenge, which remains the most plausible and striking manifestation of a possible alignment upon the moon when close to its extreme most southerly rising or most northerly setting points.*

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

*The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other is an attribute of OUV. For example, from Stonehenge itself, a number of important barrow groups are visible, such as those on King Barrow Ridge and Normanton Down. These barrow cemeteries were deliberately built on prominent ridgelines and are clearly visible from Stonehenge, and indeed from each other, as well as from other monuments such as the Cursus. Other barrow groups further away, such as the Lake Barrows, would also have been visible from Stonehenge.*

*It is not only barrow groups which are attributes of OUV in this way. There are clusters of other monuments which are not visible from Stonehenge, and never would have been. For example, the complex of sites in the Durrington Walls area includes its avenue leading from the river to the henge, its associated settlement, Woodhenge, and other Neolithic and Bronze Age barrows and sites along the ridge south of Woodhenge. A similar monument cluster occurs around the Stonehenge Cursus, which attracted later Bronze Age barrow groups.*

*(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 disposition, physical remains and settings of the Neolithic and Bronze Age funerary, ceremonial and other monuments and sites of the period, which together form a landscape without parallel are an attribute of OUV. The design, position and interrelationship of the monuments are evidence of a highly organised prehistoric society able to impose its concepts on the environment. In some parts of the WHS, monuments or groups of monuments, such as the King Barrow Ridge barrow cemetery, Stonehenge and the Normanton Down barrow cemetery, are so well-preserved and prominent that they and their physical and topographical interrelationships form immediately recognisable parts of an archaeological landscape...In other parts of the WHS, however, the monuments and sites have become degraded or masked and their significance and physical*

*relationships to one another and the landscape are no longer visible to the naked eye, but are nevertheless equally attributes of the Site's OUV. There are also areas which appear to have been deliberately left empty of monuments. These are important for our constantly developing understanding of the landscape as a whole.*

*(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 influence of the remains of Neolithic and Bronze Age funerary and ceremonial monuments and their landscape settings on architects, artists, historians, archaeologists and others is an attribute of OUV. For example, Stonehenge has been depicted in a number of key views by artists of the British Romantic Movement of the 18<sup>th</sup> and 19<sup>th</sup> centuries.*

*The WHS has been pivotal in the development of archaeology from early antiquarian investigations by Aubrey and Stukeley in the late 17<sup>th</sup> and early 18<sup>th</sup> centuries. Both the Avebury and Stonehenge parts of the WHS have continued since then as an important focus for evolving archaeological practice and techniques.' (Simmonds and Thomas 2015, 32–34).*

- 6.6.19 The Attributes of OUV stress the importance of the siting of the sites and monuments in relation to the landscape, the design of the monuments in relation to the skies and astronomy, the siting of the sites and monuments in relationship to each other, and their siting, physical remains and setting that together form a landscape without parallel.
- 6.6.20 The 2015 WHS Management Plan expands upon the 2013 SoOUV Statement on Authenticity, relating Authenticity to each of the seven Attributes of OUV identified in the Management Plan:

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

*Stonehenge itself is recognised throughout the world as a symbol of Britain as well as a masterpiece of great antiquity. This recognition has probably increased over the last two decades through the increase in access to digital media across the world, and the coverage of the recent visitor centre project.*

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

*The majority of known archaeological monuments and associated sites are protected by scheduling while many of the key sites are in the care of either English Heritage or the National Trust. Some*

*attributes of OUV are currently unscheduled. Further scheduling of currently undesignated sites and new discoveries will be reviewed and undertaken as appropriate. Apart from Stonehenge, which underwent considerable works in the earlier part of the 20<sup>th</sup> century to stabilise and re-erect fallen stones, most sites other than an area of the Cursus and some round barrows remain unrestored. There have been excavations of many of the burial mounds and some long barrows, many of which took place in the 19<sup>th</sup> century. Work was also carried out to Durrington Walls during the re-alignment of the A345 in the 1960s. The Avebury stone circles and the West Kennet Avenue were extensively restored by Alexander Keiller in the 1930s. This consisted mainly of re-erecting buried stones in their original positions or marking the original positions of stones since lost with easily distinguishable markers. Silbury Hill was extensively tunnelled in the 18<sup>th</sup>, 19<sup>th</sup> and 20<sup>th</sup> centuries but underwent a conservation programme to stabilize the chalk mound in 2007.*

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

*Relationships between the surviving Neolithic and Bronze Age funerary and ceremonial sites and monuments and the landscape remain at least as clear as they were in 1986. Archaeological work such as Stonehenge Landscape and the Stonehenge Riverside Project has increased our understanding of these relationships. Analysis of the extensive data arising from the recent Stonehenge Hidden Landscapes project will also add to our understanding. At Avebury this has been achieved by the Longstones and Between the Monuments projects. Extensive geophysical survey across the WHS including recent results from the Stonehenge Hidden Landscapes project is also improving our understanding. Some visual and physical links are still impeded by the major roads in the landscape, by woodland and by modern development around Larkhill, as they were in 1986.*

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

*There is much debate about the way in which the design and siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments relate to the skies and astronomy. It is generally agreed that the solstitial alignments of Stonehenge itself are a key element of its design. These have not been impaired by intrusive structures since the site was inscribed in 1986 (although the A303 continues to have a negative impact on the solstitial relationship of Stonehenge and the 'sun barrow' immediately north of Normanton Gorse). Some plantations also intrude on this and other solstitial alignments. At Avebury proof is still sought to show that astronomical alignments*

*were a design feature of monuments rather than coincidental.*

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

*Relationships between the Neolithic and Bronze Age funerary and ceremonial sites and monuments remain as clear as they were in 1986 and can in most cases be easily appreciated. In some cases, visual and physical links are interrupted by woodland. A WHS Woodland Strategy has been produced to identify and address these areas. The major roads in the landscape intrude on some relationships, for example between Stonehenge itself and its Avenue and the Sanctuary and the Overton Hill Barrow Cemetery at Avebury. This is also the case for many other key Neolithic and Bronze Age sites and monuments.*

*6. The disposition, physical remains and settings of the Neolithic and Bronze Age funerary, ceremonial and other monuments and sites of the period, which together form a landscape without parallel.*

*The largely open nature of the landscape means that the disposition, physical remains and settings of the Neolithic and Bronze Age funerary, ceremonial and other monuments and sites of the period, which together form a landscape without parallel, remain clear over much of the WHS. Relationships are less clear in the northern part of the Stonehenge landscape around the settlement of Larkhill where there is a considerable amount of modern development within the WHS. At Avebury the built environment intrudes on the setting of some monuments. This has increased on the approach to the Henge from the north. Elsewhere, in both parts of the WHS, the major roads intrude on appreciation of this landscape without parallel. Modern woodland obscures some aspects of the landscape though it also has an important screening role in some locations. The reversion of large areas of the WHS to grassland has strengthened the setting of a number of attributes of OUV since 1986.*

*7. The influence of the remains of Neolithic and Bronze Age funerary and ceremonial monuments and their landscape settings on architects, artists, historians, archaeologists and others.*

*This attribute is expressed most clearly in artworks and literature depicting or inspired by the WHS, many centred on the stone settings at Stonehenge or Avebury. Silbury Hill has also been represented in artworks. Many such views remain largely unaffected by modern development apart from the major roads which can of course be an aspect of the artist's or writer's response to the WHS as seen in V S Naipaul's *The Enigma of Arrival* (1987). This position has not altered since 1986 apart from the increased volume and*

*noise of road traffic.*

*This attribute is also expressed by the fact that the WHS has been one of the key areas in the development of landscape archaeology since the work of Stukeley and others in the 18th century.'*  
(Simmonds and Thomas 2015, 36–37).

## **6.7 Periodic condition survey**

6.7.1 Antiquarian investigations from the 17<sup>th</sup> century onwards have resulted in the disturbance of a large number of monuments within the area that is now the WHS. A condition survey of 661 recorded monuments within the WHS was carried out in 2001–2, commissioned by English Heritage (Wessex Archaeology 2003b).

6.7.2 The 2005 Stonehenge WHS Archaeological Research Framework (Darvill 2005, 31) summarised the 2001–2 condition survey:

*'This desk-based study and field survey revealed that about 60% of monuments had no surface expression. Of the monuments that were visible (40% overall) some 28 % were in 'good' condition, 34 % in 'moderate' condition, and 39% in either 'poor' or 'very poor' condition. Overall, about two-thirds of monuments were found to be in a relatively stable condition, 12 % were subject to moderate deterioration, and just 1.5 % were subject to rapid deterioration. The main ongoing influences on the condition of monuments were, in order of magnitude: cultivation, burrowing animals, and tree and scrub cover. Lesser impacts from stock damage and wear and-tear from visitors were found to be limited in scope and effect. About 6 % of monuments were assessed as being highly vulnerable to the loss of their archaeological resource from ongoing impacts, while a further 57 % were assessed as having medium vulnerability' [...]*  
*'Taking a long-term view, the main causes of damage noted for the Stonehenge Landscape have been:*

- *Construction of military camps*
- *Pasture or arable conversion*
- *Road schemes*
- *Property development*
- *Ploughing*
- *Rabbit infestation*
- *Storms and natural hazards'*

6.7.3 The 2015 Management Plan (Simmonds and Thomas 2015, 99) noted that the periodic condition survey undertaken in 2010–2011 (Wessex Archaeology 2012) ‘[...] revealed a positive change to the overall condition of monuments with increases in the number of monuments recorded as fair and poor with a decrease in monuments considered to be of very bad condition [...]. The results of the Condition Survey show that the main threats to the archaeological features of the WHS in order of severity are:

- Cultivation
- Burrowing animals
- Vegetation
- Erosion, particularly from vehicles.’

6.7.4 The 2018 State Party State of Conservation Report (DCMS 2018) noted that:

*‘Agri-environment schemes remain the most effective response to protecting sensitive archaeology from damage through cultivation. These schemes are extremely important for protecting the physical remains and enhancing the setting of prehistoric monuments through measures such as grassland restoration and scrub control. At Stonehenge around 40% of the WHS landscape is in environmental stewardship helping to protect and / or enhance the setting of c. 500 historic features.*

*Work to protect vulnerable monuments from damage by cultivation and from badgers and other burrowing animals are therefore two of the key priorities of the WHS Management Plan (Simmonds and Thomas 2015). Work on designing a brief for the WHS Burrowing Animal Strategy is currently in progress.*

*The periodic condition survey noted that vehicle impacts included damage on tracks and ad hoc damage within fields. Areas of concern within the Stonehenge part of the WHS include BOAT [Byway Open to All Traffic] AMES12 at Stonehenge, Normanton Down and elsewhere and the long barrow crossed by an access track on the Cursus (NHLE 1009132).’*

## 6.8 Previous archaeological investigations in the WHS and field surveys related to the Scheme

6.8.1 A summary of previous fieldwork and recording in the Stonehenge landscape is set out in ES Chapter 6, Cultural Heritage, Section 6.6, Baseline Conditions: Investigations of the Stonehenge landscape. A review of previous archaeological investigations in the WHS and field surveys related to the A303 Scheme is presented in HIA Annex 4 – Previous archaeological and antiquarian investigations within the Stonehenge part of the WHS. In summary, HIA Annex 4 considers:

- Ancient references to Stonehenge;
- Antiquarian enquiry in the 16th and 17th centuries;
- Antiquarian research in the 18th century;
- Antiquarian investigations in the 19th century;
- The first archaeological investigations in the early 20th century;
- Archaeological investigations c. 1950 to 1990; and
- Archaeological investigations 1990 to 2017.

6.8.2 A substantial number of investigations have been undertaken in recent decades, arising from both commercial and academic contexts. A selective list of the more significant investigations across the broader landscape around Stonehenge follows.

### Previous investigations: non-intrusive surveys

6.8.3 Previous non-intrusive surveys include:

- GSB Prospection. Geophysical survey carried out in advance of proposed road improvements to the A303 between Amesbury and Berwick Down during the early 1990s, followed by a second phase from 1999 to 2003 (GSB Prospection 1992a; 1992b; 1993; 1994; 1999; 2001a; 2001b; 2002; 2003);
- National Trust. In advance of conservation management, geophysical survey carried out over six barrows and one possible barrow (Papworth 2009);
- The First Monuments Project (Bournemouth University and the German Archaeological Institute) involved an extensive high-resolution geophysical survey covering approximately two square kilometres undertaken to the north of Stonehenge in 2011. The area investigated included all of the Stonehenge Cursus together with

downland extending southwards to the A344 and between King Barrow Ridge in the east and Fargo Plantation in the west (Darvill et al. 2013).

- The Stonehenge Hidden Landscapes Project (2010–16). A collaborative project between Birmingham University and the Ludwig Boltzmann Institute for Archaeological Prospection, applying advanced geophysical techniques to a large area of the WHS (Gaffney et al. 2012);
- English Heritage. In 2001, as part of the NMP, evidence for archaeological sites was plotted from both historic aerial photographs and newly-available LIDAR surveys (Richards 2017, 166);
- English Heritage. As part of the Stonehenge WHS Landscape Project led by English Heritage, a number of areas were covered by detailed earthwork surveys in 2008–2011 aided by geophysical work, architectural surveys and investigations, revisions to aerial photographic plots, and the revision of the GIS for the WHS. Lidar data was also examined. Areas surveyed include Normanton Down (Barrett and Bowden 2010), Winterbourne Stoke Crossroads (Bax, Bowden, Komar and Newsome 2010), the Lake Barrows, the Diamond and Normanton Gorse (Bowden, Field and Soutar 2012), Stonehenge (Field and Pearson 2010), The Avenue and Stonehenge Bottom (Field, Bowden and Soutar 2012) and Stonehenge Down and the Triangle (Pearson and Field 2011);
- English Heritage. Geophysical surveys were conducted in Diamonds Field, Wilsford Down, Druid's Lodge Estate, Wilsford cum Lake, West Amesbury, Normanton Down and Stonehenge as part of the Stonehenge World Heritage Site (SWHS) Southern Landscape Project (Linford et al. 2012; 2015a; 2015b; 2016; Historic England 2016; Roberts et al. forthcoming); and
- Ghent University and the University of Birmingham. From 2012 to 2015, a series of high-resolution electromagnetic induction (EMI) surveys were undertaken within the core area of the Stonehenge part of the WHS (De Smedt 2017a; 2017b).

### **Previous investigations: evaluations**

#### 6.8.4 Previous archaeological evaluations include:

- In the early 1990s, three areas (A–C) were investigated through evaluation trenching on sections of the A303 between Amesbury and Berwick Down due for improvement, which established the sequencing and construction phases of several earthworks and barrows (Wessex Archaeology 1993);
- In the early 2000s, evaluation of Areas A, B, C, D, L, O, P, R and T on sections of the A303 both inside and outside the WHS due for

improvement revealed archaeological features and deposits of prehistoric, Romano-British and post-medieval date (Cooke and Moore 2002; Wessex Archaeology 2002b, 2002c, 2002d, 2002e);

- Again in relation to proposed road improvements for the A303, archaeological features of various periods were recorded in 24 evaluation trenches in areas designated as 1, 2, 3 and 4 (Wessex Archaeology 2003b);
- Also as part of the archaeological evaluation for the current A303 Amesbury to Berwick Down project, work was undertaken within three investigation areas designated as SW1, SW2 and NE2. Archaeological features included two Early Neolithic long barrows, a small penannular ditched monument and various ditches including a Wessex linear boundary ditch (Wessex Archaeology 2017b; Powell 2017);
- Archaeological evaluation was undertaken in the early 1990s at the site of the then proposed Stonehenge Visitor Centre, Site 12 (Crockett and Davies 1993; Wessex Archaeology 1994);
- Archaeological evaluation was carried out in advance of the proposed Stonehenge Visitor Centre at Countess East in 2003 and 2004 (Wessex Archaeology 2003; (Wessex Archaeology 2004);
- In relation to the Stonehenge Environmental Improvements Project, evaluation at Longbarrow Crossroads in 2014 recorded the line of a ditch of probable Late Bronze Age date and a number of field boundary ditches associated with ‘Celtic field’ systems (Harding and Farr 2014);
- Archaeological evaluation at the Amesbury Business Park was undertaken in 2002 (Valentin and Robinson 2002); and
- Archaeological evaluation at the Druids Lodge Polo Club identified Early Bronze Age and later activity (Milward et al. 2010).

### **Previous investigations: excavations**

#### 6.8.5 Recent excavations within the WHS include:

- Stonehenge Riverside Project (Parker Pearson 2015). Excavations in 2007 concentrated on the entrances to Durrington Walls, the ridge south of Woodhenge, the Cuckoo Stone, at the west end of the Stonehenge Greater Cursus, and within the relict river channel of the River Avon adjacent to Durrington Walls (Parker Pearson et al 2007a and b). Investigations in the following year (2008) involved the retrieval of cremation bone from Aubrey Hole 7, as well as fieldwork at the Stonehenge Avenue Bend, the Stonehenge Avenue towards the River Avon, the sarsen-dressing area just north of Stonehenge, the Greater Stonehenge Cursus, Amesbury 42 Long Barrow, the Stonehenge Avenue’s so-called ‘Northern Branch’, and the

Stonehenge Palisade (Parker Pearson et al. 2008). Test pits and trenches were excavated at the end of the Stonehenge Avenue, beside the River Avon, discovering a lost bluestone circle which has become known as Bluestonehenge (Parker Pearson et al. 2009);

- SPACES (Strumble-Presele Ancient Communities and Environmental Study). In 2008 excavation was carried out within the stone circle at Stonehenge to date the construction of the Double Bluestone Circle (Richards 2017, 177–178);
- Stonehenge Environmental Improvements Project. Excavation during the removal of the A344 road adjacent to Stonehenge revealed short lengths of the Avenue ditches, and a part of the outer edge of the ditch that encircles the Heel Stone (Powell 2014; Powell and Farr 2016);
- Stonehenge Southern WHS Survey (Historic England). Excavations on three separate sites to the south of the A303, one in Druids Lodge and the other two in West Amesbury (Roberts et al. 2016).
- Blick Mead. Excavation uncovered preserved Mesolithic deposits suggesting a possible Mesolithic settlement a short distance north-east of Vespasian's Camp Iron Age fort (Jacques et al. 2010; Jacques et al. 2018; Richards 2017, 171), and a Bronze Age dagger fragment deposited in a spring (Jacques and Phillips 2014).

6.8.6 A number of significant excavations have taken place outside the Wold Heritage Site; for example excavation at Bulford uncovered two adjacent henge monuments, ring-ditches 16 or 17m in diameter; centuries later both were converted into Early Bronze Age burial mounds (Historic England 2017, 36–38; Pitts 2018, 8). Recent fieldwork has challenged the perception that the ancient landscape around Stonehenge was hemmed in between the rivers Avon and Till. A great number of burials have been found on the chalk overlooking the eastern side of the Avon, often with no barrows over them. Among them is the most impressive Beaker burial in Britain, the Amesbury Archer with his exceptional collection of 150 artefacts (Pitts 2018, 9). Other burials include that of three infants huddled together in a pit at Larkhill Garrison, where another pit held the nested remains of three cattle. On Boscombe Down, a teenage girl was laid to rest with a necklace of 90 amber beads (Pitts 2018, 9).

6.8.7 Other excavations outside the WHS include:

- Amesbury Business Park. Prior to the construction of a new business park and new A303 road junction at Earl's Farm Down and New Barn Down, seven Bronze Age ring-ditches, associated burial pits and linear and other subsoil features were excavated (Valentin 2004);
- Oatlands Dairy Unit on the Druid's Lodge Estate. Beaker period pits were excavated (Wakeham 2004);

- The Old Dairy, London Road in Amesbury. Excavations recorded multi-period funerary activity extending from at least the Middle Neolithic to the Anglo-Saxon period. The earliest activity included two Middle Neolithic pits, one of which contained Peterborough Ware pottery. Three large ring-ditches of Bronze Age date were recorded, and appear to represent a previously unrecorded funerary complex (Wessex Archaeology 2014);
- Army Basing Programme at Larkhill Garrison. Excavation by Wessex Archaeology in advance of development has revealed a Beaker inhumation, a Middle Bronze Age cremation cemetery, a very small ring-ditch, the extensive remains of military practice trenches, as well as most notably the ditch of an Early Neolithic causewayed enclosure measuring c.210m in diameter (Historic England 2017, 39–40).

### **Previous investigations: other projects**

#### 6.8.8 Other projects include:

- In 2007–8, English Heritage compiled a preliminary catalogue of human remains excavated from within the Stonehenge Landscape dated to the period 3700–1600 cal BC.
- The Beaker People Project / Beaker Isotope Project: mobility, migration and diet in the British Early Bronze Age was an interdisciplinary project based at the Universities of Sheffield and Durham, and the Max Planck Institute for Evolutionary Anthropology, Leipzig, Germany, analysing the skeletal remains of 264 individuals in Britain for isotope ratios (strontium, oxygen, sulphur, nitrogen and carbon), radiocarbon-dating, osteology and dental microwear (Parker Pearson et al. 2016).
- Stonehenge was the subject of a detailed archaeoastronomical case study by Clive Ruggles and Amanda Chadburn which identified ten astronomical sightlines within the Stonehenge WHS, associated with the Stonehenge stone circle, the Avenue, the Station-Stone, Woodhenge and the Southern Circle at Durrington Walls (Ruggles and Chadburn 2017, 54; presented in HIA Annex 5, Archaeoastronomy).

### **Fieldwork undertaken for the present assessment**

- 6.8.9 Evaluation fieldwork has been completed for sections of the Scheme within and adjacent to the WHS (eastern portal and approaches, western portal and approaches, new Longbarrow Junction and approaches, and the Rollestone Corner junction improvement).
- 6.8.10 The results of the evaluations completed to date are summarised below. Full evaluation reports for the evaluation programme will be made available as these are completed and approved by HMAG.

- 6.8.11 A variety of evaluation techniques (detailed specifications for each of the techniques are given in the AESR and OWSI and also the SSWSI for each site specific area) were employed including geophysical survey, ploughzone artefact collection (fieldwalking, hand sieved test pits and sieving of topsoil excavated in trial trenches), trial trenching and geoarchaeological investigations. Where site specific evaluation techniques were employed these are outlined in the summary below.

#### *Longbarrow Junction*

- 6.8.12 The proposed new Longbarrow Junction, A303 cutting and the realigned A360 north and south approach roads lie to the west of and outside the WHS boundary. The Winterbourne Stoke Crossroads barrow cemetery is located to the north-east, and the Diamond Group is located to the south-east. Both monument groups lie outside the Scheme footprint for the construction of the new junction. Late Bronze Age settlement evidence is focused around the existing Longbarrow Roundabout along with a partly scheduled later prehistoric land boundary and field systems.
- 6.8.13 Archaeological evaluations of the proposed new Longbarrow Junction and A303 cutting immediately west of the WHS boundary in 2017 and 2018 employed a range of techniques including geophysical survey, ploughzone surface artefact collection (fieldwalking and sieving of topsoil from the archaeological trial trenches), trial trenching and geoarchaeological investigations.
- 6.8.14 The geophysical surveys corresponded well with previous aerial photographic assessment and revealed the extent of field systems, linear boundaries, enclosures and monuments (such as barrow groups and isolated barrows) in the area.
- 6.8.15 The evaluation confirmed apparently discrete areas of activity including possible scattered Late Neolithic features and associated flint scatters along the realigned A360 north, scattered Early Bronze Age pits, a Late Bronze Age C-shaped enclosure and associated activity at the southern dumbbell for the proposed Longbarrow Junction, and a possible Early Bronze Age enclosure at the southern end of the realigned A360 south. The survival of parts of extensive later prehistoric land divisions (commonly referred to as 'Wessex linears') was also confirmed. These Wessex Linears are assessed in the ES rather than this HIA, as they post-date the Early Neolithic to Early Bronze Age periods that contribute to OUV.
- 6.8.16 A Late Bronze Age 'stockade ditch' was located close to the existing Longbarrow Roundabout, with a second paired parallel ditch located adjacent. Both are thought to be associated with the Late Bronze Age settlement site discovered in previous excavations under the existing roundabout. Scattered pits, dated to the Early Bronze Age (Beaker period)

were also identified, both within the northern and south-eastern parts of the evaluation area.

*Western portal and approach road*

- 6.8.17 The western portal and approach cutting pass through an area where previous surveys suggested there is limited archaeological survival within the footprint of the Scheme, although there are substantial groups of known monuments surrounding the site to the north-west, south-west, south, south-east and east. The Winterbourne Stoke Crossroads barrow cemetery (AG12) lies to the north-west of the approach cutting; to the east and south-east are the Normanton Down Barrows (AG19) (including the Wilsford G1 bowl barrow which lies approximately 25m east of the proposed western tunnel portal location); to the south-west lies a further group of monuments known as the Diamond Group (AG13), whilst a number of discrete monuments lie to the south including the Wilsford Shaft (NHLE 1010833). South of the western end of the site is a scheduled late prehistoric linear boundary.
- 6.8.18 Recent investigations carried out for the Scheme have included three phases of geophysical survey carried out in 2016–7. These included Area SW1, between the existing A303 and Byway AMES 12, north and west of Normanton Gorse; an area west of Area SW1, land at Diamond Fields, subject to geophysical survey by Historic England (Roberts et al. 2016); and multi-channel GPR survey. The latter survey technique has confirmed the results of the magnetic surveys undertaken within SW1 and allowed additional examination of magnetic anomalies; these include a small ‘hengiform’ monument approximately 4m in diameter, located south of Winterbourne Stoke Copse, north of the proposed western approach cutting outside the Scheme construction footprint.
- 6.8.19 Excavation of hand-sieved test pits and machine excavated trial trenches has recovered material evidence from the Early Bronze Age, Romano-British and later periods and a small number of archaeological features, largely dating to the Beaker Period (Early Bronze Age). These scattered features include a crouched burial and a number of small pits which have produced small quantities of Beaker pottery, both fineware and coarseware.
- 6.8.20 Concentrations of worked and burnt flint show no clear correlation with archaeological features revealed by subsequent trial trenching.
- 6.8.21 The single crouched Beaker burial was located within the central area of the site, north of the proposed approach cutting and outside the Scheme construction footprint. The burial is situated on the northern side of a shallow east-west coombe / dry valley and may be associated with the barrow cemetery to the north-west (Winterbourne Stoke Crossroads Barrows (AG12)). There is no evidence for any dense burial groups, flat

grave cemeteries, burial monuments / other monuments of Neolithic or Early Bronze Age date within the Scheme construction footprint for the western portal or the approach cutting.

- 6.8.22 Within the western section of the site and the footprint of the approach cutting, several Early Bronze Age pits were recorded along with a geological sinkhole.
- 6.8.23 Overall, the results of the archaeological evaluation of the western portal and approach cutting are consistent with the results of geophysical survey and previous fieldwork. The only ceremonial or funerary monument identified is a small hengiform monument observed in geophysical surveys. This lies outside of the construction footprint of the works for the approach cutting and would not be affected by the Scheme. Funerary evidence comprises a single Beaker crouched burial. Again this was situated outside the footprint of the approach cutting. Evidence for settlement activity is confined to artefactual material in the ploughzone and several Early Bronze Age pits. Although some concentrations of worked flint material in the ploughzone are apparent within the evaluation area, these do not appear to correlate to surviving features below the surface of the agricultural fields and cutting in to the underlying chalk, suggesting that any associated subsurface remains that may have existed here have been ploughed out. Assessment of the flint material is ongoing.

#### *Eastern portal and approach road*

- 6.8.24 Evaluation of the proposed eastern portal and approaches on the north side of the existing A303 Amesbury Bypass, east of King Barrow Ridge (AG26) and to the immediate north of Vespasian's Camp (AG32), was undertaken in several stages. The site lies to the east of the Avenue (AG27) and the associated Avenue Barrows (AG30) and the round barrow cemetery on King Barrow Ridge (AG26), and there are other barrows and cropmarks of ring ditches to the north associated with the Countess Farm Barrows (AG31).
- 6.8.25 Geophysical survey in 2017 identified a possible ring ditch and linear anomalies likely associated with former field boundaries. Comparison with geophysical survey data collected by the Stonehenge Hidden Landscapes Project confirmed the form of the chalk coombes within which the proposed eastern portal location has been placed, one extending approximately east-west and a second feeding into this from the north.
- 6.8.26 The investigation of the eastern approach cutting and a 30m buffer adjacent to this comprised surface artefact collection (field walking), hand dug sieved test pits, and trial trenching.
- 6.8.27 Trial trench evaluation of the eastern portal location in 2017 revealed a single small undated north-south aligned ditch.

- 6.8.28 The fieldwalking and test pitting of the area revealed an even low density scatter of worked and burnt flint across the area, with a small number of slightly higher concentrations which may be the remains of activity areas now dispersed within the ploughzone. A later Neolithic or Early Bronze Age concentration of worked flint derived from *in situ* knapping was recovered in one trench, in a stony horizon filling a hollow in the top of the natural chalk.
- 6.8.29 The geoarchaeological borehole survey showed the presence of a buried soil layer within deposits of colluvium, which was subsequently exposed in section. The well-preserved buried soil layer was cut by a pair of parallel ditches of Romano-British date and subsequently sealed by a colluvial sequence. The ditches may be associated with field systems developed in the vicinity of Vespasian's Camp, an Iron Age Hillfort immediately to the south of the site.
- 6.8.30 The results from the eastern portal evaluation indicate localised small-scale activity was occurring within the site from at least the Mesolithic period onwards, but that there is no substantial evidence for extensive and prolonged activity foci / settlement or burial monuments within the construction footprint for the Scheme at this location. Palaeoenvironmental sequences are likely to be preserved beneath colluvium in various locations, and the colluvium may also mask archaeological features.

#### *Rollestone Corner junction*

- 6.8.31 The archaeological evaluation for this small junction improvement has included land both within and outside the WHS boundary. The junction is situated amidst a relatively dense concentration of scheduled and non-designated Early Bronze Age round barrows including the Rollestone barrows to the south and the Net Down barrows to the north-west. The barrows are predominantly located along a ridge coinciding approximately with the line of the Packway, and are clustered together to form distinct groups, both within and beyond the WHS boundary.
- 6.8.32 Archaeological evaluation outside the WHS boundary comprised geophysical survey, fieldwalking and trial trenching, whilst within the north-west corner of the WHS hand sieved test pits were also excavated.
- 6.8.33 The geophysical survey noted the possible remnants of field systems, of probable late prehistoric or Romano-British date, in the locality. Fieldwalking and test-pitting did not identify any significant concentrations of material; the worked flint assemblage being typical of collections from the ploughzone in the area, with a preponderance of heavily patinated, large fragments of debitage. There were no cores or retouched tools recovered.

- 6.8.34 Trial trenching within and outside the WHS boundary revealed a number of tree-throws, two of which contained quantities of burnt and / or worked flint (including material of broadly Neolithic date) and tiny fragments of prehistoric pottery.
- 6.8.35 Overall, the archaeological evaluations at Rolleston Corner have revealed very low levels of prehistoric activity in this part of the WHS, within and adjacent to the WHS boundary.

## 6.9 Asset Groups: baseline description and assessment of Scheme impacts and effects

### Overview of Neolithic and Early Bronze Age heritage assets

- 6.9.1 The Stonehenge landscape includes a number of earlier Neolithic long barrows, henges and possible mortuary enclosures, as well as the ‘densest concentration of Bronze Age burial mounds in Britain’ (Simmonds and Thomas 2015, 33). Studies of these monuments have furnished important insights on the funerary and ceremonial practices of the communities that built and used them, as well as on aspects of technology, society and landscape.
- 6.9.2 The 2015 WHS Management Plan (Simmonds and Thomas 2015, 34) states that:
- ‘The design, position and inter-relationship of the monuments are evidence of a highly organised prehistoric society able to impose its concepts on the environment. In some parts of the WHS, monuments or groups of monuments [...] are so well-preserved and prominent that they and their physical and topographical inter-relationships form immediately recognisable parts of an archaeological landscape [...] In other parts of the WHS, however, the monuments and sites have become degraded or masked and their significance and physical relationships to one another and the landscape are no longer visible to the naked eye, but are nevertheless equally attributes of the Site’s OUV.’*

#### *Causewayed enclosures*

- 6.9.3 Constructed during the Early Neolithic, causewayed enclosures are, along with long barrows and cursuses, amongst the earliest forms of monumental construction known in southern Britain, and represent some of the first forms of land enclosure.
- 6.9.4 They typically comprise a roughly circular or oval area bounded by one or more concentric rings of banks and ditch segments, or elongated pits and mounds, punctuated by unexcavated causeways.
- 6.9.5 It has been observed (e.g. by Oswald et al. 2001) that ‘most causewayed

*enclosures on higher ground are centred just off summits so that they have a distinct orientation, perhaps signifying a link with a particular area of lower-lying land* (English Heritage 2011, 3).

6.9.6 The precise function of causewayed enclosures is unclear, although various competing explanations for their purpose have been proposed. The presence of more domestic artefacts at excavated sites suggests an element of settlement activity, yet the frequent presence of human remains points to mortuary practices. Hence, funerary, ceremonial, economic, settlement, defensive and trade functions have all been suggested at various times. It is possible that they fulfilled a variety of different roles throughout their time in use. It has also been postulated that the act of constructing causewayed enclosures may have been more important than the monuments themselves. Whatever their original function, they are truly monumental in scale and would have required considerable communal effort to construct. (English Heritage 2011).

6.9.7 Recently, it has been stated that these enigmatic monuments '*are now generally thought of as multifunctional sites, with roles in settlement, seasonal gatherings, exchange and ceremonials*', although they '*are also closely associated with rituals of death and the near contemporary long barrows*' (Bowden et al. 2015, 20). It has also been remarked with regards to their locations, that they seem to have served as meeting places between different communities where ceremonies and ritual activities might have taken place (Field and McOmish 2017, 57).

#### *Long barrows*

6.9.8 Long barrows are amongst the earliest monumental constructions in southern Britain. Built and used during a tradition broadly spanning the first half of the 4<sup>th</sup> Millennium, most were probably constructed in the period between 3750 and 3400 BC (Bayliss and Whittle 2007).

6.9.9 These monuments typically consist of a trapezoidal mound of earth and / or stone, with a length exceeding twice its greatest width. In some instances, the mound may be edged with a timber or stone revetment. Many long barrows contain one or more stone or wooden 'burial chambers', often located at the higher and / or wider end of the monument. However, some examples are known to lack burial chambers. Other distinctive components include quarry pits, flanking quarry ditches, and a forecourt (Woodward 2002).

6.9.10 Long barrows are traditionally understood to represent a form of funerary monument associated with communal burial practices. However, there is some debate about the various functions that long barrows may have fulfilled, not least because some excavated examples have yielded no evidence of funerary activity (Field 2006; Woodward 2002).

- 6.9.11 A dense concentration of Neolithic long barrows has been identified in the western part of the Stonehenge WHS (Bowden et al. 2015).
- 6.9.12 A recent paper considers the distribution and context of long barrows in the Stonehenge landscape (Roberts et al. 2018).

*'Local topography appears to be the key factor in determining the alignment of long barrows, but the eastern ends of barrows appear to be significant. Long barrows are also considered in relation to causewayed enclosures, and movement around the landscape. Long barrows are an important structuring monument in the later Neolithic and Bronze Age landscape, but their importance is mediated by their location relative to Stonehenge, and access to the monument from the south. There is a clear pattern of differential preservation of long barrows away from the vicinity of Stonehenge.*

*The landscape setting of long barrows has long been acknowledged to be of importance [...] localised topography [is] key to the alignment of long barrows, rather than cosmological alignments. Work at WS71 [one of the Diamond Group long barrows investigated for the proposed scheme and by Historic England] and more widely by Exon et al. (2000) suggests that inter-monumental views were also important, and the cluster of long barrows around the head of the dry valley between Wilsford and Normanton Downs may suggest an early significance to this area. We have suggested that the Wilsford Shaft may have formed part of this early landscape focus, given various considerations of its dating and sequence, although in the light of the limitations of the evidence this must remain a very tenuous suggestion. More securely, causewayed enclosures and long barrows can be considered to articulate different aspects of Early Neolithic activity in the landscape, but collectively may illuminate routes through the landscape, perhaps relating to livestock management. Rather than focusing on static studies of visual relations between monuments, future work should consider the interrelations between long barrows and other Early Neolithic monuments in terms of movement, as well as considering finer grained questions of seasonality and vegetation, and how views, activities and movement around these monuments may have changed through the yearly cycle. At the scale of individual monuments, it is clear that at many long barrows the more easterly end of the barrow had greater significance than the westerly end, being larger, and possibly better maintained at some monuments.*

*WS71 and WS86 [the two long barrows in the Diamond Group investigated for the Scheme] were destroyed during later prehistory, and exploring why has allowed the emergence of interesting patterns of preservation of long barrows relating to the associations with round barrows and Stonehenge. Long barrows in the SWHS are*

*preferentially selected for inclusion in round barrow cemeteries in comparison to long barrows in the SPTA. Remarkably, no long barrow within view of Stonehenge has been fully ploughed out, and none are overlain by prehistoric field systems. We have posited that the differential treatment of these monuments relates to Early Bronze Age views of the past, and the importance of long barrows as the burial monuments of the mythologised past in relation to contemporary Early Bronze Age discourses regarding ancestral claims to the Stonehenge landscape. The specific elaboration of WIL41 [on Lake Down] and WS1 [the long barrow at Winterbourne Stoke Crossroads] by round barrow cemeteries may be linked to their position around the Wilsford/Normanton dry valley [...].'*

### *Cursus monuments*

- 6.9.13 Cursus monuments, of which approximately 40 examples are known nationally, are distributed widely throughout Britain. For the most part, these monuments consist of long and relatively narrow earthwork enclosures, typically defined by an enclosing bank and ditch. Few of these retain substantial, or visible above-ground remains, and most have been discovered through aerial photography. Dating to the Early Neolithic, they are amongst the earliest forms of monumental construction in Britain:

*'Radiocarbon dates obtained from several sites over the last twenty years or so indicate that earthwork cursus monuments were probably constructed somewhere in the period 3600 to 3000 BC, with the most recently obtained dates tending to focus on the earlier part of this period, that is 3600 to 3300 BC. This suggests that they are generally later than many long barrows and megalithic tombs, and a little later than the initial construction of most causewayed enclosures.'* (English Heritage 2011, 3).

### *Round barrows and other barrow types*

- 6.9.14 The appearance and proliferation of barrows, from the Late Neolithic into the Early Bronze Age, appears to represent a distinct shift in funerary and ceremonial traditions during the period.
- 6.9.15 It is becoming increasingly apparent that other comparable monuments elsewhere in the Stonehenge landscape varied considerably in terms of their morphology, and were sometimes the result of multiple phases of construction and elaboration. Most, if not all of these are primarily understood to be funerary monuments, although they may also have played a role in ceremonial or ritual activity.
- 6.9.16 It has been widely observed that the spatial and visual associations between round barrows and other pre-existing ceremonial and funerary monuments implies a degree of intentionality in terms of their siting (e.g.

Woodward and Woodward 1996; Exon et al. 2000; Lawson 2007). It has been observed that *'some cemeteries were formed around earlier monuments, as if there was some continuing tie between the builders of the old and new monuments'* (Lawson 2007, 207). In some instances, the barrows may have been constructed directly above earlier hengiform, or related types of monument (e.g. Gaffney et al. 2012; Bowden et al. 2015, 35–6). Amadio and Bishop (2010, 27) state that *'Each burial or new round barrow was placed deliberately with consideration for existing burials, other monuments and natural features, in locations that were in harmony with the values and significances perceived at that particular time.'*

- 6.9.17 Barrows within the WHS *'seem to have formed a major component of the larger, structured landscape and were sited at set distances from the monuments so that many barrows sites were clearly visible from them'* (Exon et al. 2000, 2). Analysis suggests that they were often preferentially sited within the viewsheds of the pre-Bronze Age monuments and at the edge of these viewsheds (ibid. 26–27). Earlier Beaker barrows seem to have been sited in relation to a number of existing monuments but inter-visibility with Stonehenge may have been less significant at this time. However, by the Early Bronze Age Stonehenge appears to have become the specific focus for a number of the later barrows (ibid. 75–85).
- 6.9.18 Barrows are commonly situated in elevated positions, although they are often located on a 'false crest' or just below the highest position (Lawson 2007, 210). The frequency of this distribution, even in areas with few other contemporary monuments, suggests that the topographical position itself was significant. Although many barrows also seem to have a deliberate association with watercourses and valleys (Woodward 2000, 73). Within the Stonehenge landscape and WHS, several of the barrow cemeteries can be seen to lie in elevated positions overlooking the lower ground, River Avon and dry valleys.
- 6.9.19 There was, and still is a strong visual relationship between Stonehenge (AG22) and the inner ring of barrow cemeteries on the near horizon. The barrow groups are located prominently on these ridges and appear silhouetted against the horizon when viewed from the henge. Numerous researchers have inferred that importance was invested in the visual relationships between these monuments and that Stonehenge formed the main focal point of this landscape.
- 6.9.20 For instance, Woodward and Woodward (1996) hypothesised that the main barrow cemeteries in this landscape were deliberately arranged in two concentric rings on the near and far horizons surrounding Stonehenge, perhaps defining what Amadio and Bishop (2010, 29) describe as *'a cordon sanitaire within a sacred geography.'*
- 6.9.21 Citing Woodward and Woodward (1996), Amadio and Bishop (2010) go on to state that the *'arcs and curves found in the cemetery patterning [of*

the barrow groups surrounding Stonehenge] *reflect the topography and the principal of circularity embodied in the barrows themselves.*'

- 6.9.22 This theory was later revised, and elaborated by Ann Woodward, who suggested that the barrow groups on these ridgelines may have formed 'a zone from which the magical and illusionary monument of the dead could be viewed, and beyond which few living humans may ever have been allowed to pass' (Exon et al. 2000, 107).
- 6.9.23 Bishop (2011, 41–2) states that:
- 'Near Stonehenge the round barrows tend to cluster into a number of groups or cemeteries, often with a linear element, which demonstrate a persistent interest in particular locations over a considerable period of time. The linear trend of many cemetery groups may also imply territoriality, with barrows placed along a boundary on land that is marginal to any settlement. These boundaries may have had a range of physical and spiritual meanings (Field 1998). It is also possible that the high downs were a vast common land shared by a number of communities, perhaps on a seasonal pastoral basis (Fleming 1971, 159), until later earthworks were created to physically divide the landscape into fields.'*
- 6.9.24 Barrows are frequently arranged in discrete clusters to form cemeteries, and monuments were sited with an element of respect for each other. This is a consistent element observed within the spatial patterning of barrow groups elsewhere within the WHS and the wider region (Richards 1990, 273).
- 6.9.25 Many of the round barrows within the Stonehenge landscape are clustered together to form nucleated or dispersed groups, which are typically interpreted as cemeteries. They also occur as smaller groups, pairs and detached outliers to the larger groups. Lawson (2007, 207) has observed that the arrangement of barrow cemeteries '*may well reflect degrees of allegiance, ancestry or family relationship but this has yet to be proved by modern science*'.
- 6.9.26 While the influence of astronomy on several key monuments within the Stonehenge landscape is widely acknowledged, the location of barrow cemeteries is generally thought to be influenced by the landscape setting and reference to other monuments, with no clear evidence of any links to astronomical targets (Ruggles 1997, 221–223).
- 6.9.27 Although the siting of the monuments may have deliberately exploited topographical variations, these could have been intended to create lines of sight between features of the cultural landscape and / or to elevate the visual prominence of the monuments themselves, or to silhouette them prominently on the horizon. The siting of monuments may have played a

role in expressions of territoriality or the construction and maintenance of identities, or may have been intended to create or reinforce associations with aspects of the natural landscape that were imbued with meaning by prehistoric communities.

### Overview of Asset Groups

- 6.9.28 To enable assessment, a range of Asset Groups and discrete heritage assets that convey the Attributes of OUV of the WHS have been identified. The rationale for the identification of Asset Groups is set out in HIA Section 5.10, Definition of the assessment area: Asset Groups and discrete assets. These Asset Groups capture the principal barrow cemeteries including monuments of Neolithic and Bronze Age date, together with discrete outliers of these cemeteries.
- 6.9.29 The following sections provide a discussion of the Asset Groups conveying Attributes of OUV as set out in HIA Section 5.10 above.

### Asset Groups conveying Attributes of OUV

- 6.9.30 Stonehenge (AG22) conveys the first Attribute of OUV, '*Stonehenge itself as a globally famous and iconic monument*'. Although elements of the surrounding Asset Groups form part of the wider cultural landscape around Stonehenge, and some may have contextual associations with the monument, these other Asset Groups do not form an integral part of the henge complex. Consequently, the monuments within the other Asset Groups do not express this Attribute of the OUV of the WHS.
- 6.9.31 Most of the Asset Groups convey the second, third, fifth and sixth Attributes of OUV:
- (2) The physical remains of the Neolithic and Bronze Age funerary and ceremonial sites and assets in relation to the landscape.*
  - (3) The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape.*
  - (5) The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other.*
  - (6) The disposition, physical remains and settings of the key Neolithic and Bronze Age funerary, ceremonial and other monuments and sites of the period, which together form a landscape without parallel.*
- 6.9.32 Elements of Durrington Walls, Woodhenge and Associated Sites (AG33), The Avenue (AG27) and Stonehenge (AG22) convey the fourth Attribute of OUV, '*The design of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the skies and astronomy*'. This

selection is based on the ICOMOS-International Astronomical Union thematic study on astronomical heritage (Chadburn and Ruggles 2017; HIA Annex 5).

### **Asset Groups within the Stonehenge part of the Stonehenge, Avebury and Associated Sites WHS**

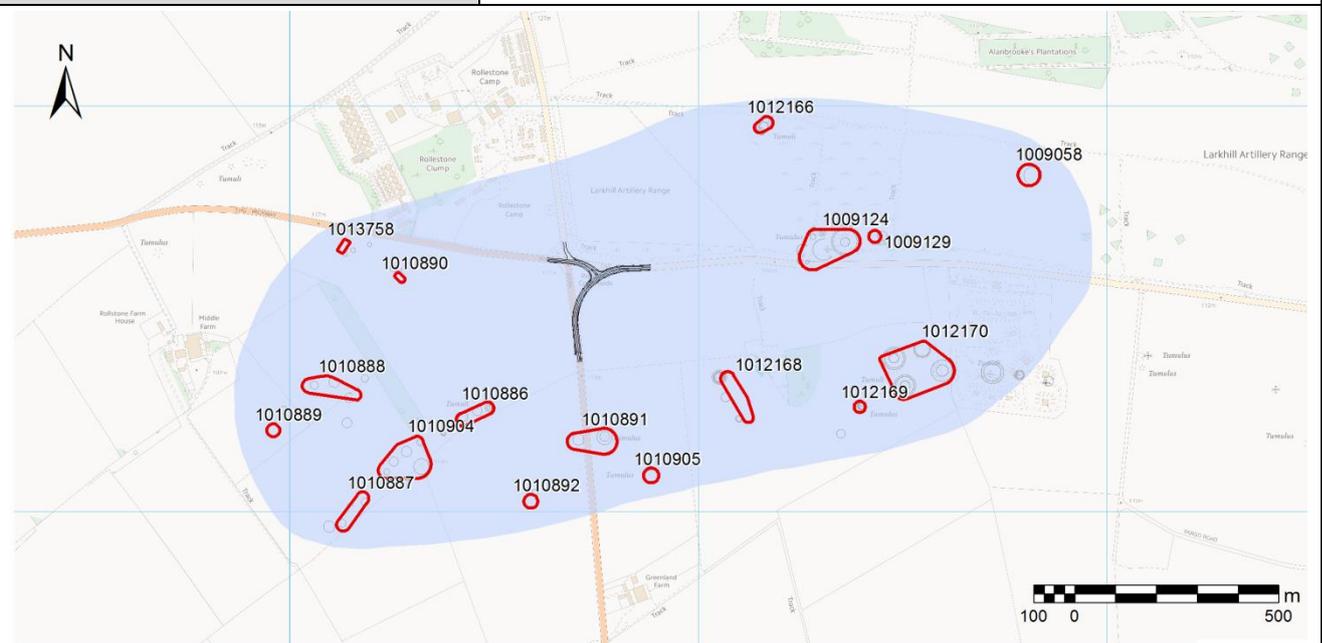
- 6.9.33 This section contains a description and assessment of each of the Asset Groups within the Stonehenge part of the WHS.
- a) The designations, component monuments, investigation history and condition of Asset Groups are described.
  - b) The Integrity and Authenticity and contribution of the Asset Groups to the Attributes that convey the OUV of the WHS are assessed.
  - c) The significance and value of Asset Groups are then assessed with reference to HIAMethod for the assessment of the value of heritage resources (based on ICOMOS 2011 appendix 3A: Example Guide for assessing value of heritage assets).
  - d) The current setting of the Asset Groups is described and aspects of their current setting that contribute to or detract from their significance and expression of Attributes of OUV are assessed. This includes identification of key views.
  - e) The effects of the existing baseline, including the existing A303 and associated infrastructure is assessed.
  - f) The relevant elements of the Scheme are described.
  - g) The anticipated impacts of the Scheme on the fabric and setting of Asset Groups is described and the scale or severity of impact is described. The significance of effect of the Scheme upon attributes of OUV expressed by the Asset Group is assessed in accordance with Table 4: Method for the assessment of the magnitude of impact upon heritage resources (based on ICOMOS 2011 Appendix 3B: Example guide for assessing magnitude of impact) and Table 5: Significance of effect assessment matrix (based on ICOMOS 2011, p.9).
- 6.9.34 The following Asset Groups are assessed in more detail below. Asset Groups are numbered from west to east. The numerical sequence of the Asset Groups begins at AG10 within the WHS. Other Asset Groups beyond the WHS boundary are either considered within this HIA (AG06, AG08, AG14, AG37 AG38 and AG39), or, where they do not express Attributes of OUV, are considered in ES Chapter 6, Cultural Heritage.
- AG10 – Rollestone Barrows

- AG11 – Lesser Cursus Barrows and Pit Circle
- AG12 – Winterbourne Stoke Crossroads Barrows
- AG13 – The Diamond Group
- AG15 – The Lesser Cursus
- AG16 – North Kite Enclosure and Lake Barrows
- AG17 – Barrow West of Stonehenge
- AG18 – The Cursus Barrows (West)
- AG19 – Normanton Down Barrows
- AG20 – Durrington Down Barrows
- AG21 – Stonehenge Down Barrows
- AG22 – Stonehenge
- AG23 – The Greater Cursus (The Greater Cursus, Amesbury 56 and Winterbourne Stoke 30 Round Barrows, and the Amesbury 42 Long Barrow)
- AG24 – Stonehenge Bottom / Luxenborough Barrows
- AG25 – Packway Barrows
- AG26 – The King Barrows (Old and New King Barrows, excluding outliers to west which are not part of the main ridge group)
- AG27 – The Avenue
- AG28 – The Cursus (East) – long barrow situated at its eastern end and Cursus east end barrows)
- AG29 – Coneybury Henge and associated monuments
- AG30 – The Avenue Barrows (including some barrows scheduled under Stonehenge and The Avenue)
- AG31 – Countess Farm Barrows
- AG32 – Vespasian's Camp Barrows
- AG33 – Durrington Walls, Woodhenge and Associated Sites

- 6.9.35 On all maplets within the Asset Group keysheets below, the blue shaded areas indicates approximate extent of an Asset Group and red bounded areas are scheduled monuments and groups of scheduled monuments.
- 6.9.36 The relative location of Asset Groups is illustrated on HIA Figure 9 and in Figures 9A to 9D. Asset Groups are shown in the context of topography and watercourses in HIA Figures 10 and 10A to 10D. The relationship between Asset Groups and the Zone of Theoretical Visibility of the Scheme is illustrated on HIA Figures 11 and 11A to 11D. The illustrations also show the relationship between Asset Groups and existing tranquillity (Figure 12), dark skies (Figure 13) and noise (Figure 14).

**AG10 Rollestone Barrows**

<b>Designation:</b>	Scheduled monument
<b>Reference IDs:</b>	1009058, 1009124, 1009129, 1010886, 1010887, 1010888, 1010889, 1010890, 1010891, 1010892, 1010904, 1010905, 1012166, 1012168, 1012169, 1012170, 1013758, MWI6389, MWI7027, MWI7028, MWI7029, MWI7030, MWI7031, MWI7032, MWI7033, MWI7034, MWI7035, MWI7036, MWI7037, MWI7038, MWI7039, MWI7040, MWI7041, MWI7042, MWI7043, MWI7049, MWI7050, MWI7117, MWI7139, MWI7140, MWI7183, MWI7184, MWI7185, MWI7186, MWI7187, MWI12633, MWI12634, MWI12635, MWI12636, MWI12637, MWI12638, MWI12639, MWI12640, MWI12641, MWI12642, MWI12667, MWI12668, MWI12669, MWI12670, MWI12671, MWI12672, MWI12673, MWI12674, MWI12675, MWI12676, MWI12681, MWI12682, MWI12683, MWI12729, MWI73484
<b>Location (NGR):</b>	409984 144371



**Constituent elements of Asset Group**

The Asset Group consists of a group of round barrows located at the junction of The Packway and the B3086, known as Rollestone Crossroads (also Rollestone Corner), and

partially within the north-western boundary of the WHS.

It includes 17 scheduled monuments. The corresponding NHLE descriptions indicate that these encompass:

- Disc barrow 200m north of The Packway and south of the westernmost of Alanbrooke's Plantations (NHLE 1009058);
- Six bowl barrows and two disc barrows forming the majority of a round barrow cemetery 300m north-west of Fargo Road ammunition compound (NHLE 1009124);
- (NHLE 1009129) Saucer barrow forming part of a round barrow cemetery 300m north-west of Fargo Road ammunition compound;
- Three bowl barrows forming part of Rollestone Field linear round barrow cemetery (NHLE 1010886);
- Two bowl barrows forming part of Rollestone Field linear round barrow cemetery (NHLE 1010887);
- Three bowl barrows 300m east-south-east of Middle Farm (NHLE 1010888);
- Bowl barrow 200m south-east of Middle Farm (NHLE 1010889);
- Two bowl barrows 200m south-south-west of Rollestone Camp (NHLE 1010890);
- Disc barrow and pond barrow 350m north-north-west of Greenland Farm (NHLE 1010891);
- Bowl barrow 350m north-west of Greenland Farm (NHLE 1010892);
- Two bell barrows, two bowl barrows and a disc barrow which form the greater part of Rollestone Field linear round barrow cemetery (NHLE 1010904);
- Bowl barrow 250m north of Greenland Farm (NHLE 1010905);
- Two bowl barrows 300m north of The Packway (NHLE 1012166);
- Two bowl barrows and a saucer barrow 280m south of The Packway (NHLE 1012168);
- Bowl barrow 340m south of The Packway, north of the Lesser Cursus (NHLE 1012169);
- A bell barrow and three disc barrows west of Fargo Road ammunition compound (NHLE 1012170); and
- Two bowl barrows 300m south-west of Rollestone Camp (NHLE 1013758).
- In addition, the Asset Group includes several non-designated round barrows (including MWI7032, MWI7139, MWI7184, MWI7185, MWI7187, MWI12667, MWI12668, MWI12669 and MWI12670).

#### Description

The group consists of a group of Late Neolithic to Bronze Age round barrows located at the junction of The Packway and the B3086 (Rollestone Corner), and partially within the north-

western boundary of the WHS. It includes 17 scheduled barrow monuments, of disc, bowl and pond type. Also present are several non-designated round barrows. The monuments are dispersed across a relatively large area. They include a linear grouping on Rollestone Field and another cluster of round barrows further to the east (often referred to as the 'Ammunition Dump Group'), as well as several other smaller discrete groups and isolated examples. Few of the barrows assigned to this group retain any prominent surface expression, although the 'bell' barrow known as Winterbourne Stoke 48 (part of NHLE 1012170) is a notable exception. The barrow, which is located adjacent to the Fargo ammunition compound, is a large circular mound of two phases, with a surrounding ditch. The monuments are situated amidst a relatively open expanse of land at the north-western edge of the WHS, which is divided between agricultural and military uses. The barrows located north of the Packway occupy the open grass downland at the edges of the military training grounds surrounding Larkhill Camp, occupied by occasional plantations and crossed by numerous access tracks. The Winterbourne Stoke 48 bell barrow is situated between the eastern edge of a large arable field and the fence line on the eastern boundary of the Fargo ammunition store. Its prominent mound is visible from much of the surrounding landscape to the north, south and east, including from along the Packway. However, the earthen mounds of the ammunition store intervene in views towards the barrow from the west. Some of the barrows at the western end of the group, including those making up the larger part of the Rollestone Field linear group and several outliers to the north, coincide with several large parcels of pasture extending to the south and east of Rollestone Farm. The remainder of the monuments assigned to the group are dispersed across several large arable fields located south of the Packway, and extending to the east and west of the B3086.

#### Condition

Barrows surveyed in 2010-2011 (Wessex Archaeology 2012) were described as being in poor condition, experiencing some positive change in condition since they were last surveyed in 2002, but subject to slow deterioration in their stability. They were described as having medium vulnerability. Barrows were subject to ploughing and one suffered damage from burrowing animals (badger) and scrub / trees.

#### Attributes of setting

The group possesses an archaeological setting, both in terms of intra-group relationships and in a wider landscape context. The 'bell' barrow known as Winterbourne Stoke 48 has intrinsic visual interest, but this does not apply to the other elements of the group due to their limited surface expression.

The group has inter-visibility with a number of elements within the northern part of the WHS. The main core of the WHS is currently partially screened from view by the Fargo

Plantation. As a consequence, it is difficult to visually identify many other prehistoric monuments in the surrounding landscape from the locations of the barrows assigned to this group on the ground, although some of the low barrow mounds further to the south (including those assigned to the Lesser Cursus Barrows (AG11) can be discerned from some vantage points.

Key inter-relationships include those:

- Between the locations of the monuments assigned to the group;
- From and towards the location of the levelled barrows on Net Down (AG06);
- To the south-west, towards the Winterbourne Stoke Down Barrows (AG08); and
- To the south towards the location of the Lesser Cursus (AG15) and the Lesser Cursus Barrows (AG11), a linear barrow group extending to the west of its western terminal of the Lesser Cursus.

The setting of this group is substantially compromised, not least by the limited surface expression of most of the monuments within the group, which greatly reduces their legibility. The presence of modern roads also greatly diminishes the ability to appreciate the close contextual / spatial relationships between these monuments. The B3086 physically divides the monuments within the Asset Group, with a particularly severe effect on the legibility of the relationship between the paired pond / disc barrow (NHLE 1010891), which the road bisects. The Packway also divides the Asset Group. Both roads constitute a visually and audibly intrusive presence. Other modern development also intrudes into the setting, notably the Rollestone grain store (although partially screened by trees), Rollestone Camp and the Fargo ammunition store. The latter of these, along with several intervening plantations further to the east, also intrudes in views between several components of the group and the barrows located on Durrington Down. Other plantations currently also have a negative impact on mid- and long-distance views, including: Fargo Plantation (views into the heart of the WHS); Crescent Copse (inter-visibility with the Robin Hood's Ball causewayed enclosure); the narrow NW / SE plantation, which intervenes in views between the eastern end of the Rollestone Field linear barrow group and the Net Down Barrow Cemetery (AG06).

### **Integrity of the Asset Group**

#### **Wholeness**

Some of the assets making up this Asset Group are located within the WHS boundary. The B3086 coincides with the western boundary of the WHS and divides the group in two. The linear barrow group on Rollestone Field, along with several outlying round barrows, lie outside of the WHS boundary.

The B3086 also divides a pair of round barrows which are designated as a single scheduled monument (NHLE 1010891). The monument consists of a pond barrow to the west (outside the WHS) and a disc barrow to the east (inside the WHS).

The Asset Group is also divided by The Packway, which demarcates the northern boundary of the WHS. As a result, numerous scheduled barrows assigned to the Asset Group lie outside of the WHS. These comprise a group of bowl and disc barrows (NHLE 1009124), a saucer barrow immediately to the east (NHLE 1009129), a pair of bowl barrows to the north-west (NHLE 1012166) and a disc barrow (NHLE 1009058) to the east. The remainder of the Asset Group, south of the Packway and east of the B3086, which comprises most of the Fargo Ammunition Dump Group along with several outliers, is contained within the boundary of the WHS.

### **Intactness**

Few of the barrows retain any prominent surface expression, largely due to plough levelling. Several barrows on the western edge of the Asset Group were levelled when the Rollestone military landing ground was established in the first half of the 20<sup>th</sup> century (Green and Rollo Smith 1984; Lawson 2007). These include non-designated examples (MWI7032, MWI7042 and MWI7184–5), as well as scheduled monuments (NHLE 1010887–9 and 1010904). Others forming part of the Ammunition Dump Group (e.g. MWI12668–9 and MWI12570; known as Durrington 1–3) were damaged or destroyed during the construction of the ammunition storage facility. Early military development may also have disturbed several barrows on the northern side of the Packway (NHLE 1009124, and possibly also 1012166 and 1009129).

Even the comparatively well-preserved earthworks of the Winterbourne Stoke 48 bell barrow (part of NHLE 1012170) have suffered damage due to burrowing animals, ploughing of its western edge, early military activity and, possibly, antiquarian investigation (Bishop 2011).

Some of the barrows forming part of a scheduled nucleated group (NHLE 1009124) may have been damaged by the Packway. Similarly, the B3086, which may partially overlie a scheduled pond barrow (part of NHLE 1010891), may also have caused some damage to the monument. However, the extent of any such disturbance is currently uncertain, as none of these barrows appear to have been subject to any detailed archaeological investigation in modern times.

Several monuments in the Asset Group were partially excavated by antiquarians in the 19<sup>th</sup> century, and some possibly also on earlier occasions. Some were also subject to partial excavation during the 20<sup>th</sup> century. This has affected the physical integrity of the barrows, although the buried remains of unexcavated portions of the monuments presumably remain largely intact. Modern excavation has demonstrated that, even where the monuments retain no surface expression, and have clearly been subject to severe truncation, their buried remains retain at least some potential to yield new information.

Although the spatial associations between the monuments remain intact, the legibility of these relationships and the visual integrity of the Asset Group have been diminished by the levelling of the earthwork components of most of the barrows, and by the presence of

some visually intrusive elements.

### Threats

Continued ploughing is the most notable threat to the physical integrity of the barrows (although some of these are fenced off and protected), along with any associated buried remains that may lie outside of the constraint areas of the scheduled monuments.

The transcriptions of aerial photographs in the HER show that the buried remains of several of the monuments extend beyond the formal scheduling constraint areas. As the precise locations of several of the barrows, as well as any associated remains, are not definitively known, these could be vulnerable to accidental damage.

Although most of the monuments within the Asset Group are scheduled, a small number of possible additional barrows (identified largely from aerial photographs) are not subject to statutory protection.

Several of the monuments assigned to the Asset Group lie outside of the boundary of the WHS. Nevertheless, their proximity to, and associations with the WHS should ensure that they are factored into decision making where proposals have the potential to affect them.

### Authenticity

Factors that preserve or enhance the authenticity of the Asset Group include:

- Evidence yielded by 18<sup>th</sup>- and 19<sup>th</sup>- century antiquarian investigations, and the excavations carried out during the 20<sup>th</sup> century. This has enabled the monuments to be better understood, enhancing the authenticity of interpretations relating to them, as well as the wider cultural landscape of the WHS;
- Ongoing research since the inscription of the WHS has provided new sources of information and opportunities for understanding and interpreting the various barrow groups and their relationships with the wider cultural and natural landscape of the WHS;
- Although now lacking surface expression in most instances, their surviving buried remains have the potential to provide an ‘authentic testimony’ to the prehistoric communities that constructed and used the monuments, whilst their spatial and contextual associations remain broadly intact; and
- None of the monuments appear to have been subject to any attempt at reconstruction.

Factors that reduce or diminish the authenticity of the Asset Group include:

- The lack of surface expression of several of the monuments;
- The setting of the monuments, which has been fragmented by modern development, roads, plantations and their inclusion within a large expanse of

intensive, industrial-scale arable farmland. This is in contrast to the original character of the landscape, which evidence suggests was sparsely wooded open pasture in the Neolithic and Early Bronze Age (Allen 2017), and diminishes the ability of visitors to appreciate the location, setting and inter-relationships of the majority of the monuments within the Asset Group. Restrictions on access also reduce opportunities for visitors to the WHS to experience / understand the monuments in context; and

- The precise locations of several of the barrows are not definitively known. scheduled monument boundaries do not appear to precisely reflect, or accurately convey the positions (or in some cases, the scale) of some of the barrows as recorded from aerial photography. This may, in lieu of any prominent surface expression, foster misunderstandings of the specifics of the monuments' associations and morphology.

### **Contribution to the Attributes that convey the OUV of the WHS**

The monuments within this Asset Group convey the Attributes of OUV in the following ways:

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

The monuments within this Asset Group form part of a wider concentration of Neolithic and Bronze Age funerary and ceremonial monuments. Together, these monuments illustrate the changing structure and organisation of the landscape and the shifting ways that societies articulated their beliefs during these periods.

Some of the monuments within the group have been partially or completely destroyed by earlier military activity. However, the surviving physical remains, both above and below ground, of the individual monuments within the Asset Group have a high potential to contain important archaeological and palaeoenvironmental evidence pertaining to their construction, relative chronologies, territorial significance, and overall landscape context, in addition to information relating to the funerary and ceremonial practices, beliefs and social organisation of the communities that constructed them. Even those monuments that retain no surface expression, or have been subject to partial excavation retain considerable archaeological interest.

Recent research and discoveries within the Stonehenge landscape have demonstrated that these monuments have the potential to yield new and unexpected information relating to the development of the landscape.

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

The monuments are located on a broad east – west ridge on the eastern flank of the River

Till. It is possible that they were deliberately sited to overlook the river valley, as this major geomorphological feature would presumably have been significant to those who constructed and used the monuments.

The group has inter-visibility with a number of elements within the northern part of the WHS, with key views towards barrows clustered along the parallel ridge to the north on Net Down (AG06) and those to the south, extending west of the Lesser Cursus (AG11).

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

Several of the monuments in the Asset Group are arranged in discrete clusters to form cemeteries, and monuments were sited with an element of respect for each other. The linear arrangement of several of the monuments assigned to this group (e.g. those on Rollestone Field), which is replicated in the spatial patterning of numerous other groups of barrows within the WHS and surrounding landscape, is another manifestation of this Attribute of OUV.

Intrusive investigations have revealed evidence for sequential additions to the group, the insertion of secondary burials into existing monuments and possible episodic modification of the individual barrows. The morphology of the Winterbourne Stoke 48 bell barrow also suggests that the monument was the result of at least two phases of construction. Green's excavations of five monuments on Rollestone Field indicated that the development of the group may have started with Beaker burials, around which later round barrows were constructed.

As noted in relation to Attribute 3, the monuments within this Asset Group may also have been deliberately sited in relation to other prehistoric ritual and funerary monuments.

#### **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 condition of the individual monuments within the Asset Group is variable; most retain little surface expression. Antiquarian and more recent archaeological excavation has resulted in some damage to their physical remains. Others (e.g. several of those amongst the Ammunition Dump Group) have been completely destroyed by early military activity. Nevertheless, the majority of the monuments remain at least partially intact. The relationships between many of these monuments and others in the wider WHS landscape remain broadly legible, even if the specific meanings attached to these by prehistoric communities can no longer be fully understood.

## **7. The influence of the remains of Neolithic and Bronze Age funerary and ceremonial monuments and their landscape settings on architects, artists, historians, archaeologists and others.**

Several monuments in this Asset Group were subject to partial excavation in the 19<sup>th</sup> and 20<sup>th</sup> centuries. This in itself forms a significant part of the history of the WHS, as the investigations helped to promote an interest in, and understanding of Stonehenge and its wider landscape, and the development of modern archaeology.

### **Contribution to the Integrity of the WHS**

The Asset Group expresses several Attributes of OUV. Although the Integrity of the monuments is variable, the Asset Group contains a number of groups of barrows, and demonstrates relationships between Neolithic and Bronze Age monuments. The Asset Group contributes to the overall Integrity of the cultural landscape, even though several monuments lie outside of the WHS boundary.

### **Contribution to the Authenticity of the WHS**

Although the Integrity of the individual monuments is variable, the presence of the Asset Group contributes to the overall cohesiveness and legibility of the cultural landscape of the WHS, and thus also its Authenticity.

### **Assessment of significance and value**

The Asset Group's contribution to OUV is related to the tangible evidence it provides for the following Attributes of OUV:

- 2. The physical remains of the Neolithic and Bronze Age funerary and ceremonial monuments and associated sites.
- 3. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape.
- 5. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other.
- 6. The disposition, physical remains and settings of the key Neolithic and Bronze Age funerary, ceremonial and other monuments and sites of the period, which together form a landscape without parallel.
- 7. The influence of the remains of Neolithic and Bronze Age funerary and ceremonial monuments and their landscape settings on architects, artists, historians, archaeologists and others.

In accordance with Table 3, the Rollestone Barrows Asset Group is assessed as **Very**

**High value.**

### Existing baseline

The presence of the A303, c. 2.55km to the south, is difficult to perceive from the location of the Asset Group. Effects of roads and traffic are derived from the B3086 and the Packway.

It is assessed that the existing roads on the Attributes of OUV expressed by the Asset Group have **No** impact. Consequently, the significance of effect of the existing roads on the Attributes of OUV expressed by the Asset Group is assessed as **Neutral**.

### Assessment of impact of Scheme

The Scheme would introduce a new road alignment outside the WHS for the B3086 leading into the Packway. There would be a new road to the west of the present B3086, but no archaeological remains are currently known from the footprint of the route. The design of the junction improvements at Rollestone Corner avoids physical impacts from the new road junction on the barrows and the junction has been placed outside the boundary of the WHS.

The junction improvements at Rollestone Corner would involve a small amount of land-take within the WHS. The changes brought by the Scheme to the A303 to the south are too far distant for them to have any impact.

The visual alteration would be minimal and the setting of the group would not be impacted. During the construction phase, the works at Rollestone Corner may temporarily intervene in views between some of the barrows within the group, and also with the other barrows (also levelled) on Net Down (AG06).

The main issue of concern is the scheduled pond barrow / disc barrow divided by the B3086 (NHLE 1010891), located on the WHS boundary. The monument would be protected with a 10m offset and temporary fence during construction to ensure that no construction works occurs within its vicinity.

#### Impact on fabric

The Asset Group would not be physically impacted by the Scheme. The Scheme would result in **No Change**.

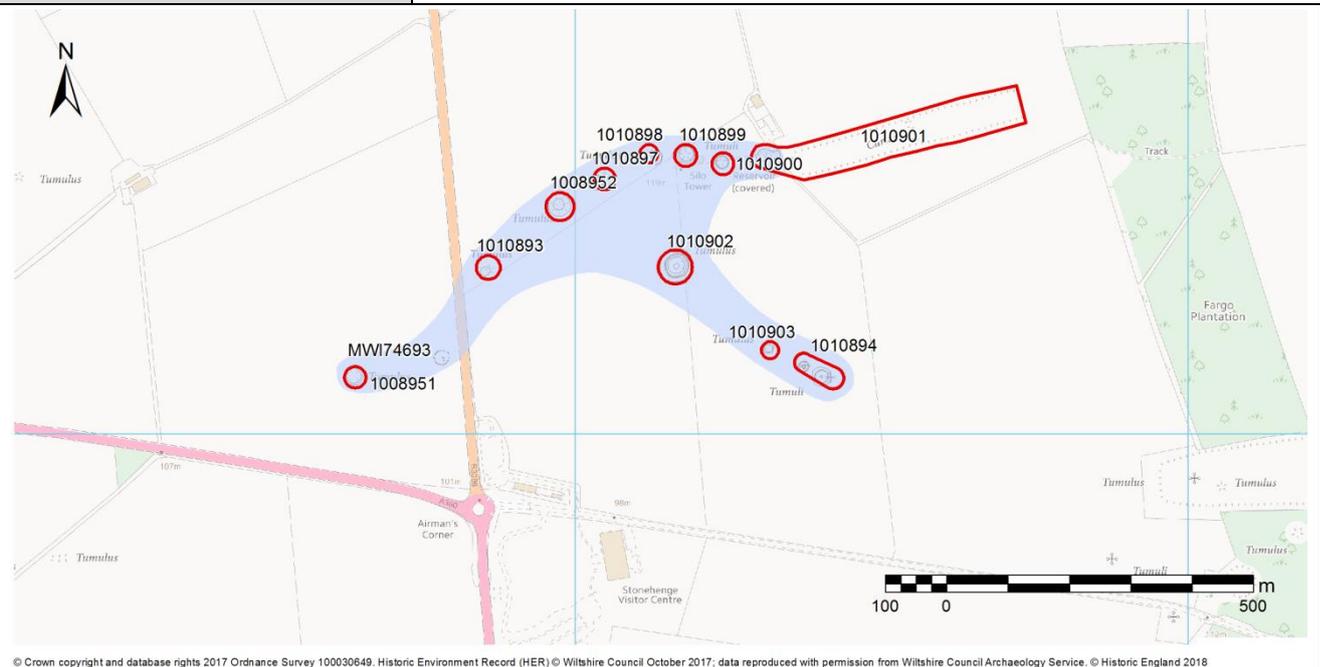
#### Impact on setting

It is assessed that the Scheme would result in **No Change** to the setting of the Asset Group.

<b>Significance of effect</b>		
Taking account of the Very High value of the asset, the significance of effect of the Scheme on AG10 Rollestone Barrows is assessed as <b>Neutral</b> (derived from <b>No Change</b> to on a <b>Very High</b> value asset).		
<b>Proposed mitigation</b>		
Proposed mitigation comprises a 10m offset and protective temporary fence during construction for one scheduled monument (NHLE 1010891).		
<b>Value of Asset Group AG10 (Rollestone Barrows)</b>		Very High
Impact of the existing A303 and associated roads and infrastructure on the Attributes of OUV expressed by the Asset Group		None
Significance of effect of existing A303 and associated roads and infrastructure on the Attributes of OUV expressed by the Asset Group		Neutral
<b>Scale and severity of change / impact of Scheme</b>	Fabric	No Change
	Setting	No Change
<b>Significance of effect of Scheme, taking into account embedded mitigation (design)</b>		Neutral
<b>Significance of effect of Scheme, following proposed additional mitigation</b>		Neutral

### AG11 Lesser Cursus Barrows and Pit Circle

<b>Designation:</b>	Scheduled monument
<b>Reference IDs:</b>	1008951, 1008952, 1010893, 1010894, 1010897, 1010898, 1010899, 1010900, 1010901, 1010902, 1010903, MWI7044, MWI7048, MWI7051, MWI12800, MWI12801, MWI12802, MWI12803, MWI12804, MWI12805, MWI12806, MWI12807, MWI12808, MWI74693
<b>Location (NGR):</b>	410071 143285



### Constituent elements of Asset Group

The Asset Group consists of a group of prehistoric monuments located north of Airman's Corner on Winterbourne Stoke Down, and to the west and south-west of the Lesser Cursus (AG15).

It includes 11 scheduled monuments. The corresponding NHLE descriptions indicate that these encompass:

- One saucer barrow (NHLE 1010894);
- One disc barrow (NHLE 1010902);
- Two bell barrows (NHLE 1010899 and 1008952);
- Seven bowl barrows (one of which is included in the same scheduling as the aforementioned saucer barrow; NHLE 1008951, 1010903, 1010893, 1010897, 1010898, 1010900); and
- A conjoined / confluent triple bowl barrow, which is included in the same scheduling

as The Lesser Cursus (NHLE 1010901).

In addition, the Asset Group includes a non-designated pit circle (MWI74693), interpreted as a timber post circle or large post-built structure, which was detected by geophysical survey carried out in association with the development of the new Stonehenge Visitor Centre ('Anomaly 4001'; Wessex Archaeology 2009).

### Description

The Asset Group consists of a group of prehistoric monuments located north of Airman's Corner on Winterbourne Stoke Down, and to the west and south-west of the Lesser Cursus. It includes 11 scheduled monuments: one saucer barrow (NHLE 1010894); one disc barrow (NHLE 1010902); two bell barrows (NHLE 1010899 and 1008952); seven bowl barrows (one of which is included in the same scheduling as the aforementioned saucer barrow; NHLE 1008951, 1010903, 1010893, 1010897, 1010898, 1010900); and a conjoined / confluent triple bowl barrow, which is included in the same scheduling as The Lesser Cursus (NHLE 1010901). In addition, the group includes a non-designated pit circle (MWI74693), interpreted as a timber post circle or large post-built structure, which was detected by geophysical survey.

The majority of the monuments within the group form a linear barrow cemetery extending to the west-south-west of the western terminal of the Lesser Cursus. The remainder, comprising two bowl barrows and the saucer and disc barrows, are outliers located to the south of the linear group. The barrows assigned to this group are sometimes referred to as the 'Silo Group', after the prominent agricultural silo which is situated amongst them.

The earthwork components of several of the monuments within this group appear to have either been levelled, or substantially reduced in height, whilst others (e.g. the disc and saucer barrow) may simply never have been especially prominent above ground. However, some persist as substantial earthwork mounds, particularly the two bell barrows known as Winterbourne Stoke 37 and 40 (NHLE 1010899 and 1008952), and the bowl barrows known as Winterbourne Stoke 36 and 42 (NHLE 1010900 and 1008951).

The monuments assigned to this group are spread across several arable and pasture fields extending to the west of the Fargo Plantation. The dominant modern feature in the locality is the concrete agricultural silo standing between barrows scheduled as NHLE 1010899 and 1010900. The Stonehenge Visitor is to the south; Greenland Farm is to the north. The B3086, which demarcates the western boundary of the WHS, extends north-south between the location of the putative timber circle (MWI74693) and the Winterbourne Stoke 41 barrow (NHLE 1010893), effectively subdividing the linear barrow cemetery which this Asset Group defines.

### Condition of the Asset Group

Barrows surveyed in 2010–2011 (Wessex Archaeology 2012) were described as being in

poor and fair condition, with most experiencing some positive change since 2002. The barrows were described as experiencing slow and moderate deterioration in their stability, and were of medium vulnerability. Barrows were subject to mole and badger burrowing.

### Attributes of setting

The group possesses an archaeological setting, both in terms of intra-group relationships and in a wider landscape context. The barrows known as Winterbourne Stoke 36, 37, 40 and 42 have particular intrinsic visual interest, but this does not apply to the other elements of the group due to their limited surface expression.

The group has inter-visibility with a number of elements within the northern and western parts of the WHS. Key views include those:

- Between the monuments within the Asset Group, particularly along the length of the linear barrow cemetery, and views in which the still prominent earthworks are silhouetted on the horizon (e.g. from Winterbourne Stoke Down Barrows (AG12));
- Between the monuments within the Asset Group and the location of the Lesser Cursus (AG15);
- Between the members of the Asset Group and other ritual and funerary monuments in the surrounding landscape, notably those assigned to the Winterbourne Stoke Crossroads Barrows (AG12), the western terminal of the Greater Cursus and the two round barrows contained within it (AG23), and the long barrow on Winterbourne Stoke Down (Winterbourne Stoke 53; NHLE 1015021; part of AG08); and
- Of the barrows with surviving earthworks, which are experienced by visitors travelling along the A360 and the B3086 to the WHS and the new Stonehenge Visitor Centre.

Several aspects detract from the Asset Group's current setting. The levelling through ploughing of certain of the group's components means that intra-group visual links are sometimes less clearly legible, although those between the upstanding monuments are well apparent. The modern agricultural landscape, though comparatively tranquil, is anomalous in terms of the original setting. In particular, the silo intervenes in the linear arrangement of the barrows, distracting attention from and obscuring visual associations between the monuments within the Asset Group and with the Lesser Cursus (AG15). The covered reservoir built into the top of Winterbourne Stoke 35a (in addition to damaging the monument) is also visually intrusive. The Fargo Plantation currently blocks views of the Greater Cursus and the barrows clustered at its western end, as well as more general views into the heart of the WHS.

Traffic on the B3086 is a dynamic visual and aural element in the setting, while the road itself physically severs the connection between the main cluster of monuments and the westernmost barrow. Further south-west, the A360 intervenes in the visual connection with the long barrow on Winterbourne Stoke Down (Winterbourne Stoke 53; NHLE 1015021)

and the Winterbourne Stoke 42 round barrow (NHLE 1008951) – both parts of Asset Group 08. The more distant A303 adds to the general effect of roads and traffic (see below). The Stonehenge Visitor Centre and its car / coach parks are another modern element in southward views, including those towards the Winterbourne Stoke Crossroads group.

## Integrity

### Wholeness

Most of the assets making up this Asset Group are located within the WHS boundary. The B3086 coincides with the western boundary of the WHS. It extends north-south between the location of the putative timber circle, or pit circle ('Anomaly 4001'; MWI74693), and the Winterbourne Stoke 41 barrow (NHLE 1010893), effectively subdividing the linear cemetery. As a result, the pit circle and the Winterbourne Stoke 42 round barrow (NHLE 1008951) are excluded from the WHS boundary. All of the remaining monuments assigned to the Asset Group are within the WHS boundary.

### Intactness

Several of the monuments within the Asset Group retain little surface expression as earthworks, presumably due to ploughing. The morphology of some other components of the group, such as the disc and saucer barrows (NHLE 1010902 and 1010894) and the putative timber circle ('Anomaly 4001'; MWI74693; Wessex Archaeology 2009) would not predispose them to remaining prominent in the landscape over the passage of millennia.

The construction of a covered reservoir on top of part of the conjoined / confluent triple bowl barrow, which is included in the same scheduling as The Lesser Cursus (NHLE 1010901), has also impacted on the physical remains of the monument.

Several of the monuments within the group were partially excavated in the 18<sup>th</sup> and 19<sup>th</sup> centuries. Four of the barrows (NHLE 1010898; NHLE 1010897; NHLE 1010894) were excavated in 1961 by the Vatchers (Gingell 1988). This has affected the physical integrity of the barrows, although the buried remains of unexcavated portions of the monuments are presumed to remain largely intact.

The visual integrity of the Asset Group has been harmed by the levelling of some of the earthworks. The western end of the linear group has been severed by the B3086. Although the spatial association between this Asset Group and the earlier Lesser Cursus (AG15) remains intact, the legibility of this key relationship has been diminished by the levelling of the Lesser Cursus.

### Threats

Ploughing threatens the physical integrity of the barrows (although some of these are fenced off and protected), along with any associated buried remains that may lie outside of the constraint areas of the scheduled monuments. The recent conversion of the fields

containing several of the barrows to the west of the Lesser Cursus from arable cultivation to pasture has removed the threat to their physical remains from continued ploughing. This process has also improved the visual integrity of their setting.

### **Authenticity of the Asset Group**

Factors that preserve or enhance the authenticity of the Asset Group include:

- Evidence yielded by 18<sup>th</sup> and 19<sup>th</sup> century antiquarian investigations, and the Vatchers' 1961 excavations. This has enabled the monuments to be better understood, enhancing the interpretations relating to them, as well as the wider cultural landscape of the WHS;
- Ongoing research since the inscription of the WHS, which has provided new sources of information and opportunities for understanding these assets within the context of the wider cultural and natural landscape of the WHS;
- Despite the loss of the above ground elements of some of the monuments, others retain conspicuous earthworks. The buried remains of the monuments presumably also survive at least partially, or largely intact, and thus have the potential to yield an 'authentic testimony' to the prehistoric communities that constructed and used them; and
- The absence of any attempts to reconstruct the monuments.

Factors that reduce or diminish the authenticity of the Asset Group include:

- Some aspects of its setting, which has been fragmented by modern development, roads, plantations and the inclusion of several of the monuments within a large expanse of intensive, industrial-scale arable farmland. This is in contrast to the original, more open character of the landscape, and diminishes the ability of visitors to appreciate the location, setting and inter-relationships of the monuments within the Asset Group. Restrictions on access also reduce opportunities for visitors to the WHS to experience / understand the monuments in context.

### **Contribution to the Attributes that convey the OUV of the WHS**

The monuments within this Asset Group convey the Attributes of OUV in the following ways:

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

The monuments within this Asset Group form part of a wider concentration of Neolithic and Bronze Age funerary and ceremonial monuments. Together, these monuments illustrate the changing structure and organisation of the landscape and the shifting ways that

societies articulated their beliefs during these periods.

The physical remains, both above and below ground, of the individual monuments within the Asset Group have a high potential to contain archaeological and palaeoenvironmental evidence related to their construction, relative chronologies, territorial significance, and overall landscape context, in addition to information relating to the funerary and ceremonial practices, beliefs and social organisation of the communities that constructed them. Even those monuments that retain no surface expression retain considerable archaeological interest.

Recent research and discoveries within the Stonehenge landscape have demonstrated that these monuments have the potential to yield new and unexpected information relating to the development of the landscape.

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

Bishop (2011, 42) specifically refers to the linear barrow cemetery at the western end of the Lesser Cursus, stating that *'From Winterbourne Stoke Down to the south these appear in silhouette along the ridge. From Winterbourne Stoke 48 to the north, however, they are barely visible; only the very tops can be seen on the far side of the ridge.'*

The locations of the monuments within this Asset Group may have deliberately exploited topographical variations.

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

Monuments within the Asset Group were sited with an element of respect for each other. This is a consistent element observed within the spatial patterning of barrow groups elsewhere within the WHS and the wider region (Richards 1990, 273).

The linear arrangement of several of the monuments assigned to this group is replicated in the spatial patterning of numerous other groups of barrows within the WHS and surrounding landscape.

Intrusive investigations of the barrows assigned to this Asset Group have revealed evidence for sequential additions to the group, and also some hints of episodic modification of the individual monuments. For example, the morphology of the conjoined triple barrow known as Winterbourne Stoke 35a–c (part of NHLE 1010901) indicates that the monument was constructed in several phases, and Thurnam's excavations suggest that the monument(s) was used for interments associated with Neolithic leaf shaped 'javelin heads' and Beaker pottery (Thurnam 1869). Colt Hoare's description suggests that the Winterbourne Stoke 42 barrow (NHLE1008951) may also have been associated with a second mound, whilst the Vatchers' excavations (Gingell, 1988) demonstrated some evidence of complexity amongst several of the barrows which might derive from more than

one phase of construction.

Although the feature remains to be examined by intrusive investigation, the presence of a putative timber circle ('Anomaly 4001'; MWI74693; Wessex Archaeology 2009) amongst the linear cemetery suggests that the barrows may also have been deliberately sited in relation to another, more unusual form of funerary or ceremonial monument.

It has frequently been observed that '*some cemeteries were formed around earlier monuments, as if there was some continuing tie between the builders of the old and new monuments*' (Lawson 2007, 207). The apparently deliberate clustering of the monuments within the Asset Group in close proximity to the considerably earlier Lesser Cursus is a manifestation of this phenomenon, and is broadly analogous to that seen more conspicuously amongst the more prominent and numerous barrows clustered around the western end of the Greater Cursus (AG18) and, to a lesser extent, its eastern terminal (AG28).

Exon et al. (2000, 44) suggest that the Lesser Cursus may have been deliberately aligned on the Early Neolithic long barrow on Winterbourne Stoke Down (Winterbourne Stoke 53; NHLE 1015021), which lies outside of the WHS boundary approximately 500m west-south-west of the Winterbourne Stoke 42 round barrow (NHLE 1008951). It is possible that the later monuments assigned to this Asset Group were deliberately sited along approximately the same alignment. However, Bowden et al. (2015, 25) consider that the Lesser Cursus '*is not aligned on any other known monuments of earlier or similar date*'.

As noted in relation to Attribute 3, the monuments within this Asset Group may also have been deliberately sited in relation to other barrow groups, particularly those clustered along the parallel ridge to the north: the Rollestone Barrows (AG10) and those to the south of Winterbourne Stoke Down (AG08).

#### **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 condition of the individual monuments within the Asset Group is variable; some retain little surface expression, whilst antiquarian and more recent archaeological excavation has resulted in some damage to their physical remains. Nevertheless, the monuments remain at least partially intact. The relationships between many of these monuments and other features of the wider landscape remain broadly legible, even if the specific meanings attached to these by prehistoric communities can no longer be fully understood.

#### **7. The influence of the remains of Neolithic and Bronze Age funerary and ceremonial monuments and their landscape settings on architects, artists, historians, archaeologists and others.**

Many of the burial mounds in the WHS, including several of those contained within this Asset Group, were subject to partial excavation in the 19<sup>th</sup> century. This in itself forms a

significant part of the history of the site, as the investigations carried out by antiquarians and early archaeologists such as John Thurnam, Sir Richard Colt Hoare and William Cunnington helped to promote an interest in, and understanding of Stonehenge and its wider landscape, and the development of modern archaeology.

### **Contribution to the Integrity of the WHS**

Although the condition of the individual monuments within the Asset Group is variable, it contains one of several key barrow groups within the WHS and illustrates the relationships between Neolithic and Bronze Age monuments, particularly the continued influence of the earlier Lesser Cursus. The group also contains several more unusual types of prehistoric monument, including a possible timber circle ('Anomaly 4001', Wessex Archaeology 2009; MW174693).

### **Contribution to the Authenticity of the WHS**

Although the condition of the individual monuments is variable, the presence of the Asset Group contributes to the overall cohesiveness and legibility of the cultural landscape of the WHS, and thus also its Authenticity.

### **Assessment of significance and value**

The Asset Group's contribution to OUV is related to the tangible evidence it provides for the following Attributes of OUV:

- 2. The physical remains of the Neolithic and Bronze Age funerary and ceremonial monuments and associated sites.
- 3. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape.
- 5. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other.
- 6. The disposition, physical remains and settings of the key Neolithic and Bronze Age funerary, ceremonial and other monuments and sites of the period, which together form a landscape without parallel.
- 7. The influence of the remains of Neolithic and Bronze Age funerary and ceremonial monuments and their landscape settings on architects, artists, historians, archaeologists and others.

In accordance with Table 3, the Lesser Cursus Barrows and Pit Circle Asset Group and its component monuments are assessed as Very High value.

### Existing baseline

Although the existing A303 itself is not especially conspicuous, its traffic is visibly and audibly detectable from the Asset Group. However, at distances of 2.5km and above, its effect on the setting of the group is not significant and assessed as negligible, resulting in a Slight Adverse effect.

Traffic using the A360 and B3086, including Stonehenge Visitor Centre Traffic and the large buses that park at the centre to the south of the group is assessed as a **Negligible** impact. This results in **Slight Adverse** visual and aural effects.

### Assessment of impact of Scheme

The alterations to Longbarrow Junction would not be apparent, due to the combination of intervening distance and topography, and the fact that the new roads would be in cutting. The Winterbourne Stoke northern bypass would be screened by intervening topography to the south and south-west.

The River Till viaduct and embankment would only be visible to a marginal extent and does not meaningfully alter the quality of the setting. The design has aimed to minimise the visual intrusion of the viaduct within the landscape.

No changes to the B3086 are proposed. During the construction stage, the B3086 may experience increased traffic flow and construction traffic, which may result in temporary adverse impacts upon the setting of the Asset Group. It is not assessed that this would affect the legibility of the linear barrow group or its relationships.

Following construction, it is anticipated that the new A303 would reduce rat-running and traffic jams.

#### Impact on fabric

The Asset Group would not be physically impacted by the Scheme. The Scheme would result in **No Change**.

#### Impact on setting

During the construction phase, the Asset Group may experience temporary adverse impacts upon its setting.

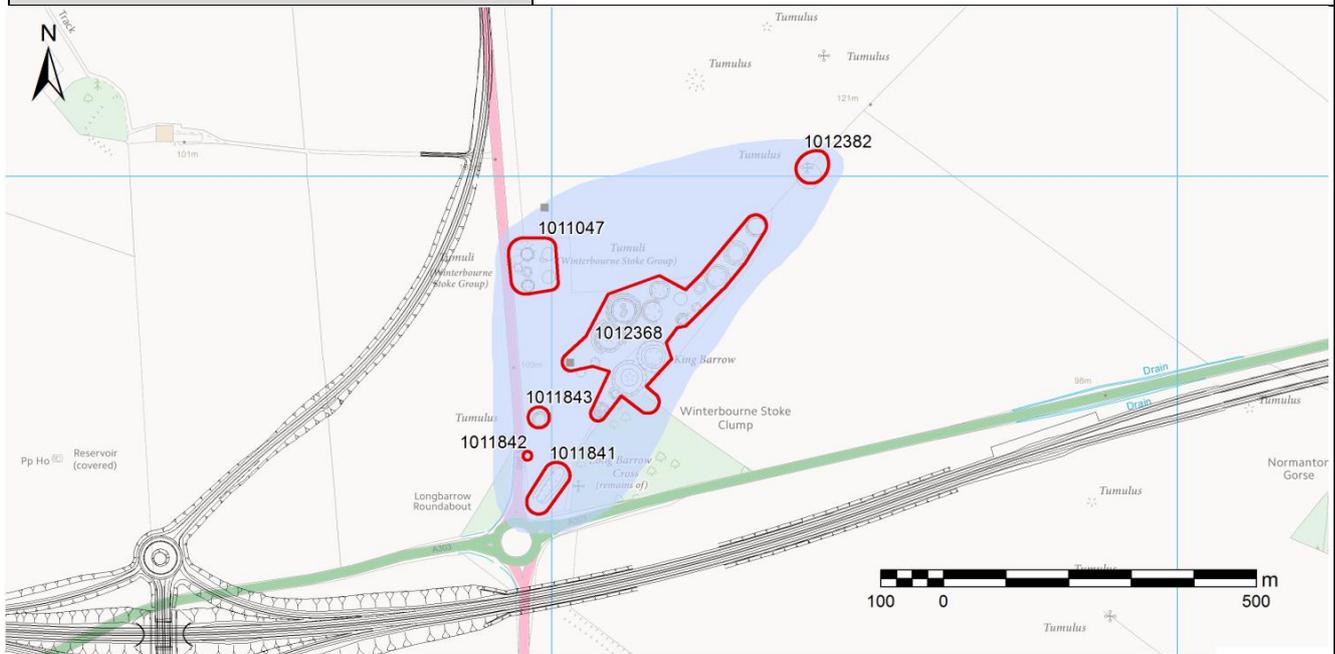
Following construction, the River Till viaduct and embankment would only be visible to a marginal extent in the distance. However, the Scheme would reduce rat-running and traffic jams.

In the long term, in accordance with the assessment of scale or severity of impact set out in Table 5, the impact on setting is assessed as a **Negligible Change**.

<b>Significance of effect</b>		
<p>Following construction, the River Till viaduct and embankment would only be visible to a marginal extent in the distance, resulting in a Slight Adverse effect.</p> <p>However, the Scheme would the reduce rat-running and traffic jams, which would have a Slight Beneficial effect.</p> <p>Taking account of the Very High value of the asset and in accordance with Table 5, and combining the <b>Slight Adverse</b> and <b>Slight Beneficial effects</b> on setting, the significance of effect or overall impact of the Scheme on AG11 Lesser Cursus Barrows and Pit Circle is assessed as <b>Neutral</b> (derived from both <b>Negligible Negative</b> and <b>Negligible Positive</b> impacts on a <b>Very High</b> value asset).</p>		
<b>Proposed mitigation</b>		
No mitigation is proposed as there are no direct physical impacts.		
<b>Value of Asset Group AG11 Lesser Cursus Barrows and Pit Circle</b>	Very High	
Impact of the existing A303 and associated roads and infrastructure on the Attributes of OUV expressed by the Asset Group	Negligible	
Significance of effect of existing A303 and associated roads and infrastructure on the Attributes of OUV expressed by the Asset Group	Slight Adverse	
<b>Scale and severity of change / impact of Scheme</b>	Fabric	No Change
	Setting	Negligible Negative and Negligible Positive
<b>Significance of effect of Scheme, taking into account embedded mitigation (design)</b>	Neutral	
<b>Significance of effect of Scheme, following proposed additional mitigation (residual effect)</b>	Neutral	

### AG12 Winterbourne Stoke Crossroads Barrows

<b>Designation:</b>	Scheduled monument
<b>Reference IDs:</b>	1011047; 1011841; 1011842; 1011843; 1012368; 1012382 MWI7079; MWI7080; MWI7081; MWI7082; MWI7083; MWI7084; MWI7085; MWI7086; MWI7087; MWI7121; MWI12485; MWI12877; MWI12981; MWI12982; MWI12983; MWI12984; MWI12985; MWI12986; MWI12987; MWI12988; MWI12989; MWI12990; MWI12991; MWI12992; MWI12993; MWI12994; MWI12995; MWI12996; MWI12997
<b>Location (NGR):</b>	410117 141759



### Constituent elements of Asset Group

Scheduled monuments within the Asset Group comprise:

- 1 long barrow (1011841)
- Eighteen round barrows (1012368)
- Nine bowl barrows (1012382; 1011047; 1011842; 1011843)
- Two saucer barrows (1011047)

### Description

The group covers an extensive area. Its core contains eighteen round barrows on a broad north-east / south-west alignment. The focal point and origin of the cemetery is a long barrow, its long axis orientated along the ridge on which the cemetery later developed. Five bowl barrows and two saucer barrows form a discrete barrow cemetery just to the north of the crossroads group.

The group lies immediately to the north-east of the junction of the A303 and A360. The core of the cemetery lies within pasture land managed by the National Trust and five of the barrows to the north have also been taken out of cultivation. The majority of the group, however, lies within arable agricultural land. At the southern edge of the group, east of the roundabout and north of the A303 is an area of woodland. Further mature trees lie to the west of the roundabout.

### Condition of the Asset Group

Barrows surveyed in 2010–2011 (Wessex Archaeology 2012) were mostly in fair condition, though some were in poor condition and in a few cases, no earthworks survived above ground. The condition of the barrows was largely unchanged since 2002, although a few had experienced positive and negative changes. Most were stable, with some experiencing slow deterioration. Their vulnerability was assessed as medium and low. Barrows were subject to extensive mole, rabbit and badger burrowing. There were livestock impacts from cattle grazing in the south-west of the Asset Group. Scrub, trees and bushes also impacted the monuments.

### Attributes of setting

The group is particularly important because it incorporates all barrow types. Most are upstanding monuments with intrinsic visual interest and a legible group setting. The alignment of the later round barrows on the long barrow is also obvious. The Winterbourne Stoke Crossroads barrows can be seen as being part of a tradition of ‘conspicuous barrows’, both locally and nationally, which were large and prominently located. The extant earthworks within the group form a striking feature in the landscape with important views likely both towards, and outwards from, the cemetery.

The group shares inter-visibility with a number of other barrow cemeteries including Normanton Down (AG19), the Diamond Group (AG13), Lake Barrows (AG16), King Barrow Ridge (AG26), Stonehenge Bottom / Luxenborough Barrows (AG24), Winterbourne Stoke Hill Ring-ditches (AG05), Winterbourne Stoke Down barrows (AG08), as well as the Lesser Cursus group (AG11) and the western Greater Cursus barrows (AG18). Views from and to these monuments therefore substantially contribute to the significance of the group and its component assets.

Key views include:

- Within the group, particularly on the north-east / south-west linear axis of the core of the cemetery and along an east-west axis at the northern edge of the group;
- North and north-west to Winterbourne Stoke Down Barrows (AG08) and the Lesser Cursus Barrows (AG11);
- West to the Winterbourne Stoke Hill Ring-ditches (AG05);
- South and south-west to the Normanton Down (AG19), The Diamond Group (AG13), Lake Barrows (AG16);
- North-east to the Cursus Barrows (West) (AG18); and
- East to King Barrow Ridge (AG26).

The long barrow within the Asset Group is thought to have formed an early focus for the development of the cemetery. Inter-relationships between this long barrow and those at Winterbourne Stoke Down (AG08), Normanton Down (AG19) and the Diamond (AG13) may have been particularly significant, though because of intervening woodland and the levelling of some of the other examples this inter-visibility is no longer particularly apparent.

There are multiple elements that detract from the current setting. Although the core of the group is now within open pasture, the surrounding modern agricultural landscape, including the pig farm on the south side of the A303, is anomalous to the original setting. Meanwhile, woodland, both in the immediate vicinity of the group and in the wider landscape, interrupts some of the visual relationships that provide context to the individual monuments and the group as a whole. As described below, roads and traffic are currently extremely harmful to the quality of the setting.

### Integrity of the Asset Group

#### Wholeness

The Asset Group is located within the WHS.

#### Intactness

The majority of the barrows within this group survive as prominent earthworks. While some have been truncated or levelled by modern agricultural activity, the surrounding ditches and possible satellite features are thought to survive as buried archaeological remains.

Many of the barrows were excavated in the 19<sup>th</sup> century by William Cunnington and Richard Colt Hoare. These demonstrated that the funerary and other archaeological remains survived. The physical integrity of the barrows has been affected by past excavations. This has been partially offset by the information gathered by these investigations and the enhanced understanding of its place within the wider Stonehenge landscape.

There is also some evidence of truncation caused by the Larkhill Military Railway

(MWI12608, MWI73256), which traverses through the group on a north – south alignment (Wessex Archaeology Archaeology 1998). There has also been more recent disturbance by animal burrowing and other activities.

### Threats

The principal upstanding earthworks have been taken out of cultivation. However, barrows within the rest of the Asset Group have been levelled by modern ploughing. Continued ploughing, in particular any increase in plough depth, has the potential to further truncate archaeological remains. Non-designated barrows and features within the group as well as possible satellite and associated features which lie outside the scheduled monument areas may also be at risk from plough damage even where the upstanding earthworks are preserved.

Recent topographic survey has highlighted traces of extensive damage by excavation, animal burrowing and disturbance (Bax et al. 2010).

### Authenticity of the Asset Group

Factors that preserve or enhance the authenticity of the Asset Group include:

- The potential for archaeological deposits and features surviving which can enhance and add to our knowledge not just of these kinds of monuments but also of our understanding of the WHS as a whole; and
- A number of inter-visible relationships between this Asset Group and other contemporary monuments.

Factors that reduce or diminish the authenticity of the Asset Group include:

- The presence of woodland and mature trees does reduce some of the inter-visibility of the Asset Group with some of the other associated barrow cemeteries; and
- The levelling of some of the barrows reduces their legibility within the wider monumental landscape diminishing the ability of the Asset Group to fully convey the OUV of the WHS, in particular Attribute 5, '*the siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other*'.

### Contribution to the Attributes that convey the OUV of the WHS

The monuments within this Asset Group convey the Attributes of OUV in the following ways:

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

The Stonehenge landscape has the '*densest concentration of Bronze Age burial mounds in Britain*' (Simmonds and Thomas 2015, 33) and a number of earlier Neolithic long

barrows, henges and possible mortuary enclosures. These monuments contain important information on the mortuary and ceremonial practices of the communities that built and used them as well as potential information about technology, society and landscape. The concentration of monuments suggests that Stonehenge provided a key focus of activity at this time.

While many of the burial mounds in the WHS have been subject to excavations in the 19<sup>th</sup> century, this in itself forms a significant part of their history, the development of archaeology and modern interest and understanding of the Stonehenge landscape.

Even where monuments have no upstanding earthworks surviving, there is still the potential for below ground remains to survive, as well as other possible associated features which may have never had an earthwork component.

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

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

Due to the inter-relationship between the placement of monuments in association with landscape features and their placement in relation to other earlier and contemporary monuments these two Attributes of the OUV are discussed in tandem.

The Asset Group is one of several 'conspicuous barrow' cemeteries in the Stonehenge landscape including Normanton Down (AG19) and Old and New King Barrows (AG26) which share inter-visibility between themselves (Peters 2000). These monuments appear to have a strong association with other local monuments and are often found in linear cemeteries (ibid.). The extant earthworks within the group form a striking feature in the landscape.

The focal point and origin of the cemetery is a long barrow situated at the south-west end of the Asset Group, its long axis orientated along the ridge on which the cemetery later developed. It has been suggested that the locations of some barrow cemeteries, in particular earlier Beaker barrows, may have been selected in reference to earlier monuments such as long barrows (Exon et al. 2000, 71). The core of the main cemetery seems to have developed in relation to the long barrow, which in turn may have had visual association with other long barrows in the landscape. These include long barrows at Winterbourne Stoke Down (AG08), Normanton Down (AG19) and The Diamond (AG13).

**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.**

These barrows form part of a concentration of significant monuments within the WHS. The 'King Barrow' (Winterbourne Stoke G5), excavated in the 19<sup>th</sup> century, was named for the

richness of the finds discovered.

### **7. The influence of the remains of Neolithic and Bronze Age funerary and ceremonial monuments and their landscape settings on architects, artists, historians, archaeologists and others.**

The Asset Group forms part of the wider cultural landscape around Stonehenge which has provided inspiration to artists and archaeologists from at least the 18<sup>th</sup> century. A number of barrows within the group were opened by the eminent antiquarians Richard Colt Hoare and William Cunnington, their interest in the antiquities of the Stonehenge area was key to the development of the modern discipline of archaeology.

#### **Contribution to the Integrity of the WHS**

The Asset Group comprises a long barrow and a defined and prominent group of round barrows within which archaeological remains are anticipated to survive, and convey several of the Attributes of the OUV of the WHS.

#### **Contribution to the Authenticity of the WHS**

The barrow cemeteries within this Asset Group contain some of the most prominent upstanding earthworks within the WHS and are therefore a readily visible example of prehistoric funerary activity. Our understanding of this activity is confirmed and enhanced by 19<sup>th</sup>-century archaeological investigations.

#### **Assessment of significance and value**

The Asset Group's contribution to OUV is related to the tangible evidence it provides for the following Attributes of OUV:

- 2. The physical remains of the Neolithic and Bronze Age funerary and ceremonial monuments and associated sites.
- 3. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape.
- 5. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other.
- 6. The disposition, physical remains and settings of the key Neolithic and Bronze Age funerary, ceremonial and other monuments and sites of the period, which together form a landscape without parallel.
- 7. The influence of the remains of Neolithic and Bronze Age funerary and ceremonial monuments and their landscape settings on architects, artists, historians, archaeologists and others.

In accordance with Table 3, the AG12 Winterbourne Stoke Crossroads Barrows Asset Group is assessed as Very High value.

### Existing baseline

The A303 runs directly to the south of the group, with the A360 directly to the west. The south-west end of the long barrow (NHLE 1011841) is less than 20m from the crossroads of these routes. Other monuments within the group are also immediately adjacent to the A360, notably those scheduled as NHLE 1011842, 1011843 and 1011047 and the more westerly elements of 1012368. In physical terms, these roads sever the group from the landscape to the south and west, dividing the monuments from others – most notably the Diamond Group (AG13), including scheduled barrow (NHLE 1011045), which shares the alignment of the long barrow and may therefore be an outlier of the Winterbourne Stoke Crossroads group.

The visual impact of the roads and their traffic, and traffic noise and emissions, greatly impact upon the quality of the present setting. The monuments all exist within this environment, leaving little sense of place. Views of the long barrow in particular are heavily compromised by the sight and sound of traffic, for example when seen from land to the south of the A303. Longer-distance sightlines, both outwards from, and towards Winterbourne Stoke Crossroads, are all dominated by the road and its traffic.

The existing A303 disrupts inter-visibility with the Diamond Group (AG13), the Normanton Down Barrows (AG19) and the Lake Barrows (AG16) to the south. The group currently experiences setting impacts from the rat-running traffic along the B3086 and the A360, which runs through the Asset Group, as well as Stonehenge Visitor Centre traffic including large buses. The group currently experiences setting impacts from high traffic volumes and stationary traffic queuing for the Longbarrow Roundabout.

The impact of the existing A303 is assessed as **Moderate**. The effect of the existing A303 on the OUV of the WHS is assessed as **Large Adverse**.

### Assessment of impact of Scheme

The Scheme mainline would be c. 150m further south than the present A303, greatly reducing the visibility of the A303. From its exit from the western portal to the limit of the WHS, the Scheme mainline would run in vertical cutting, with the Longbarrow Junction and all sliproads in sloped cutting. The proposed additional length of canopy up to 200m long would reduce the visibility of the cutting in views from the Winterbourne Stoke Crossroads Group. The A360 would also be realigned, providing considerably greater separation between the road and its associated lighting and signage.

Despite this realignment, however, the physical landscape severance caused by the A303 and A360 would persist, although ameliorated by the presence of Green Bridge Four at this location. Green Bridge Four aims to enable landscape connectivity between the Winterbourne Stoke Crossroads Group (AG12), the Diamond Group (AG13) to the south and the more distant North Kite Enclosure and Lake Barrow Group (AG16), further to the south.

The fencing for the green bridges and the cutting itself have been designed in order to minimise the experience of severance in the landscape. The safety fencing along its margins would be visible, but would not be a particularly intrusive element in views as it would be located within the top part of the retained cut so as to screen it from within the WHS.

As a whole, the realignment of the highways, and their placement in cutting, would be of benefit to the visual setting of the monuments within the group. Where greater separation occurs, it would improve visitors' ability to appreciate the monuments' setting, in the context of reduced views of roads, signage and lighting. The benefits would be greatest for the more south-westerly and westerly monuments, including the long barrow and those flanking the present A360. The setting of those monuments already at greater distances from the present roads would benefit to a somewhat lesser extent.

Longer-distance sightlines would also be improved, particularly in respect of the southward connection to the Diamond Group, while views to the east (towards Stonehenge and King Barrow Ridge) and south-east (towards and Normanton Down); the reverse views would be similarly improved. The restrictions on inter-visibility imposed by plantations would remain, however, while other negative aspects of the present setting, including the pig farm and the general situation within arable land, are not addressed by the Scheme.

The proposed cutting would introduce a new physical impact, severing part of the physical relationship and topographic linkage between the Winterbourne Stoke Crossroads Group (AG12) and the Diamond Group (AG13). Green Bridge Four and the canopy would partially maintain landscape and physical connectivity.

Longer-distance sightlines would also be improved, particularly in respect to the southward connection to the Diamond Group, while views to the east (towards Stonehenge and King Barrow Ridge) and south-east (towards and Normanton Down) would no longer include traffic; the reverse views would improve similarly.

The restrictions on inter-visibility imposed by plantations would remain, although it is an aspiration of the Woodland Strategy to remove such obstructions to visual connectivity. Woodland and other negative aspects of the present setting, including the pig farm and the general situation within arable land, are not addressed by the Scheme.

### **Impact on fabric**

The Asset Group would not be physically impacted by the Scheme. The Scheme would result in **No Change**.

Within the footprint of the cutting to the south of the Asset Group, the Scheme is anticipated to have a Moderate Negative impact upon all key archaeological materials such that the resource is totally altered, constituting a major adverse impact. However, archaeological assessment and evaluation to date do not indicate that this area contains key archaeological materials that contribute to OUV. For this reason, it is assessed that it would have a Slight Adverse effect upon archaeological materials in the cutting footprint.

These impacts and effects are addressed in more detail in HIA Section 6.10, Discrete and isolated assets: baseline description and assessment of Scheme impacts and effects and Section 9.3, Potential impacts and effects of Scheme: aspects of the WHS: Impacts and effects on archaeological remains.

### Impact on setting

Beneficial effects include moving the physical presence of the existing A303 away from being immediately adjacent to the Asset Group and concealing traffic in key views between the Winterbourne Stoke Crossroads Asset Group, the Diamond Asset Group and the more distant North Kite Enclosure and Lake Barrows Asset Group. Traffic noise would also be reduced by a considerable degree, due to the greater separation from the monuments and because of the noise reduction measures employed within the vertical cutting of the western portal approach. It is assessed that this would constitute a **Major Positive Change** to visual aspects of setting.

However, adverse impacts include the introduction of the new cutting, affecting the Integrity of physical relationships between the monuments and forming a significant new introduction of transport infrastructure within the WHS. Although the western tunnel portal and cutting are new elements, they broadly maintain the course and operation of the existing A303 between the Asset Groups. In this area, the Scheme perpetuates the severance presented by the existing A303 by introducing a physical barrier (the cutting) into the landscape.

Green Bridge Four is designed to maintain connectivity and reduce the negative impact of the physical severance in future. At present, areas of land to the east of the existing A360 and south of the A303 are in private land ownership limiting opportunities for open access; the Scheme therefore does not result in a fundamental change to use or access.

The physical presence of the cutting, severing the physical relationship and topographic linkage between the Winterbourne Stoke Crossroads Barrows and the Diamond Group, is assessed as a change to the physical aspects of setting that affect the character of the asset. Although the new cutting would physically sever the landscape, mitigation for this is proposed in the form of the 150m wide Green Bridge Four positioned between the two upstanding scheduled long barrows – one at the south-west end of the Winterbourne Stoke Crossroads Barrows and the other towards the eastern edge of the Diamond Group. It is assessed that this would constitute an impact resulting in **Minor Negative Change**.

No key archaeological materials that contribute to the OUV of the Asset Group would be impacted. The Scheme would, however, impact upon the relationship with the long barrow and barrow cemetery at The Diamond (AG13) and another 'conspicuous barrow' cemetery at Normanton Down (AG19). The Scheme would therefore impact upon the Asset Group's expression of two Attributes of OUV:

- 3. The siting of Neolithic and Bronze Age funerary and ceremonial sites and

monuments in relation to the landscape and

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

This constitutes a change to Attributes that convey the OUV of the WHS and accordingly, is assessed as a **Minor Negative Change**. It is not considered that the Scheme would result in a loss of the Attributes of OUV conveyed by the Asset Group or the total alteration of the resource, because this Asset Group also conveys these Attributes through:

- Relationships with other long barrows, including Winterbourne Stoke Down (AG08);
- Inter-visibility with a number of other barrow cemeteries including the Lake Barrows (AG16), King Barrow Ridge (AG26), Stonehenge Bottom / Luxenborough Barrows (AG24), Winterbourne Stoke Hill Ring-ditches (AG05), Winterbourne Stoke Down barrows (AG08), the Lesser Cursus group (AG11) and the western Greater Cursus barrows (AG18).

#### Significance of effect

The Scheme would remove the A303 from the immediate environs of the Winterbourne Stoke Crossroads Barrows. It is assessed that this would have a **Very Large Beneficial Effect**. However, the new cutting would affect the setting of the Asset Group, reducing some of the benefit of the Scheme for this Asset Group. This is assessed as a **Moderate Adverse** effect.

Taking account of the Very High value of the Asset Group and in accordance with Table 5, and combining the **Moderate Adverse** and **Very Large Beneficial Effect** effects on setting, the overall significance of effect of the Scheme on the AG12 Winterbourne Stoke Crossroads Group is assessed overall as **Moderate Beneficial** (derived from both **Minor Negative Change** and **Major Positive Change** to a Very High value asset).

#### Proposed mitigation

Archaeological monitoring would be undertaken on the removal of hardstanding material from the course of the existing A303 to create a restricted byway.

Archaeological mitigation in the form of excavation of the western tunnel approach roads would be required.

#### Value of Asset Group AG12 (Winterbourne Stoke Crossroads Barrows)

Very High

Impact of the existing A303 and associated roads and infrastructure on the Attributes of OUV expressed by the Asset Group

Moderate

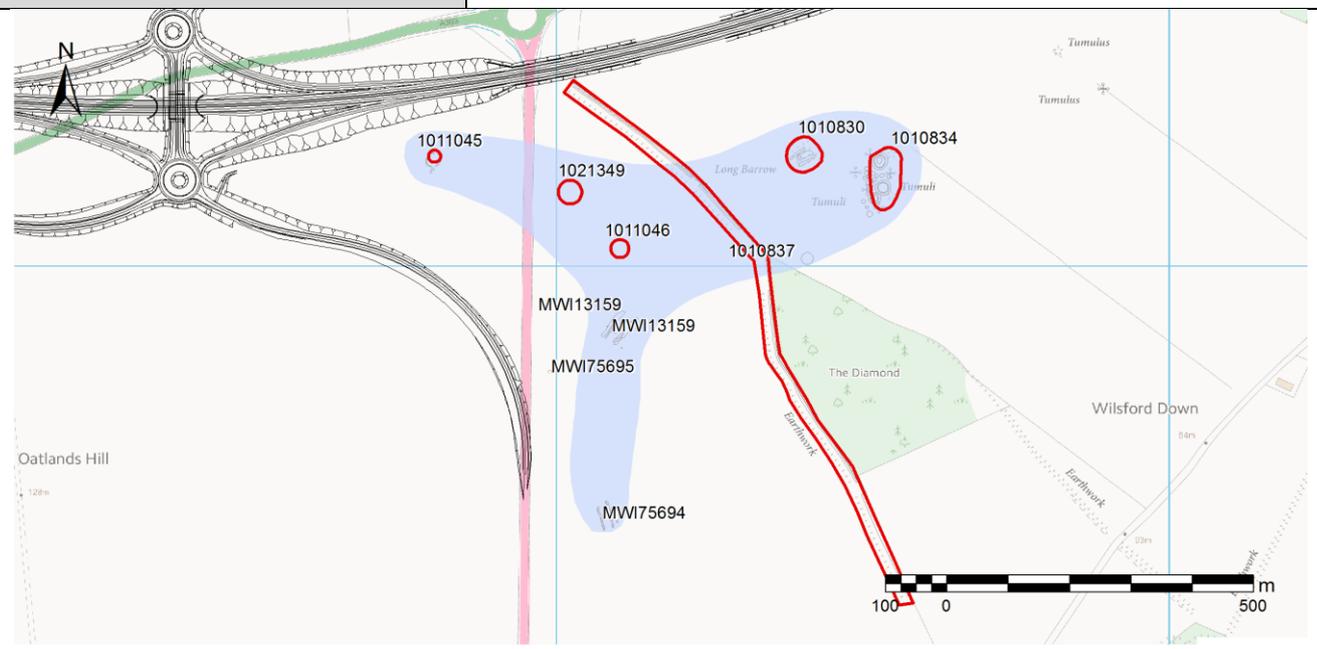
Significance of effect of existing A303 and associated roads and infrastructure on the Attributes of OUV expressed by the Asset Group

Large Adverse

<b>Scale and severity of change / impact of Scheme</b>	Fabric	No Change
	Setting	Minor Negative and Major Positive Change
<b>Significance of effect of Scheme, taking into account embedded mitigation (design)</b>		Moderate Beneficial
<b>Significance of effect of Scheme, following proposed additional mitigation</b>		Moderate Beneficial

### AG13 The Diamond Group

<b>Designation:</b>	Scheduled monument
<b>Reference IDs:</b>	1010830, 1010834, 1010837, 1011045, 1011046, 1021349, MWI6398, MWI12486, MWI12666, MWI12760, MWI12783, MWI12970, MWI12971, MWI12972, MWI12973, MWI12974, MWI12975, MWI12976, MWI12977, MWI13131, MWI13135, MWI13159, MWI73294, MWI75694, MWI75695, MWI74641
<b>Location (NGR):</b>	410170 141061



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### Constituent elements of Asset Group

The Asset Group consists of a group of prehistoric monuments. It includes 14 scheduled monuments. The corresponding NHLE descriptions indicate that these encompass:

- 1 scheduled henge monument;
- 1 scheduled linear boundary;
- 10 scheduled bowl barrows;
- 1 scheduled pond barrow; and
- 1 scheduled long barrow.

Non-designated assets within the group include:

- 2 additional non-designated long barrows (MWI13159; MWI75694);

- Up to 13 additional possible barrows (MWI12783; MWI73294);
- A hengiform monument (MWI75695);
- A section of linear earthwork (MWI13135); and
- Pits of unknown date identified by geophysical survey (MWI74641).

### Description

The extensive group comprises three outlying bowl barrows, a nucleated group of seven bowl barrows and a pond barrow, three long barrows, a henge monument and hengiform feature. A scheduled linear boundary of likely Middle Bronze Age date bisects the group from the north-west to south-east and an additional section of a linear earthwork lies to the east of this. Recent geophysical survey of the nucleated cemetery confirms the survival of the known barrows and indicates a number of further potential monuments, as well as possible associated settlement activity to the south.

Only the scheduled long barrow still survives as an upstanding earthwork but despite the impact of modern agricultural activity there is still considered to be good potential for the survival of below ground remains, including any potential satellite features.

The group occupies a low ridgeline at approximately 100m AOD with the henge and outlying barrows on slightly higher ground to the west. The topography falls away to the south-east towards Wilsford Down with views to the ridgeline which lies just to the west of Wilsford. The monuments lie within agricultural land situated either side of an area of woodland known as The Diamond. The land comprises large open fields currently used for arable and a pig farm. The edge of the group extends to the western side of the A360. To the north-west lies Longbarrow Crossroads. Although there are a few patchy areas of hedgerow along the boundary with the A303, the majority of the boundaries comprise post and wire fences.

### Condition of the Asset Group

Barrows surveyed in 2010–2011 (Wessex Archaeology 2012) were described as being either in good condition, or having no surviving earthworks above ground. Most had experienced no change or negative change in their condition since the previous survey in 2002, with the scheduled long barrow (NHLE 1010830) undergoing rapid deterioration and being described as highly vulnerable. Barrows were subject to badger, mole and rabbit burrowing.

### Attributes of setting

Setting makes a low to moderate contribution to the significance of the group and its component elements. The group possesses an archaeological setting, both in terms of intra-group relationships and in a wider landscape context.

Other than the long barrow, the elements of the group lack surface expression. Their situation, within arable farmland, the pig farm and the Diamond plantation, and bracketed by the A303 and A360 leaves little sense of place.

Nevertheless, despite their lack of prominence in the modern landscape, the monuments of the Diamond group form part of a series of potentially inter-visible and interrelated barrow cemeteries. Given their proximity, inter-relationships between the three long barrows in the Diamond Group and the barrows at Winterbourne Stoke Crossroads, Normanton Down, Wilsford Down and the Lake Barrows may have been particularly important. Inter-visibility between these locations is therefore an important part of the group's setting and contributes to its significance. Key visual relationships include:

- To the west and north-west from the eastern part of the group towards the Normanton Down Barrows Asset Group (AG19);
- To the south-east to the North Kite Enclosure and Lake Barrows Asset Group (AG16); and
- To the north-west to Winterbourne Stoke Crossroads Barrows (AG12).

This inter-visibility is to currently compromised by modern elements in the landscape. Mature woodland both within this group, the North Kite Enclosure and Lake Barrows (AG16) and Normanton Down Barrows (AG19) currently restrict some inter-visibility between these Asset Groups on the ground. The area of woodland known as The Diamond currently blocks inter-visibility between the western and eastern long barrows within the Asset Group. As described below, the A303 also interrupts, and distracts from, northward views towards the Winterbourne Stoke Crossroads Barrows (AG12).

### **Integrity of the Asset Group**

#### **Wholeness**

Most of the assets making up this Asset Group are located within the WHS. There is one scheduled bowl barrow to the west of the A360 (NHLE 1011045).

#### **Intactness**

Within the Asset Group, only the scheduled long barrow still survives as an upstanding earthwork. While modern agricultural activity has adversely impacted on the remaining monuments there is still considered to be good potential for the survival of below ground remains, including any potential satellite features, despite some truncation from ploughing. Some truncation from the former military railway has also been identified (Wessex Archaeology 2017).

Many of the barrows were excavated in the 19<sup>th</sup> century by Richard Colt Hoare and more recent investigations (Wessex Archaeology 2017; Roberts et al. 2016) have demonstrated that the funerary and other archaeological remains survive and thus retain their integrity. However, archaeological excavation is, by nature, a destructive process. Consequently,

the physical integrity of the barrows may have been affected by past excavations of the monument, although this has been partially offset by the information gathered by these investigations, and the enhanced understanding of its place within the wider Stonehenge landscape.

### Threats

The monuments within the group lie within agricultural land and with the exception of the scheduled long barrow (NHLE 1010830) and a section of a linear earthwork (MWI13135) lie within active arable land. Continued ploughing of these features, in particular any increase in plough depth, has the potential to further truncate the surviving archaeological remains.

### Authenticity of the Asset Group

Factors that preserve or enhance the authenticity of the Asset Group include:

- The potential for archaeological deposits and features surviving which can enhance and add to our knowledge not just of these kinds of monuments but also of our understanding of the WHS as a whole; and
- A number of inter-visible relationships between this Asset Group and other contemporary monuments.

Factors that reduce or diminish the authenticity of the Asset Group include:

- The levelling of the barrows reduces their legibility within the wider monumental landscape diminishing the ability of the Asset Group to fully convey the OUV of the WHS, in particular Attribute 5, '*the siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other*'.

### Contribution to the Attributes that convey the OUV of the WHS

The monuments within this Asset Group convey the Attributes of OUV in the following ways:

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

Recent geophysical surveys of the outlying 'barrow' to the west of the A360 (GSB 1992; Wessex Archaeology 2016) along with the scheduled henge monument and small hengiform feature discovered recently (Wessex Archaeology 2016; 2017) suggest several potentially earlier ceremonial features within the group. Along with the long barrows, these suggest several possible phases of activity within the area and also the possibility of reuse of and development of some of the monuments.

While many of the barrows in the WHS have been subject to excavations in the 19<sup>th</sup> century, this in itself forms a significant part of their history as the interest of early antiquarians such as Richard Colt Hoare and William Cunnington helped shape both modern archaeology and our interest and understanding of Stonehenge and its wider landscape.

Even where monuments have no upstanding earthworks surviving, there is still the potential for below ground remains to survive, as well as other possible associated features which may have never had an earthwork component.

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

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

Due to the inter-relationship between the placement of monuments in association with landscape features and their placement in relation to other earlier and contemporary monuments, these two Attributes of the OUV will be discussed in tandem.

Although the Asset Group does not lie within the Stonehenge viewshed it does sit within elevated ground adjacent to a dry valley system with inter-visibility towards several other barrow cemeteries.

There is the suggestion that some barrow cemeteries, particularly the early barrows, may be sited in reference to earlier monuments such as Neolithic long barrows, henges and the Greater Cursus (AG23) (Exon et al. 2000, 71). Although the Asset Group contains several long barrows and henge features, these do not appear to have acted as a specific locational focus for later barrows, though they may still have influenced the placement of later features.

**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 barrows within this group add to the concentration of important and significant features within the WHS. While some of the views within the Asset Group and to nearby barrow cemeteries are currently obscured by mature woodland, the inter-visibility from this location to several other barrow cemeteries is still legible.

**7. The influence of the remains of Neolithic and Bronze Age funerary and ceremonial monuments and their landscape settings on architects, artists, historians, archaeologists and others.**

The Asset Group forms part of the wider cultural landscape around Stonehenge which has provided inspiration to artists and archaeologists from at least the 18<sup>th</sup> century. Several

barrows within the Asset Group were investigated by the eminent antiquarian Richard Colt Hoare and the scheduled long barrow was investigated in 1866 by John Thurnam.

### **Contribution to the Integrity of the WHS**

The Asset Group comprises a small nucleated cemetery along with outlying barrows, long barrows and henge monuments within which archaeological remains are anticipated to survive: as such it contributes to several of the Attributes of the OUV of the WHS.

### **Contribution to the Authenticity of the WHS**

Although no longer clearly legible within the landscape, the Asset Group has the potential to increase our understanding of past prehistoric funerary and ceremonial activity within the WHS.

### **Assessment of significance and value**

The Asset Group's contribution to OUV is related to the tangible evidence it provides for the following Attributes of OUV:

- 2. The physical remains of the Neolithic and Bronze Age funerary and ceremonial monuments and associated sites.
- 3. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape.
- 5. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other.
- 6. The disposition, physical remains and settings of the key Neolithic and Bronze Age funerary, ceremonial and other monuments and sites of the period, which together form a landscape without parallel.
- 7. The influence of the remains of Neolithic and Bronze Age funerary and ceremonial monuments and their landscape settings on architects, artists, historians, archaeologists and others.

In accordance with Table 3, the Diamond Asset Group is assessed as Very High value.

### **Existing baseline**

The A303 and A360 physically sever the group from the landscape to the north and west respectively. The A360 also cuts off the most outlying barrow in the group from other contemporary features to the east. Traffic noise and visual intrusion from both roads also has a negative effect on the immediate setting. The A303 also interrupts and detracts from northward views towards the Winterbourne Stoke Crossroads barrows, which are dominated by moving traffic and prominent road signage.

The impact of the existing A303 is assessed as **Moderate**. The effect of the existing A303 on the OUV of the WHS is assessed as **Large Adverse**.

### Assessment of impact of Scheme

The Scheme mainline would be c. 150m further south than the present A303. It would introduce a new physical severance into the immediate landscape context of the group and its component elements.

The proposed additional length of canopy up to 200m long would reduce the visibility of the portal in views from the Diamond Group. Lighting would be hooded and directional to minimise light spill from the western portal mouth.

Green Bridge Four aims to maintain landscape connectivity with the Winterbourne Stoke Crossroads Group to the north. The fencing for the green bridges and the cutting itself have been designed in order to minimise the experience of severance in the landscape. The safety fencing along its margins would be visible, but would not be a particularly intrusive element in views as it would be located within the top part of the retained cut so as to screen it from within the WHS.

In terms of its visual impact, from its exit from the western portal to the limit of the WHS, the Scheme mainline would run in vertical cutting, with the Longbarrow Junction and all sliproads in sloped cutting. This design aims to conceal traffic in key views between the Winterbourne Stoke Crossroads Barrows (AG12) and the Diamond Group (AG13).

Therefore, other than Green Bridge Four, the Scheme would not be greatly visible.

The decommissioning of the present A303 and its infrastructure would be beneficial.

The westward realignment of the A360, again in cutting, would create a greater physical separation between the group and road traffic. This would be beneficial to the setting of the more westerly elements, including long barrows MWI13159, MWI75694 and barrows NHLE1011046 and 1021349. In each case this separation would improve the visitor's ability to appreciate the setting, in the context of reduced views and sounds of traffic. It would take traffic away from the west of the group. This is assessed as a beneficial impact, removing traffic and the current severance of the Asset Group.

Traffic volume on the A303 would be comparable to the present baseline but would be brought closer to the group. This has a negative influence upon setting, albeit of relatively small magnitude, given that it would be in cutting. Traffic noise levels would decrease, particularly in the north-western area of the group including the location of the long barrow.

The other negative aspects of the present setting, including the pig farm and the general situation within arable land and plantation, would not be addressed by the Scheme.

### Impact on fabric

The Asset Group would not be physically impacted by the Scheme. The Scheme would result in **No Change**.

Within the footprint of the cutting to the north of the Asset Group, the Scheme would have a Moderate impact upon all key archaeological materials such that the resource is totally altered, constituting a major adverse impact. However, studies to date do not indicate that this area contains key archaeological materials that contribute to OUV. For this reason, it is assessed that it would have a Slight Adverse effect upon archaeological materials in the cutting footprint.

### Impact on setting

Beneficial effects include moving the physical presence of the existing A303 away from being immediately adjacent to the Asset Group and concealing traffic in key views between the Diamond Group and the Winterbourne Stoke Crossroads Barrows. It is assessed that this would constitute a **Minor Positive Change** to visual aspects of setting.

However, adverse impacts include the introduction of the new cutting, affecting the integrity of physical relationships between the monuments and forming a significant new introduction of transport infrastructure within the WHS. Although the western tunnel portal and cutting are new elements, they broadly maintain the course and operation of the existing A303 between the Asset Groups. In this area, the Scheme perpetuates the severance presented by the existing A303 by introducing a physical barrier (the cutting) into the landscape.

Green Bridge Four is designed to maintain connectivity and reduce the negative impact of the physical severance in future. At present, areas of land to the east of the existing A360 and south of the A303 are under private land ownership limiting opportunities for open access; the Scheme therefore does not result in a fundamental change to current use or access.

The physical presence of the cutting, severing the physical relationship and topographic linkage between the Diamond Group and the Winterbourne Stoke Crossroads Barrows, is assessed as a considerable change to the physical aspects of setting that affect the character of the asset. Although the new cutting would physically sever the landscape, mitigation for this is proposed in the form of Green Bridge Four positioned between the two upstanding scheduled long barrows – one at the south-west end of the Winterbourne Stoke Crossroads Barrows and the other towards the eastern edge of the Diamond Asset Group. It is assessed that this would constitute an impact resulting in **Moderate Negative Change**.

No key archaeological materials that contribute to the OUV of the Asset Group would be impacted. The Scheme would, however, impact upon the relationship with Winterbourne Stoke Crossroads Barrows (AG12). The Scheme would therefore impact upon the Asset Group's expression of two Attributes of OUV,

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

This constitutes a change to Attributes that convey the OUV of the WHS and accordingly, is assessed as a **Moderate Negative Change**. It is not considered that the Scheme would result in a loss of these Attributes of OUV conveyed by the Asset Group, or the total alteration of the resource, because this Asset Group also conveys these Attributes through inter-visibility with the Normanton Down Barrows Asset Group (AG19) and the North Kite Enclosure and Lake Barrows Asset Group (AG16).

#### Significance of effect

The route would remove the A303 from the immediate environs of the Diamond Group. It is assessed that this would have a **Moderate Beneficial** effect. However, the new cutting would affect the setting of the Asset Group, reducing some of the benefit of the Scheme for this Asset Group. This is assessed as a **Large Adverse** effect.

Taking account of the Very High value of the Asset Group and in accordance with Table 5, and combining the **Large Adverse** and **Moderate Beneficial** effects on setting, the overall significance of effect of the Scheme on AG13 The Diamond Group is assessed as **Slight Adverse** (derived from both **Moderate Negative** and **Minor Positive** impacts on a Very High value asset).

#### Proposed mitigation

Given that the portal is located inside the WHS it would require appropriate mitigation to ensure there are no significant impacts on Attributes of OUV and that there is an overall benefit to the OUV of the WHS.

Archaeological monitoring would be undertaken on the removal of hardstanding material from the course of the existing A303 to create a restricted byway.

Archaeological excavation of western tunnel approaches roads would be required.

The new cutting through the WHS would be mitigated by excavation.

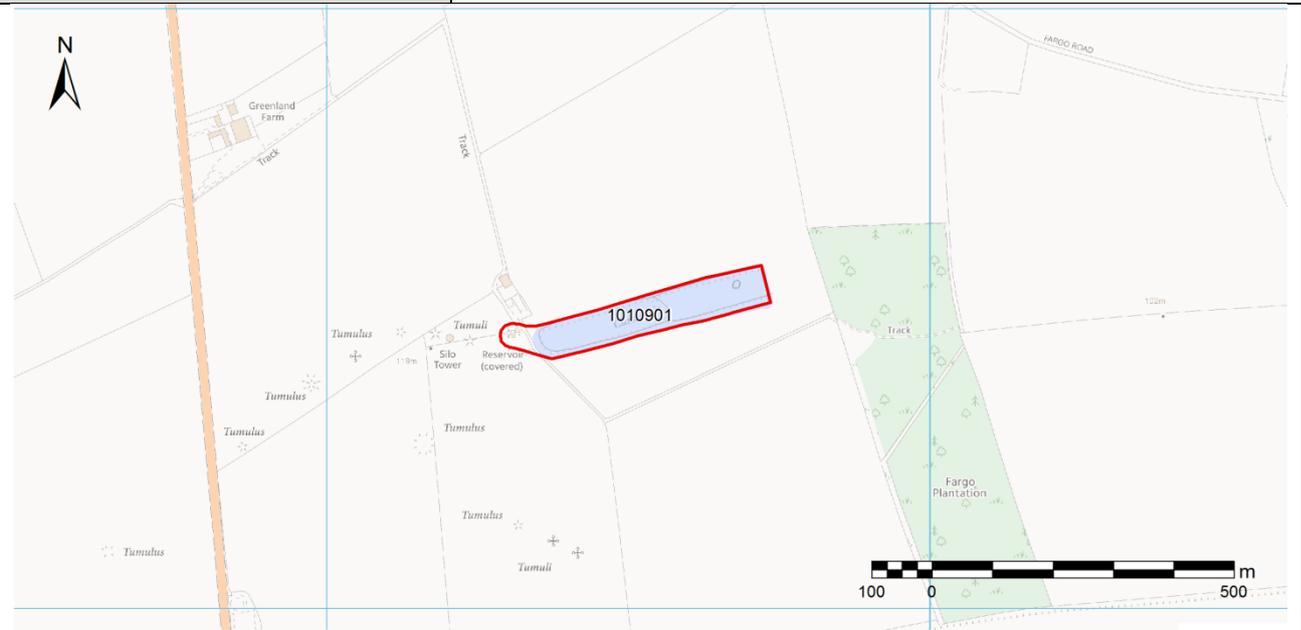
There may be an opportunity to restore chalk grassland within the setting of the Diamond Group up to the new southern link slip-road to Longbarrow Junction, depending on landowner agreement, providing an opportunity to improve the setting of the Asset Group.

<b>Value of Asset Group AG13 (The Diamond Group)</b>	Very High
Impact of the existing A303 and associated roads and infrastructure on the Attributes of OUV expressed by the Asset Group	Moderate
Significance of effect of existing A303 and associated roads and	Large Adverse

infrastructure on the Attributes of OUV expressed by the Asset Group		
<b>Scale and severity of change / impact of Scheme</b>	Fabric	No Change
	Setting	Moderate Negative and Minor Positive Change
<b>Significance of effect of Scheme, taking into account embedded mitigation (design)</b>		Slight Adverse
<b>Significance of effect of Scheme, following proposed additional mitigation</b>		Slight Adverse

**AG15 The Lesser Cursus**

<b>Designation:</b>	Scheduled monument
<b>Reference IDs:</b>	1010901, MWI12436, MWI12761
<b>Location (NGR):</b>	410547 143494



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**Constituent elements of Asset Group**

The Asset Group consists of the Lesser Cursus (NHLE 1010901). The group of three conjoined round barrows at the western end of the Lesser Cursus, which are included in the same scheduling, are allocated to AG11 – the Lesser Cursus Barrows and Pit Circle Asset Group.

**Description**

The Asset Group consists of a single monument: the Lesser Cursus (NHLE 1010901). The Lesser Cursus appears to have been recognised in the early 19<sup>th</sup> century by Sir Richard Colt Hoare (Brophy 2015, 14). It was indistinct as an earthwork even in the late 19<sup>th</sup> century, when only the western end of the monument was visible (Fergusson 1872, 110). It now exhibits practically no surface expression. Geophysical survey has identified a number of possible pits, faint ring ditches and a small oval enclosure within and around the monument, although these have not been subject to intrusive archaeological investigation.

The Lesser Cursus is situated within a large pasture field, on a flat ridge top, immediately to the west of the Fargo Plantation.

### Condition of the Asset Group

Bishop (2011, 47) has noted that the Lesser Cursus may have begun to be reduced in prominence considerably earlier than the 19<sup>th</sup> century, noting that:

*‘The low broad linear banks form part of a much wider ‘Celtic’ field system which covers about 32ha around the [Fargo] plantation and appears to overlie the open eastern end of the Lesser Cursus, perhaps indicating that it was at least partly ploughed away in the later prehistoric period.’*

Aerial photographs indicate that the monument was still visible as an earthwork in 1934, but had been levelled by ploughing by 1954.

The 2010–2011 condition survey (Wessex Archaeology 2012) noted that no earthworks survived above ground. The Lesser Cursus had experienced no change since the previous survey in 2002. It was described as deteriorating slowly, and of medium vulnerability. It was subject to cultivation in 2010.

### Attributes of setting

The Lesser Cursus possesses an archaeological and group setting, both in terms of immediate relationships – notably with the barrows at its western end, and in a wider landscape context. It has no surface expression, and its wider connections have to be inferred rather than directly appreciated. Key views and associations include:

- Along the length of the Lesser Cursus (in both directions);
- From the western terminal of the Lesser Cursus across the wider landscape to the west, particularly towards the linear barrow cemetery assigned to AG11;
- The reverse view, i.e. from AG11 towards the location of the Lesser Cursus;
- Views between the Lesser Cursus and the western terminal of the Greater Cursus (AG23); and
- Views towards other prominent barrows in the surrounding landscape, including those at Winterbourne Stoke Crossroads (AG12).

Modern elements including the nearby silo detract from its surroundings. The modern agricultural landscape, though comparatively tranquil, is anomalous in terms of the original setting.

The Fargo Plantation currently blocks potential former eastward and south-eastward links down into the heart of the WHS towards Durrington Down Barrows (AG20), the Cursus (AG23), the Cursus Barrows (West) (AG18) and towards Stonehenge (AG22) and the other monuments clustered around it on the Monument Field / Stonehenge Triangle (AG21).

The Stonehenge Visitor Centre is another modern presence, in the direction of southward views towards Winterbourne Stoke Crossroads. Traffic on the B3086 is a dynamic visual

and aural element in the setting. Further south-west, the A360 intervenes in the visual connection with the long barrow on Winterbourne Stoke Down (Winterbourne Stoke 53; NHLE 1015021) and the Winterbourne Stoke 42 round barrow (NHLE 1008951) – both parts of Winterbourne Stoke Down Barrows (AG08).

## Integrity of the Asset Group

### Wholeness

All the components of this Asset Group are located within the WHS.

### Intactness

The 2015 WHS Management Plan (Simmonds and Thomas 2015, 32 para. 2.3.15) states that:

*'The physical remains of other Neolithic and Bronze Age ceremonial and funerary monuments are also considered to be Attributes of OUV, and bear an exceptional testimony to a now-disappeared civilization [...] they include, at Stonehenge: Woodhenge, the Lesser Cursus and the densest concentration of Bronze Age burial mounds in Britain [...] They provide an insight into the mortuary and ceremonial practices of the period. Some of these sites and monuments have upstanding, visible remains.*

*Others, such as the Lesser Cursus at Stonehenge [...] are now ploughed flat and survive only below ground; however, they retain some of their integrity through the survival of buried archaeological remains.'*

The Lesser Cursus was subject to small scale excavations in 1983 (Richards 1990). These investigations demonstrated that the buried remains of the Lesser Cursus survive comparatively well and retain their integrity. Several geophysical surveys have also been carried out (e.g. David and Payne 1997, 87–9; Gaffney et al. 2012), revealing numerous associated features within the monument. Archaeological excavation is, by nature, a destructive process. Consequently, the integrity of the Lesser Cursus has been affected by past excavations of small sections of the monument, although this has been offset by the important information gathered by these investigations, and the enhanced understanding of its place within the wider Stonehenge landscape.

The general form of the Lesser Cursus (in plan), and the spatial associations between it and other interrelated elements of the cultural landscape of the WHS remain intact. However, these are now difficult to perceive and appreciate within the setting of the monument.

### Threats

The recent conversion of the field containing the Lesser Cursus from arable cultivation to pasture has removed the threat to its physical remains from continued ploughing. This

process has also improved the visual integrity of its setting.

### **Authenticity of the Asset Group**

Factors that preserve or enhance the authenticity of the Asset Group include:

- Evidence yielded by modern excavation and non-intrusive surveys, which have enabled the Lesser Cursus to be better understood, enhancing the authenticity of interpretations of the monument and the wider cultural landscape of the WHS;
- Ongoing research since the inscription of the WHS, which has provided new sources of information and opportunities for understanding the Lesser Cursus within the context of the wider cultural and natural landscape of the WHS; and
- The absence of any attempts to reconstruct the monument.

Factors that reduce or diminish the authenticity of the Asset Group include:

- The setting of the Lesser Cursus, which has been fragmented by modern development and plantations. This diminishes the ability of visitors to appreciate the location, setting and inter-relationships of the monument. Restrictions on access also reduce opportunities for visitors to the WHS to experience / understand the monument in context.

### **Contribution to the Attributes that convey the OUV of the WHS**

The monuments within this Asset Group convey the Attributes of OUV in the following ways:

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

The earthworks of the Lesser Cursus have been levelled by ploughing since the mid-20<sup>th</sup> century and are no longer visible at ground level, although the monument remains visible on aerial photographs and satellite imagery. Past ploughing can also be expected to have resulted in some damage to the buried remains of the monument and any associated features. Some small scale excavation also took place in 1983 (Richards 1990). However, the unexcavated, buried remains of the Lesser Cursus can be expected to be well preserved and retain considerable potential to yield significant archaeological information.

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

It has been suggested that the relationship between some cursus monuments and valley systems might reflect ritual significance attached to watercourses and springs. For example, Julian Thomas has theorised (as summarised in Parker Pearson 2012, 145–6) that the Greater and Lesser Cursuses were:

*'monuments to former processional routes whose antiquity could have gone back to the Mesolithic. Their position, straddling the watershed between the Avon and its tributary the Till, occupies a natural routeway for people and animals crossing from one valley to another [...] perhaps the ditches and banks of the cursuses demarcated routes that had once been used by the ancestors, moving back and forth between the settlement areas in the two valleys.'*

Bowden et al. (2015, 25–6) contradict this theory, stating that the Lesser Cursus is not aligned on any prominent natural features, and has *'no relationship with valley systems or water in any form'*. However, they concede that *'it remains possible that it formed a processional route, though the large ditch and bank that remained across its line after it was extended would have formed an obstacle'*.

It is unclear if the siting of the Lesser Cursus deliberately exploited topographical variation to establish meaningful associations / visual links with contemporary or pre-existing monuments (see Attribute 5, below), or aspects of the natural landscape.

Several researchers (e.g. Exon et al. 2000, 47–54; Pearson and Field 2011, 15–21, 36; Bowden et al. 2015, 23) have explored how views experienced by anyone moving along the Greater Cursus are affected by variations in topography, and how this may have been deliberately intended by those who constructed the monument. Similar ideas have also been discussed in relation to the later Stonehenge Avenue (e.g. Exon et al. 2000, 72). However, it is not clear that the siting of the Lesser Cursus was influenced by similar motivations; the GIS-based visibility analysis carried out by Exon et al. (2000, 44) indicated that the viewshed for the Lesser Cursus *'remains very much the same as one walks around the monument, either in the west to east or east to west direction.'*

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

The spatial association of the Greater Cursus and the Amesbury 42 long barrow (which form part of the same scheduling; NHLE 1009132) at its eastern terminal has frequently been interpreted as evidence that these broadly contemporary monuments were deliberately sited in relation to each other (e.g. Pearson and Field 2011, 36). Apparently meaningful relationships with long barrows have been observed at several other cursus monuments (English Heritage 2011). Lawson (2007, 72) notes that *'bearing in mind the proximity of long barrows to cursuses, it would seem that the memory of those commemorated by the barrows was also a necessary prerequisite for the ceremonies [carried out in association with the cursus monuments]'*.

The GIS-based visibility analysis carried out by Exon et al. (2000, 44) indicates that the Lesser Cursus may have once shared inter-visibility with other broadly contemporary Early Neolithic monuments located to the north of the WHS boundary, including the Robin Hood's Ball causewayed enclosure (NHLE 1009593) and several long barrows (e.g. Knighton Long Barrow (NHLE 1010052), NHLE 1009600 and the Packway Barrow (NHLE

1012167)). Exon et al. (2000, 44) have also indicated that the Lesser Cursus may have been deliberately aligned on the long barrow on Winterbourne Stoke Down (Winterbourne Stoke 53; NHLE 1010521), to the west of the WHS boundary. Exon et al. (2000, 44) state that *'the alignment of the Lesser Cursus lies roughly along a line between long barrows ID14 [on Winterbourne Stoke Down; NHLE 1010521] and 29 [referred to as the 'Knighton Down Barrow' (ibid., 41), although the authors appear to be referring to the 'Packway Barrow' (NHLE 1012167), rather than the 'Knighton Long Barrow' (NHLE 1010052)], and it seems possible that the monument was laid out with this in mind, as the landscape gradually became cleared of woodland'*. Recent evidence suggests that the landscape was sparsely wooded open pasture in the Neolithic and Early Bronze Age (Allen 2017). Exon et al. (2000, 41) also seem to suggest that the Greater and Lesser Cursus were possibly linked via an association with the various grouped and individual long barrows within the surrounding landscape:

*'[...] the view line between ID14 and the prominent Knighton Down Barrow (ID29) runs roughly along the line of the Lesser Cursus. Thus it may be that the two cursus monuments [i.e. the Greater Cursus and the Lesser Cursus] were constructed to reinforce and demonstrate, in a monumental manner, the linking up and unification of the previously fragmented three-fold pattern of long barrow groupings.'*

Bowden et al. (2015, 25) appear to contradict Exon et al. (2000), stating that the Lesser Cursus *'is not aligned on any other known monuments of earlier or similar date'*. However, the alignment of the Lesser Cursus can be projected to the east-north-east to coincide with the location of the recently discovered Larkhill Causewayed Enclosure (AG39; yet to be published; referenced in Field and McOmish 2017, 56). However, it is also uncertain if this held meaning for those that constructed and used the Lesser Cursus. It is unclear whether, or how the siting of Lesser Cursus once held or expressed meaningful associations with other broadly contemporary or pre-existing monuments within the surrounding landscape, such as the Greater Cursus (AG23), numerous long barrows and the Robin Hood's Ball causewayed enclosure (AG14).

During the later Neolithic and Early Bronze Age, the Lesser Cursus (AG15) was a focus for the construction of the linear barrow cemetery and outlying monuments (AG11). Accordingly, it is assessed that the Lesser Cursus expresses this Attribute of OUV.

## **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 layout of the Lesser Cursus and the linear barrow cemetery demonstrates complex inter-relationships between prehistoric monuments constructed at different times, characteristic of the WHS.

The 2015 WHS Management Plan (Simmonds and Thomas 2015, para. 2.3.15) states

that *'The physical remains of other Neolithic and Bronze Age ceremonial and funerary monuments are also considered to be Attributes of OUV, and bear an exceptional testimony to a now-disappeared civilization'*, and then specifically states that the Lesser Cursus is included amongst these monuments. *'The Lesser Cursus is now ploughed flat and only survives below ground. However, its physical remains are expected to remain relatively intact and retain high potential for future research. Although the ability to appreciate its meaningful contextual associations is diminished because the monument is now largely imperceptible above ground, its setting contributes to its significance. The Lesser Cursus is a legible part of a cohesive, fossilised prehistoric landscape that contains many archaeologically significant sites and monuments with complex contextual associations and relationships. This provides 'an outstanding illustration of the evolution of monument construction and of the continual use and shaping of the landscape over more than 2000 years, from the Early Neolithic to the Bronze Age'* (SoOUV criterion ii).

The Lesser Cursus is one of only two cursus monuments within the WHS. Cursus monuments are some of the earliest types of monumental construction in southern Britain. Lawson (2007, 72) has stated that *'whatever their size, [cursus monuments] represent major feats of engineering with the coordinated use of substantial manpower'*. It forms part of the wider complex of prehistoric monuments and sites within the WHS, which *'would have been of major significance to those who created them, as is apparent by the huge investment of time and effort they represent'* (SoOUV, UNESCO 2013). The Lesser Cursus is an important component of the 'landscape without parallel' contained within the boundary of the WHS.

### **7. The influence of the remains of Neolithic and Bronze Age funerary and ceremonial monuments and their landscape settings on architects, artists, historians, archaeologists and others.**

The Lesser Cursus appears to have retained little prominence above ground for a considerable period of time, and thus seems to have gone largely unnoticed until described by Colt Hoare in the early 19<sup>th</sup> century. As a result, it does not seem to have attracted as much attention as many of the more conspicuous monumental constructions within the WHS.

The Lesser Cursus is not known to have been targeted for excavation by antiquarians. In modern times, the monument has been subject to a single episode of excavation (Richards 1990; Cleal et al. 1995); other investigations have been restricted to the application of remote sensing techniques, including several geophysical surveys (e.g. David and Payne 1997) and analysis of aerial photographs. As one of the earliest monumental constructions with the WHS, the Lesser Cursus continues to be a focus of academic research, debate and interpretation of the ways in which Neolithic and Bronze Age peoples expressed their beliefs and preoccupations through monumental construction.

<b>Contribution to the Integrity of the WHS</b>
<p>Although the Lesser Cursus is now ploughed level, the SoOUV acknowledges that the Lesser Cursus is one of the ‘major monuments’ of the WHS. It forms an integral / interrelated part of the wider complex of Neolithic and Bronze Age sites and monuments within the WHS, and therefore its presence / survival contributes to the overall Integrity of the WHS.</p>
<b>Contribution to the Authenticity of the WHS</b>
<p>The Lesser Cursus exemplifies several of the Attributes of OUV of the WHS. Its survival, albeit no longer perceptible above ground, makes an important contribution to the overall cultural landscape of the WHS.</p> <p>The survival of its buried remains means that the monument holds considerable potential for archaeological research to provide evidence that would increase our understanding of prehistory.</p>
<b>Assessment of significance and value</b>
<p>The Asset Group’s contribution to OUV is related to the tangible evidence it provides for the following Attributes of OUV:</p> <ul style="list-style-type: none"> <li>– 2. The physical remains of the Neolithic and Bronze Age funerary and ceremonial monuments and associated sites.</li> <li>– 3. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape.</li> <li>– 5. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other.</li> <li>– 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.</li> <li>– 7. The influence of the remains of Neolithic and Bronze Age funerary and ceremonial monuments and their landscape settings on architects, artists, historians, archaeologists and others.</li> </ul> <p>In accordance with Table 3, the Lesser Cursus Asset Group is assessed as <b>Very High value</b>.</p>
<b>Existing baseline</b>
<p>Although the A303 itself is not especially conspicuous, its traffic is visibly and audibly detectable from the Asset Group. However, at distances at 2.5km and greater, its effect</p>

on the setting of the group is not significant. This is particularly the case because the negative visual and aural effects of traffic using the A360 and B3086 are far greater.

### Assessment of impact of Scheme

The changes arising from the Scheme are too distant to have a significant impact on the Asset Group or its component elements. The alterations to Longbarrow Junction would not be apparent, due to the combination of intervening distance and topography, and the fact that it would be in cutting. The River Till viaduct and embankment would only be visible to a marginal extent. The design aims to minimise the visual intrusion of the viaduct within the landscape.

No changes to the B3086 are planned. During the construction stage, the B3086 may experience increased traffic flow and construction traffic, which may result in temporary adverse impacts upon the setting of the Asset Group. It is not assessed that this would affect the legibility of the monument or its relationships.

Following construction, it is anticipated that the new A303 would reduce rat-running and traffic jams.

#### Impact on fabric

The Asset Group would not be physically impacted by the Scheme. The Scheme would result in **No Change**.

#### Impact on setting

During the construction phase, the Asset Group may experience temporary adverse impacts upon the setting. Following construction, the River Till viaduct and embankment would only be visible to a marginal extent in the distance. However, the Scheme would reduce rat-running and traffic jams.

In the long term, in accordance with the assessment of scale or severity of impact set out in Table 4, the impact on setting is assessed as **Negligible Negative** and **Negligible Positive Change**.

### Significance of effect

Following construction, the River Till viaduct and embankment would only be visible to a marginal extent in the distance, resulting in a Slight Adverse effect.

However, the Scheme would reduce rat-running and traffic jams, which would have a Slight Beneficial effect.

Taking account of the Very High value of the asset and in accordance with Table 5, and

combining the **Slight Adverse** and **Slight Beneficial effects** on setting, the overall significance of effect of the Scheme on AG15 The Lesser Cursus is assessed as **Neutral** (derived from both **Negligible Negative** and **Negligible Positive** impacts on a **Very High** value asset).

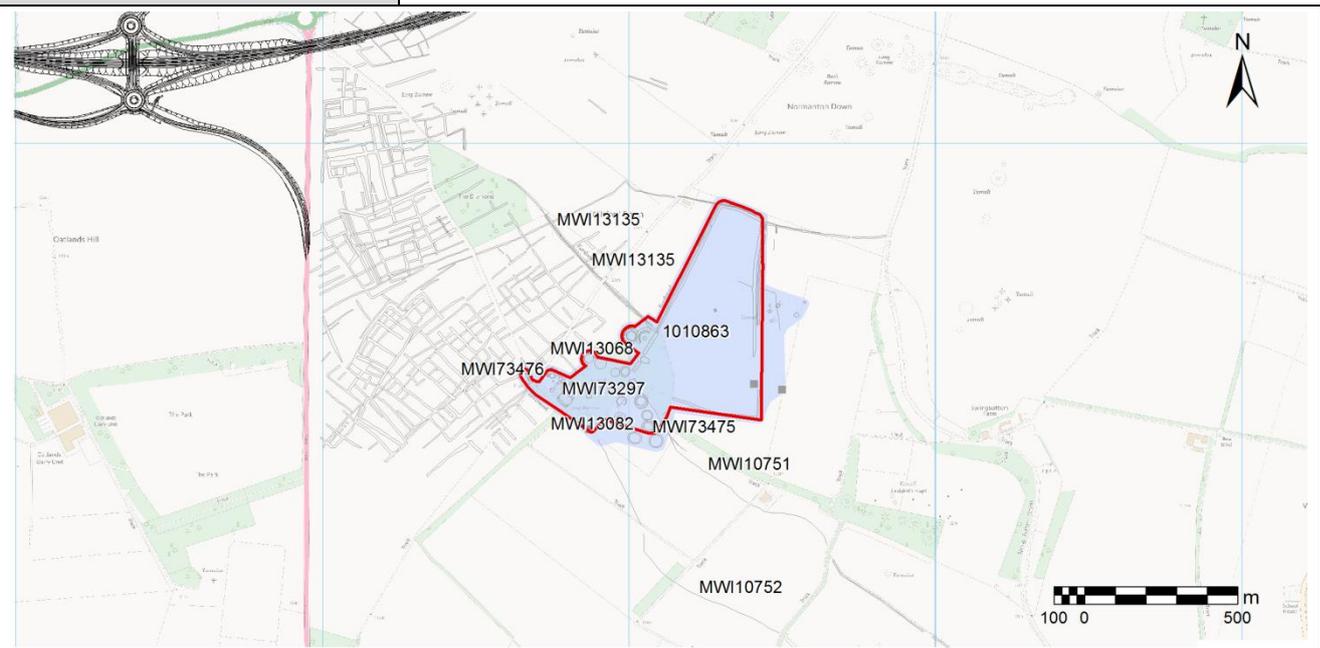
**Proposed mitigation**

No mitigation is proposed as there are no direct physical impacts.

<b>Value of Asset Group AG15 (The Lesser Cursus)</b>		Very High
Impact of the existing A303 and associated roads and infrastructure on the Attributes of OUV expressed by the Asset Group		Negligible
Significance of effect of existing A303 and associated roads and infrastructure on the Attributes of OUV expressed by the Asset Group		Slight Adverse
<b>Scale and severity of change / impact of Scheme</b>	Fabric	No Change
	Setting	Negligible Negative and Negligible Positive Change
<b>Significance of effect of Scheme, taking into account embedded mitigation (design)</b>		Neutral
<b>Significance of effect of Scheme, following proposed additional mitigation (residual effect)</b>		Neutral

## AG16 North Kite Enclosure and Lake Barrows

<b>Designation:</b>	Scheduled monument
<b>Reference IDs:</b>	1010863, MWI10751, MWI10752, MWI12493, MWI12525, MWI12662, MWI12663, MWI12664, MWI12691, MWI12692, MWI12693, MWI12784, MWI12820, MWI13060, MWI13061, MWI13062, MWI13063, MWI13064, MWI13065, MWI13066, MWI13067, MWI13068, MWI13069, MWI13070, MWI13071, MWI13072, MWI13073, MWI13074, MWI13075, MWI13076, MWI13077, MWI13078, MWI13079, MWI13080, MWI13081, MWI13082, MWI13083, MWI13084, MWI13085, MWI13086, MWI13087, MWI13088, MWI13131, MWI13132, MWI13135, MWI73297, MWI73475, MWI73476, MWI73477
<b>Location (NGR):</b>	411190 140338



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### Constituent elements of Asset Group

The Asset Group includes 23 scheduled monuments. The corresponding NHLE descriptions indicate that these encompass:

- 1 scheduled long barrow;
- 15 scheduled bowl barrows;
- 4 scheduled bell barrows (some authors only identify 3 (e.g. Exon et al. 2000));
- 2 scheduled disc barrows; and
- 1 scheduled trapezoid earthwork feature.

- In addition to the scheduled monuments listed above, the Asset Group contains:
- 15 possible additional non-designated barrows; and
- Several sections of linear earthworks that may be associated with the North Kite and other scheduled linear earthworks to the north-west and south-east.

### Description

This Asset Group incorporates multiple monuments within a single scheduled area (NHLE 1010863) and some outlying, non-designated elements. The group comprises a trapezoidal earthwork feature known as the North Kite Enclosure, and the Lake Barrows cemetery, the latter incorporating the following scheduled elements: 1 long barrow; 15 bowl barrows; 4 bell barrows; 2 disc barrows. Also incorporated are: 15 possible non-designated barrows; and several sections of linear earthworks that may be associated with the North Kite Enclosure and other scheduled linear earthworks to the north-west and south-east.

The North Kite Enclosure is a trapezoidal earthwork feature, a rare and unusual feature whose purpose is enigmatic: some suggest that the 'enclosure' is actually a partial survival of a wider complex of linear earthworks, while others see it as the focus for later linear features representing multiple phases of construction. One theory is that the feature is associated with a potential large enclosure around Normanton Down which could suggest a possible 'reserved space around Stonehenge and the Normanton Down barrows'. Non-designated sections of linear earthworks aligned north-west to south-east which lie on either side of Lake Wood (MWI10751, MWI10752, MWI13135) may be continuations of scheduled linear features to the north-west at The Diamond (AG13; NHLE 1010837) and to the south-east at Lake Down (NHLE 1010881, 1010875).

The Enclosure is located on the north-facing slope of an east-west coombe, with its southern and broader end on a plateau that overlooks the coombe, having views northwards across the Normanton Down round barrow cemetery (AG19) and towards Stonehenge (AG22). An aerial photograph taken c.1922, prior to the levelling of parts of the enclosure, reveals narrow gaps in the east and west banks near the north-east end.

The 22 scheduled monuments within the Lake Barrows cemetery are clustered outside the south-west corner of the North Kite enclosure (NHLE 1010863). As with Normanton Down, a Neolithic long barrow appears to form the focus of the cemetery, though the enclosure's relationship with the earlier long barrow is uncertain. An intrusive Saxon burial was found within one of the barrows. Three additional non-designated possible barrows have also been identified within the main cemetery (MWI12662, MWI73297, MWI73476) along with two additional further barrows identified from cropmarks just to the south of the scheduled monument boundary (MWI13082, MWI73475). Another possible lies just outside the scheduled monument boundary at the western edge of the wood adjacent to the twin barrow (MWI13068).

A number of the barrows within the Asset Group survive as substantial earthworks, but

several of the recorded barrows to the north-west of the Long Barrow no longer survive as upstanding features, while other potential barrows outside the scheduled monument boundary have largely been levelled due to ploughing. Much of the North Kite Enclosure has also been impacted by modern agricultural activity.

The south-western part of the North Kite Enclosure and main cemetery is heavily wooded; the outlying monuments lie within agricultural land. Field boundaries are largely demarcated by post and wire fences. An agricultural track and byway lies to the north-west which passes over the western edge of the Asset Group.

The south-western edge of the group, including the long barrow, lies on higher ground. The land then falls away to the north-eastern edge of the Asset Group boundary, before rising once more towards Normanton Down. The topography falls away to the south-east towards Wilsford Down with views to the ridgeline which lies just to the west of Wilsford.

#### **Condition of Asset Group**

The 2010–2011 condition survey (Wessex Archaeology 2012) indicated that the enclosure and upstanding barrows were in fair condition, while a number of barrows had no surviving earthworks above ground. No changes, or positive changes, were observed since previous survey in 2002. Some barrows were stable, although others and the enclosure itself were deteriorating slowly. Two barrows were subject to moderate deterioration and several monuments within the group were deemed to be highly vulnerable. Barrows were subject to rabbit, mole and badger burrowing.

#### **Attributes of setting**

Setting makes a moderate contribution to the significance of the group and its component elements. Some of its elements lack surface expression, while the more prominent of the upstanding monuments are largely subsumed within woodland. Despite this, the group has intrinsic visual interest; the monuments can be appreciated from close-up vantage points, while the woodland in which they stand provides a landmark that is visible over substantial distances. The clustering of the features creates an important group – and archaeological setting, while their topographical setting is also important. The relatively peaceful environment, contrasting with many other monuments in the WHS that lie close to major roads, also contributes to the quality of the group's setting.

The Lake Barrows form part of a series of potentially inter-visible and interrelated barrows cemeteries: Winterbourne Stoke Crossroads Barrows (AG12); the Diamond Group (AG13); Normanton Down Barrows (AG19); and the Wilsford Barrows. These cemeteries lie on higher ground flanking a dry valley system which may have been a focus for activity during the Neolithic period. From higher ground, views are available to Stonehenge, though the monument is not prominent in these views due to the distance involved and the lower-lying position of Stonehenge below the horizon.

Within the Asset Group is a long barrow on the higher ground which appears to have formed an early focus for the development of the cemetery. Inter-relationships between this long barrow and long barrows at the Diamond may have been important, although the views to these are no longer apparent. Key views include:

- To the north towards the Normanton Down Barrows Asset Group (AG19);
- To the north-west to the Diamond Group Asset Group (AG13);
- To the north-west to Winterbourne Stoke Crossroads Barrows Asset Group (AG12); and
- To the south-east to the Lake Down Barrow Cemetery.

Several aspects detract from the quality of the current setting. The modern agricultural landscape, though comparatively tranquil, is anomalous in terms of the original setting. The levelling through ploughing of many of the group's components means that intra-group visual links are often no longer clearly legible. The upstanding monuments' positions within woodland also obscure these links. In longer-distance views, mature woodland also restricts inter-visibility with the Diamond and Normanton Down Barrows Asset Groups.

### **Integrity of the Asset Group**

#### **Wholeness**

All the components of this Asset Group are located within the WHS.

#### **Intactness**

Within the Asset Group a number of the barrows survive as substantial earthworks, however, several of the recorded barrows to the north-west of the Long Barrow no longer survive as upstanding features and other potential barrows outside the scheduled monument boundary have largely been levelled due to ploughing. Much of the North Kite Enclosure has also been impacted by modern agricultural activity.

Many of the barrows were excavated in the 19<sup>th</sup> century by early archaeologists and antiquarians. These, and investigations in the 1950s, have demonstrated that the funerary and other archaeological remains survive and thus retain their integrity. However, archaeological excavation is, by nature, a destructive process and some of the earlier investigations were poorly recorded. Consequently, the integrity of the barrows may have been affected by past excavations of the monument, although this has been partially offset by the information gathered by these investigations and the enhanced understanding of its place within the wider WHS landscape.

#### **Threats**

The core of the main cemetery lies within Lake Wood. While this situation is likely to have protected them from agricultural activity, tree roots have the potential to cause damage to

below ground archaeological remains due to bioturbation.

Some of the monuments within the group lie within agricultural land and although currently under pasture these areas have been ploughed in the 21<sup>st</sup> century. Continued ploughing of these features, in particular any increase in plough depth, has the potential to further truncate the surviving archaeological remains.

### **Authenticity of the Asset Group**

Factors that preserve or enhance the authenticity of the Asset Group include:

- The potential for archaeological deposits and features surviving which can enhance and add to our knowledge not just of these kinds of monuments but also of our understanding of the WHS as a whole; and
- A number of inter-visible relationships between this Asset Group and other contemporary monuments.

Factors that reduce or diminish the authenticity of the Asset Group include:

- The levelling of some of the barrows reduces their legibility within the wider monumental landscape, diminishing the ability of the Asset Group to fully convey the OUV of the WHS, in particular Attribute 5, '*the siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other*'.

### **Contribution to the Attributes that convey the OUV of the WHS**

The monuments within this Asset Group convey the Attributes of OUV in the following ways:

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

While many of the barrows in the Asset Group have been subject to excavations in the 19<sup>th</sup> century, this in itself forms a significant part of their history as the interest of early antiquarians such as Richard Colt Hoare, William Cunnington, Edward Duke and William Stukeley helped shape both modern archaeology and our interest and understanding of Stonehenge and its wider landscape.

Even where no upstanding earthworks survive, there is still the potential for below ground remains to survive alongside other features which may have never had an earthwork component.

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

and

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

Due to the inter-relationship between monuments, their association with landscape features and their location in relation to other earlier and contemporary monuments, these two Attributes of the OUV will be discussed in tandem.

The Lake Barrow group forms part of a series of potentially inter-visible and interrelated barrows cemeteries (Winterbourne Stoke Crossroads (AG12), The Diamond (AG13), Normanton Down Barrows (AG19) and Wilsford Barrows that bracket a dry valley system (Bowden et al. 2012, 28)

There is the suggestion that some barrow cemeteries and in particular earlier Beaker barrows may be sited in reference to earlier monuments such as long barrows (Exon et al. 2000, 71). Here the cemetery appears to have been focused and developed around the long barrow, which occupies the higher ground within the group. From this position Stonehenge (AG22) is visible, though not visually prominent.

### **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 barrows within this group add to the concentration of significant features within the WHS. While some of the views within the Asset Group and to nearby barrow cemeteries are currently obscured by mature woodland, the inter-visibility from this location to several other barrow cemeteries is still legible.

### **7. The influence of the remains of Neolithic and Bronze Age funerary and ceremonial monuments and their landscape settings on architects, artists, historians, archaeologists and others.**

The Asset Group forms part of the wider cultural landscape around Stonehenge which has provided inspiration to artists and archaeologists from at least the 18<sup>th</sup> century. A number of barrows within the group were investigated by important early antiquarians such as Richard Colt Hoare, William Cunnington and William Stukeley. The interest of these individuals in the antiquities of the Stonehenge area was key to the development of the modern discipline of archaeology.

There are no known notable artistic depictions of the Asset Group.

### **Contribution to the Integrity of the WHS**

The Asset Group comprises a long barrow and two distinct groups of round barrows as well as additional outliers, within which archaeological remains are anticipated to survive; as such it is an important contributor to several of the Attributes of the OUV of the WHS.

Included in the Asset Group are the North Kite Enclosure and other possible associated linears. Though partially levelled, below ground remains are anticipated to survive with the potential to answer key questions about their date and phasing.

### Contribution to the Authenticity of the WHS

The barrow cemeteries within this Asset Group contain several upstanding earthworks and, along with information gained from archaeological investigations, is a tangible illustration of prehistoric funerary activity within the WHS.

### Assessment of significance and value

The Asset Group's contribution to OUV is related to the tangible evidence it provides for the following Attributes of OUV:

- 2. The physical remains of the Neolithic and Bronze Age funerary and ceremonial monuments and associated sites.
- 3. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape.
- 5. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other.
- 6. The disposition, physical remains and settings of the key Neolithic and Bronze Age funerary, ceremonial and other monuments and sites of the period, which together form a landscape without parallel.
- 7. The influence of the remains of Neolithic and Bronze Age funerary and ceremonial monuments and their landscape settings on architects, artists, historians, archaeologists and others.

In accordance with Table 3, the North Kite Enclosure and Lake Barrows Asset Group is assessed as **Very High value**.

### Existing baseline

The existing A303 is visible in distant views to the north and north-west of the North Kite and Lake Barrows and in views of Stonehenge to the north-east. This results in visual intrusion, aural intrusion due to traffic noise, glare and light pollution.

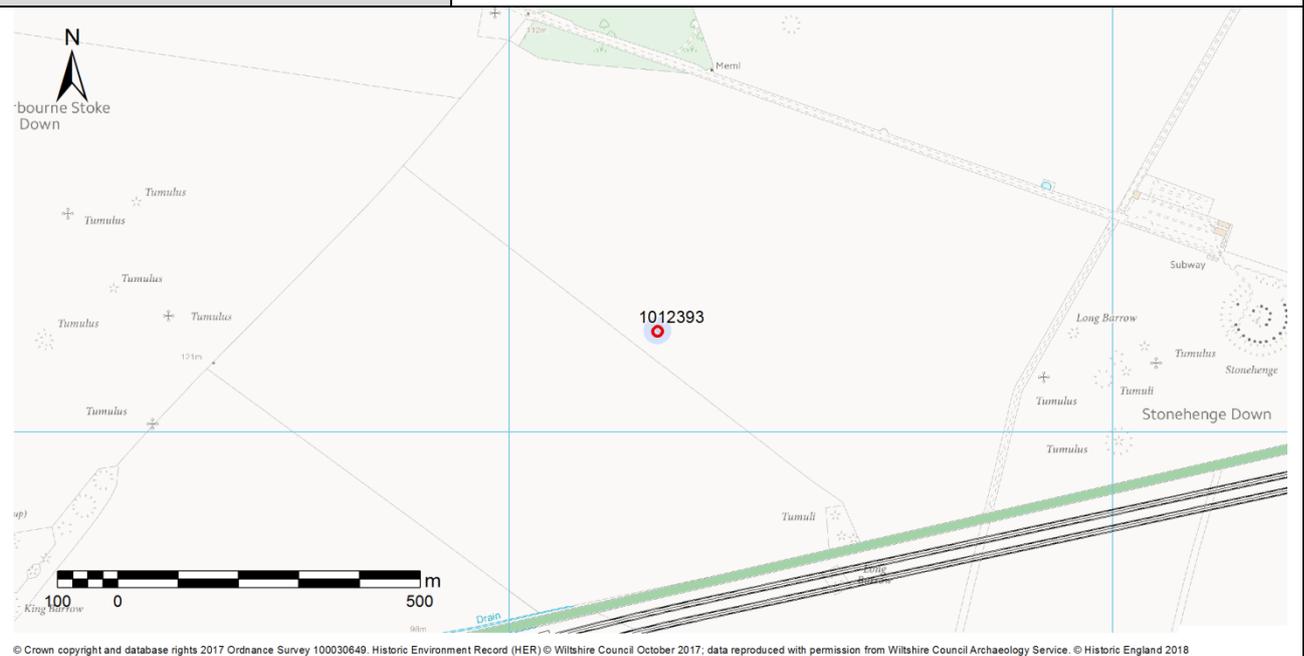
The existing A303 disrupts visibility to the Winterbourne Stoke Crossroads Barrows and towards Stonehenge and Stonehenge Barrows.

The existing A303 is a distant element in northward views from the group and is assessed as having a **Minor** impact on Attributes of OUV of the WHS conveyed by this Asset Group, resulting in a **Moderate Adverse** effect.

<b>Assessment of impact of Scheme</b>		
<b>Impact on fabric</b>		
The Asset Group would not be physically impacted by the Scheme. The Scheme would result in <b>No Change</b> .		
<b>Impact on setting</b>		
The Scheme would remove distant views of traffic from the A303 where it runs in tunnel through much of the WHS, and westwards in cutting from the western portal. However, while positive, these impacts would be minimal. The Attributes of the group's setting would be unaltered.		
The scale or severity of impact is assessed as a <b>Negligible Positive Change</b> .		
<b>Significance of effect</b>		
Taking account of the Very High value of the asset and in accordance with Table 5, Significance of effect assessment matrix, the overall significance of effect of the Scheme on AG16 North Kite Enclosure and Lake Barrows is assessed as <b>Slight Beneficial</b> (derived from <b>Negligible Change</b> to a <b>Very High</b> value asset).		
<b>Proposed mitigation</b>		
No mitigation is proposed, as there are no direct physical impacts.		
<b>Value of Asset Group AG16 (North Kite Enclosure and Lake Barrows)</b>	Very High	
Impact of the existing A303 and associated roads and infrastructure on the Attributes of OUV expressed by the Asset Group	Minor	
Significance of effect of existing A303 and associated roads and infrastructure on the Attributes of OUV expressed by the Asset Group	Moderate Adverse	
<b>Scale and severity of change / impact of Scheme</b>	Fabric	No Change
	Setting	Negligible Positive Change
<b>Significance of effect of Scheme, taking into account embedded mitigation (design)</b>	Slight Beneficial	
<b>Significance of effect of Scheme, following proposed additional mitigation (residual effect)</b>	Slight Beneficial	

## AG17 Barrow West of Stonehenge

<b>Designation:</b>	Scheduled monument
<b>Reference IDs:</b>	1012393, MWI12716
<b>Location (NGR):</b>	411245 142170



### Constituent elements of Asset Group

The Asset Group consists of a single scheduled monument, a bowl barrow 450m south of the A344 on Stonehenge Down (NHLE 1012393).

### Description

The Asset Group consists of a single scheduled monument: a bowl barrow 450m south of the A344 on Stonehenge Down (NHLE 1012393). Considerable uncertainty exists about this monument. No upstanding barrow exists at or near its given location, and the sources (both antiquarian and modern) are somewhat contradictory about its position. It is evident that the barrow retains no, or very little, surface expression due to historical ploughing and possibly also the development of the Stonehenge Aerodrome.

The monument's location is within a large expanse of chalk downland on Stonehenge Down, which was reverted to grazing by 2010, following the decommissioning of the Stonehenge Aerodrome earlier in the 20<sup>th</sup> century and the removal of the pig farm which subsequently replaced it.

### Condition of the Asset Group

The 2010–2011 condition survey (Wessex Archaeology 2012) noted that there were no extant earthworks and the buried remains were protected from ploughing as a result of grassland reversion. The monument had experienced no change since 2002 and was stable; vulnerability was low.

### Attributes of setting

The barrow is not located in the immediate vicinity of any contemporary monuments, and lacks surface expression. Key sightlines and inter-visibility include those:

- To the east towards Stonehenge (AG22) and the other monuments clustered around it on the Monument Field / Stonehenge Triangle (AG21);
- To the north towards the Greater Cursus (AG23) and the prominent barrow mounds clustered around the southern edge of its western end (AG18);
- To other barrow groups sited prominently on King Barrow Ridge (AG26) and Normanton Down (AG19), to the east and south, respectively; and
- To the west towards the barrows at Winterbourne Stoke Crossroads (AG12).

The quality of setting is diminished by monument's the lack of surface expression, by the present A303 (see below) and by:

- The visually intrusive qualities of the former A344 and the bus turning area which are clearly visible in views towards Stonehenge;
- The visually intrusive qualities of BOAT AMES12; visitors' vehicles are often parked along the BOAT causing further visually intrusive effects, intervening in views towards Stonehenge and the barrows sited on King Barrow Ridge;
- Overhead cables and pylons within the wider landscape, which are prominent on the skyline to the south-east of Stonehenge;
- The presence of screening plantations, which block potential inter-visibility with other Neolithic and Bronze Age monuments in the wider landscape, including the barrows clustered around the Winterbourne Stoke Crossroads, at the southern edge of the Fargo Plantation, and to the north on Durrington Down / along the sides of the Packway; and
- The audibly intrusive effects of the A303, other roads and military aviation.

### Authenticity of the Asset Group

Given the lack of detailed understanding of the monument, the authenticity of current interpretations pertaining to it are compromised. For example, the loss of any above ground elements once associated with it diminishes opportunities to understand its morphology, development and associations. Nevertheless, future investigations have the potential to reveal new information which would enhance its authenticity.

## Contribution to the Attributes that convey the OUV of the WHS

The monument in this Asset Group conveys the Attributes of OUV in the following ways:

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

The monument forms part of a wider concentration of Neolithic and Bronze Age funerary and ceremonial monuments. Together, these monuments illustrate the changing structure and organisation of the landscape within the WHS, and the shifting ways that societies articulated their beliefs during these periods.

Though no longer retaining any surface expression, the below ground remains of the monument have a high potential to provide important archaeological and palaeoenvironmental evidence pertaining to its construction, relative chronology, territorial significance, and overall landscape context, in addition to information relating to the funerary and ceremonial practices, beliefs and social organisation of the communities that constructed it.

Recent research and discoveries within the Stonehenge landscape have demonstrated that such monuments have the potential to yield new and unexpected information relating to the development of the WHS.

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

Although the precise location of the monument assigned to this Asset Group is uncertain, it is sited in a prominent, elevated position on Stonehenge Down.

The siting of the monument assigned to this Asset Group may have deliberately exploited topographical variations. This could have been intended to create lines of sight between features of the cultural landscape and / or to elevate the visual prominence of the monuments themselves, or to silhouette them prominently on the horizon. However, intentional references to topographical variations and / or other aspects of the natural landscape may also have motivated the siting of the monument. For example, this may have played a role in expressions of territoriality or the construction and maintenance of identities, or may have been intended to create or reinforce associations with aspects of the natural landscape that were imbued with meaning by prehistoric communities.

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

The barrow lies approximately equidistant between the Normanton Down group (AG19) to the south, the Winterbourne Stoke Crossroads group (AG12) to the west, and the barrows sited along the southern edge of the western end of the Greater Cursus (AG18), to the north. The monument is also sited a similar distance from Stonehenge (AG22), and the

monuments clustered around it on the Monument Field / Stonehenge Triangle (AG21). Very few other Neolithic or Bronze Age ceremonial or funerary monuments have been identified in the space between these. It is possible that ploughing and earlier development (e.g. of the Stonehenge Aerodrome) may have removed the above ground elements of any prehistoric monuments once contained within this area. However, the success of remote sensing techniques in detecting monuments that retain no surface expression elsewhere in the Stonehenge landscape, for example on Countess Farm (AG31), has not been replicated here. This suggests that the relative scarcity of comparable monuments in this area may be an accurate reflection of monument distribution in this part of the WHS.

It is possible that the solitary nature of the monument assigned to this Asset Group held significance, although any specific meaning that that this may have held for those who built and used it is uncertain. Though spatially detached from other components of the surrounding cultural landscape, the elevated position of the monument on Stonehenge Down would have presumably ensured that it was visually linked with numerous other Neolithic and Bronze Age monuments, including Stonehenge. This may have been an important determinant in the siting of the monument.

**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.**

Though levelled, and possibly subject to partial excavation in the 19<sup>th</sup> century, the monument assigned to this Asset Group presumably remains at least partially intact. The relationships between the monument and other features of the wider cultural and natural landscape of the WHS remain broadly legible, even if the specific meanings attached to these by prehistoric communities can no longer be fully understood.

**7. The influence of the remains of Neolithic and Bronze Age funerary and ceremonial monuments and their landscape settings on architects, artists, historians, archaeologists and others.**

This monument may have been referred to by the antiquarian Sir Richard Colt Hoare as 'Druid Barrow no. 13', one of the many barrows partially excavated by him, or on his behalf during the 19<sup>th</sup> century. Hoare's investigations are a significant part of the history of the WHS, and helped to promote an interest in, and understanding of Stonehenge and its wider landscape, greatly influencing the development of modern archaeology.

**Contribution to the Integrity of the WHS**

Although the monument assigned to this Asset Group is comparatively poorly understood, it appears to exemplify several of the Attributes of OUV. The presence / survival of the

Asset Group therefore contributes to the overall Integrity of the cultural landscape of the WHS.

### **Contribution to the Authenticity of the WHS**

Although the monument assigned to this Asset Group is comparatively poorly understood, it exemplifies several of the Attributes of OUV. The presence / survival of the Asset Group therefore contributes to the overall Authenticity of the cultural landscape of the WHS.

### **Assessment of significance and value**

The Asset Group's contribution to OUV is related to the tangible evidence it provides for the following Attributes of OUV:

- 2. The physical remains of the Neolithic and Bronze Age funerary and ceremonial monuments and associated sites.
- 3. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape.
- 5. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other.
- 6. The disposition, physical remains and settings of the key Neolithic and Bronze Age funerary, ceremonial and other monuments and sites of the period, which together form a landscape without parallel.
- 7. The influence of the remains of Neolithic and Bronze Age funerary and ceremonial monuments and their landscape settings on architects, artists, historians, archaeologists and others.

In accordance with Table 3, the Barrow West of Stonehenge is assessed as Very High value.

### **Existing baseline**

The current A303 lies c. 410m to the south / south-east of the monument. The road severs the monument from the southern part of the WHS and the monuments it contains, including the Normanton Down group. The road and its traffic are clearly apparent, interrupting southward views, while traffic noise greatly detracts from any sense of tranquillity.

Major changes to the road network have been completed since 2012 as part of the Stonehenge Environmental Improvement Project (SEIP). These have included the stopping up of the A344 between its junction with the A303 (Stonehenge Bottom) and its junction with BOAT AMES12. Vehicular traffic is now prevented from using the remainder of the A344 from BOAT AMES12 to Airman's Corner through a permanent traffic

regulation order. The former Stonehenge Visitor Centre and car park have also now been removed as part of the SEIP.

The existing A303 is assessed as having a **Moderate** impact on Attributes of OUV of the WHS conveyed by this Asset Group, resulting in a **Large Adverse** effect.

### Assessment of impact of Scheme

The Scheme would be in tunnel directly to the south of the monument; the western portal would be located c. 550m to the south / south-west, with the approach road in cutting and covered by a canopy. Lighting would be hooded and directional to minimise light spill from the western portal mouth. Traffic would only be visible at far greater distances, i.e. 1.5km and greater, around Longbarrow Junction; traffic noise would also be considerably reduced, albeit not completely removed. There would be physical reconnection of the monument with the landscape to the south, the sightlines in this direction would be uninterrupted, and the general sense of place would be improved. All of these benefits occur, however, in the context of a monument which lacks any visual qualities; the negative effects of the vehicular use of the former A344 and BOAT AMES12, and of pylons and plantations would remain.

#### Impact on fabric

The Asset Group would not be physically impacted by the Scheme. The Scheme would result in **No Change**.

#### Impact on setting

The Scheme would remove views of traffic from the A303 where it runs in tunnel through much of the WHS. Traffic would be removed from the immediate setting, becoming visible only at far greater distances, i.e. 1.5km and more, around Longbarrow Junction. Traffic noise would also be considerably reduced.

In accordance with Table 4, the scale or severity of impact is assessed as a **Minor Positive Change**.

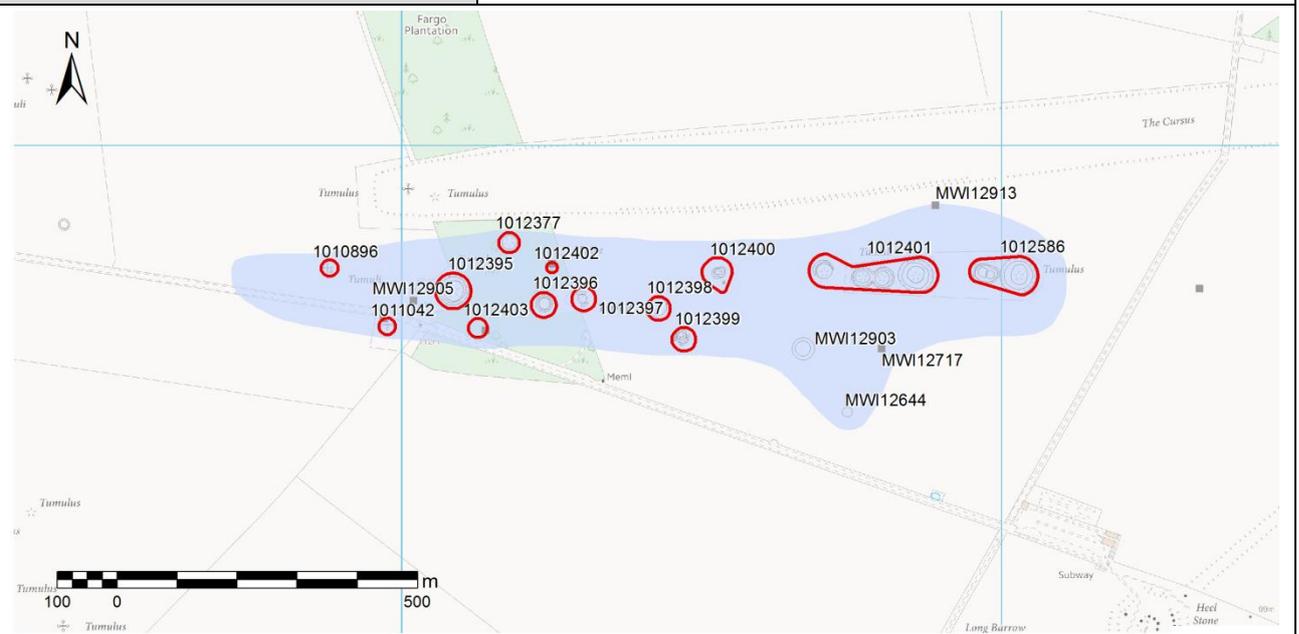
### Significance of effect

Taking account of the Very High value of the asset and in accordance with Table 5, the overall significance of effect of the Scheme on AG17 Barrow West of Stonehenge is assessed as **Moderate Beneficial** (derived from a **Minor Change** to a **Very High** value asset).

<b>Proposed mitigation</b>		
<p>No mitigation is proposed, as there are no direct physical impacts. Archaeological monitoring would be undertaken on the removal of hardstanding material from course of A303 to create a restricted byway.</p>		
<b>Value of Asset Group AG17 (Barrow West of Stonehenge)</b>		Very High
Impact of the existing A303 and associated roads and infrastructure on the Attributes of OUV expressed by the Asset Group		Moderate
Significance of effect of existing A303 and associated roads and infrastructure on the Attributes of OUV expressed by the Asset Group		Large Adverse
<b>Scale and severity of change / impact of Scheme</b>	Fabric	No Change
	Setting	Minor Positive Change
<b>Significance of effect of Scheme, taking into account embedded mitigation (design)</b>		Moderate Beneficial
<b>Significance of effect of Scheme, following proposed additional mitigation (residual effect)</b>		Moderate Beneficial

### AG18 The Cursus Barrows (West)

<b>Designation:</b>	Scheduled monument
<b>Reference IDs:</b>	1010896, 1011042, 1012377, 1012395, 1012396, 1012397, 1012398, 1012399, 1012400, 1012401, 1012402, 1012403, 1012586, MWI12523, MWI12643, MWI12644, MWI12717, MWI12876, MWI12882, MWI12887, MWI12889, MWI12896, MWI12897, MWI12898, MWI12899, MWI12900, MWI12903, MWI12904, MWI12905, MWI12907, MWI12908, MWI12909, MWI12910, MWI12911, MWI12912, MWI12913, MWI13160, MWI74650, MWI75677
<b>Location (NGR):</b>	411552 142728



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### Constituent elements of Asset Group

The Asset Group contains a group of prehistoric monuments clustered around the southern side of the western end of the Greater Cursus (AG23). It includes 19 scheduled monuments. The corresponding NHLE descriptions indicate that these encompass:

- One twin bell barrow (NHLE 1012586);
- Six bell barrows, including one particularly large example known as ‘The Monarch of the Plain’ (‘Amesbury 55’; NHLE 1012395);
- Nine bowl barrows, one of which (‘Amesbury 50’; NHLE 1012399) coincides with a possible earlier hengiform monument / timber circle (Gaffney et al. 2012);
- One disc barrow (NHLE 1012403); and

- The Fargo hengiform monument (NHLE 1012402).

The Asset Group includes several outlying monuments that are not typically considered to form part of the main ‘Cursus Barrow Group’ (e.g. Amadio and Bishop 2010). The Asset Group excludes two scheduled round barrows contained within the western end of the Greater Cursus and the group of barrows clustered at the eastern end of the Greater Cursus; these are assigned to AG23 and AG28, respectively.

### Description

The group comprises a series of prehistoric monuments clustered around the southern side of the western end of the Greater Cursus. Scheduled monuments are as follows: one twin bell barrow (NHLE 1012586); six bell barrows, including one particularly large example known as ‘The Monarch of the Plain’ (‘Amesbury 55’; NHLE 1012395); nine bowl barrows, one of which (‘Amesbury 50’; NHLE 1012399) coincides with a possible earlier hengiform monument / timber circle; one disc barrow (NHLE 1012403); and the Fargo hengiform monument (NHLE 1012402).

In addition to these scheduled monuments, the group contains five other possible (non-designated) prehistoric monuments (MWI12717, MWI12644, MWI12903, MWI12905, MWI12913) that are no longer evident above ground, and which have been identified via assessments of aerial photographs and geophysical surveys. The Asset Group also encompasses the approximate location in which a beaker burial (MWI12523), interred in a flat grave, was found in 1939, and area of pits of an unknown date identified by a geophysical survey (MWI74650).

The level of preservation is variable. Some of the monuments appear to have been levelled or reduced due to ploughing, forestry and military activity (though some may never have been especially prominent). However, the earthwork mounds, banks and ditches of many of the monuments within the group are comparatively well preserved, large and / or conspicuous; of particular note are those clustered at the eastern extent of the group, and ‘The Monarch of the Plain’ (‘Amesbury 55’; NHLE 1012395) at its western end.

Six of the scheduled monuments, including the ‘Monarch of the Plain’ and the Fargo hengiform, are located partially or entirely within the Fargo Plantation. A further scheduled barrow lies within a small enclosure immediately to the south-west of Fargo Plantation, and south of the former A344. Two of the other scheduled monuments, including the putative pond barrow, lie within arable fields to the west of Fargo; these monuments retain little or no surface expression. The remainder, including several of the more prominent barrows, lie within the large expanse of National Trust-owned chalk grassland surrounding Stonehenge.

### Condition of the Asset Group

Barrows surveyed in 2010–2011 (Wessex Archaeology 2012) were described as being in fair condition, with one in poor condition and several with no surviving earthworks above ground. Westerly barrows had experienced a negative change since 2002. Two barrows (NHLE 1012401 and NHLE 1011042) were deteriorating rapidly. The barrows experienced medium and low vulnerability. Some barrows were impacted by rabbit, mole and badger burrowing. Two examples in the centre of the group had been impacted by cattle and several in Fargo Plantation were impacted by vegetation and scrub encroachment.

A site visit in May 2018 noted erosion from visitor footfall up the side of several of the easterly barrows. Barrows were roped off to encourage the re-growth of grass cover.

### Attributes of setting

Barring some exceptions, the group of monuments survives comparatively well, and remains legible as one of the better preserved and more conspicuous barrow cemeteries within the WHS. Its intra-group integrity (both physical and visual) is nevertheless interrupted by the intervening presence of the Fargo Plantation.

Due to the elevated position of the monuments on an east-west ridge, these are widely visible across the open and rolling landscape in the central portion of the WHS, including from Stonehenge and from various points along the Greater Cursus. Key views include:

- Views between the monuments within the group;
- Views towards Stonehenge from the easternmost monuments within the group;
- Views from Stonehenge towards the group;
- Views from the monuments within the group, along and towards the Greater Cursus;
- Views from and towards the barrow groups on King Barrow Ridge and Normanton Down; and
- Views from the west towards the 'Monarch of the Plain' whilst approaching Stonehenge along the former A344.

Setting contributes considerably to the significance of the group and many of its constituent elements. The upstanding monuments have intrinsic visual interest; there is a strong sense of group setting; the topographical situation along a ridgeline is apparent; and there is extensive inter-visibility with other monuments in the wider landscape.

This setting is nevertheless far from pristine. The effects of the A303 have been noted above, while other negative factors include

- The low legibility of the more reduced monuments within the group;
- Fargo Plantation, which greatly diminishes the ability to appreciate the full contextual and spatial relationships between the monuments within the group, and

with the western terminal of the Greater Cursus;

- The visually intrusive qualities of the former A344 and the visitor transit bus turning area, and of vehicles frequently parked on BOAT AMES12. These intervene in views towards Stonehenge and the barrows sited on King Barrow Ridge;
- Overhead cables and pylons within the wider landscape, prominent on the skyline to the south-east of Stonehenge;
- There currently a lack of inter-visibility with similar monuments clustered at the eastern end of the Greater Cursus, as a result of intervening woodland and the lack of surface expression of these latter monuments;
- Plantations currently block potential inter-visibility with other Neolithic and Bronze Age monuments in the wider landscape, including the barrows clustered around Winterbourne Stoke Crossroads, and to the north on Durrington Down and along the Packway;
- The visually intrusive presence of the redundant Larkhill sewage works, Larkhill Camp, and its surrounding development and plantations, which block long distance views towards the north. These are in the process of being removed at the time of writing and it is anticipated that they will be gone by the end of 2018.

### **Integrity of the Asset Group**

#### **Wholeness**

All assets are located within the WHS boundary.

#### **Intactness**

The integrity of the Asset Group is variable. The earthwork components of some of the monuments appear to have been levelled or reduced due to ploughing, forestry, military activity and other sources of prior disturbance, although some may never have been especially prominent within the landscape. However, the earthwork mounds, banks and ditches of many of the monuments within the group are comparatively well preserved, large and / or conspicuous; of particular note are those clustered at the eastern extent of the group, and 'The Monarch of the Plain' (Amesbury 55; NHLE 1012395) at its western end (although the latter has been subject to various forms of disturbance, as detailed in Komar and Bishop 2010).

Past investigations have resulted in some impact to the physical integrity of the above and below ground elements of the monuments. A considerable proportion of the monuments were partially excavated by antiquarians in the 18th and 19th centuries. Modern intrusive investigations have been limited; the Fargo hengiform (NHLE 1012402) was excavated in 1938 (Amadio and Bishop 2010; Stone 1939), and Amesbury 51 (NHLE 1012398) was fully excavated for the Ministry of Works in 1960, due to the threat

from ploughing (Ashbee 1978). The losses from previous excavation are offset by the knowledge gathered during these investigations and its contribution to our wider understanding of the WHS. Moreover, the unexcavated portions of the monuments are likely to be largely intact, as evidenced by a variety of non-intrusive techniques (e.g. Gaffney et al. 2012; Amadio and Bishop 2010), and retain great potential for future research.

### Threats

Although most of the monuments within the Asset Group are scheduled, several other associated monuments identified from aerial photographs and geophysical survey (e.g. Gaffney et al. 2012; MWI12717, MWI12644, MWI12903, MWI12905, MWI12913) are not subject to statutory protection. Nevertheless, these are not subject to any significant imminent threats.

Earlier threats to the physical remains of the monuments due to bioturbation and forestry have been diminished in recent years by selective clearance of woodland within the Fargo Plantation. This has also improved the legibility and visual integrity of the group, although the plantation still divides the Asset Group and obscures the relationships between the monuments assigned to it.

Many of the monuments within the Asset Group are publicly accessible and are located close to the main pedestrian route taken by visitors between Stonehenge and the new Stonehenge Visitor Centre. As a result, the management of the WHS requires careful balancing of the desirability of maintaining public access whilst reducing the risk of erosion of the earthworks due to footfall.

The SoOUV makes specific reference to the impact of busy main roads on the Integrity of the WHS. The 2015 WHS Management Plan reiterates this, describing the major roads as the '*main adverse impact of development on integrity*' (Simmonds and Thomas 2015, 35). The closure of the A344 since 2013 has improved the visual integrity of the Asset Group and key views across the WHS as a whole, although the presence of the metalled road, the visual and aural intrusion of visitor shuttle buses and the scar of the former visitor centre intrude upon the experience of the Asset Group. The A303 continues to adversely affect the integrity of the Asset Groups setting and its visual relationships with other components of the cultural landscape of the WHS.

### Authenticity of the Asset Group

Factors that preserve or enhance the Authenticity of the Asset Group include:

- Information obtained from antiquarian and modern investigations, which have shaped current understanding of Neolithic and Bronze Age societies that constructed and used them, and enhanced the authenticity of interpretations;
- Ongoing research since the inscription of the WHS, which has provided new

sources of information and opportunities for understanding these assets and their relationships within the wider cultural and natural landscape of the WHS;

- The inclusion of the majority of the monuments within grass downland, which enables an appreciation of their original form;
- Visitors are able to appreciate the location, setting and inter-relationships of the majority of the monuments within the Asset Group. Their inclusion within predominantly publicly accessible areas of the WHS is an important element of this. The lack of surface expression / restrictions on access to some of the monuments reduces opportunities for visitors to the WHS to understand them in context. However, the buried remains are presumably largely well preserved, and the authenticity of the monuments is therefore unaffected; and
- The very limited extent of modern reconstruction of the monuments (exceptions to which are noted below).

Factors that reduce or diminish the authenticity of the Asset Group include:

- Key views / relationships between the monuments within this Asset Group and other monuments within the WHS have been obscured by modern development, including plantations. Temporary visual intrusion from traffic on roads. This diminishes the ability of the Asset Group to fully convey the OUV of the WHS, in particular Attribute 5, '*the siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other*'; and
- The reconstruction of the earthworks of the Amesbury 51 barrow (NHLE 1012398) following its total excavation in 1960 (Amadio and Bishop 2010).

### Contribution to the Attributes that convey the OUV of the WHS

The monuments within this Asset Group convey the Attributes of OUV in the following ways:

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

The monuments within this Asset Group form part of a wider concentration of Neolithic and Bronze Age funerary and ceremonial monuments. Together, these monuments illustrate the changing structure and organisation of the landscape within the WHS, and the shifting ways that societies articulated their beliefs during these periods.

The physical remains, both above and below ground, of the individual monuments within the Asset Group have a high potential to contain important archaeological and palaeoenvironmental evidence pertaining to their construction, relative chronologies, territorial significance, and overall landscape context, in addition to information relating to the funerary and ceremonial practices, beliefs and social organisation of the communities

that constructed them. Even those monuments that retain no surface expression retain considerable archaeological interest.

Recent research and discoveries within the Stonehenge landscape, such as the possible hengiform / timber circle beneath 'Amesbury 50' (Gaffney et al. 2012), has demonstrated that these monuments have the potential to yield new and unexpected information relating to the development of the WHS.

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

This group of barrows clustered at the western end of the Greater Cursus is one of a number of linear cemeteries located on the immediate horizon around Stonehenge, with others on the ridgelines to the east along King Barrow Ridge (AG26), Normanton Down (AG19) to the south and Winterbourne Stoke Down (AG08) to the west. An outer ring of barrow cemeteries, including those on Durrington Down (AG20) to the north and the Lake (AG16) and Wilsford groups to the south, is located on what would once have been visible as the far horizon from Stonehenge.

There was, and still is a strong visual relationship between Stonehenge and the inner ring of barrow cemeteries on the near horizon. The barrow groups are located prominently on these ridges and appear silhouetted against the horizon when viewed from the henge. Numerous researchers have inferred that importance was invested in the visual relationships between these monuments and that Stonehenge formed the main focal point of this landscape (e.g. Woodward and Woodward 1996, Exon et al. 2000; Lawson 2007).

Although the siting of the monuments within this Asset Group appears to have deliberately exploited topographical variations, this may have been intended to create lines of sight between features of the cultural landscape, or to elevate the visual prominence of the monuments themselves, rather than to specifically reference aspects of the natural landscape. Accordingly, the manner in which the monuments within this Asset Group exemplify this Attribute of the WHS's OUV is also closely linked with Attribute 5.

However, intentional references to topographical variations and / or other aspects of the natural landscape may also have motivated the siting of these monuments. For example, this may have played a role in expressions of territoriality or the construction and maintenance of identities, or may have been intended to create or reinforce associations with aspects of the natural landscape that were imbued with meaning by prehistoric communities.

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

As discussed in relation to Attribute 3, it has been widely hypothesised that the

monuments within this Asset Group, along with other barrows and groups of barrows, were deliberately sited to reference Stonehenge. These interpretations typically indicate that the henge formed the focal point in the ceremonial and funerary landscape of the WHS.

Recent research (e.g. Gaffney et al. 2012) suggests that some of the monuments within the Asset Group, such as Amesbury 50, may result from barrows being constructed above earlier monuments.

The apparently deliberate clustering of monuments near the Greater Cursus (AG23) illustrates this Attribute of OUV. In particular, it is expressed by the two round barrows sited prominently within the western terminal of the Greater Cursus, which are assigned to AG23, but could equally be considered to form part of this Asset Group of interrelated monuments.

The linear arrangement of the barrows (as well as those within AG28, at the eastern end of the Greater Cursus) mirrors the form of the earlier ceremonial monument, and may *'imply that the Cursus, and particularly either end, was [...] a major initial monumental focus in placement of these barrows, not just the often assumed Stonehenge'* (Amadio and Bishop 2010, 30).

The apparently deliberate and meaningful siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other is evidenced by the spatial / contextual and visual relationships between:

- The monuments within the Asset Group;
- The monuments within the Asset Group and Stonehenge (AG22);
- The monuments within the Asset Group and the Greater Cursus (AG23);
- The monuments within the Asset Group and other barrows and groups of barrows which share inter-visibility with them, particularly those on King Barrow Ridge (AG26), Stonehenge Down (AG21) and Normanton Down (AG19).

## **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 Asset Group contains some of the most visually dominant monuments in this part of the WHS. The relationships between many of these monuments and other features of the cultural and natural landscape are broadly legible, even if the specific meanings attached to these by prehistoric communities can no longer be fully understood. Although some elements of the Asset Group are currently obscured by trees or retain little surface expression, they nevertheless convey this Attribute of OUV.

## **7. The influence of the remains of Neolithic and Bronze Age funerary and ceremonial monuments and their landscape settings on architects, artists,**

### **historians, archaeologists and others.**

Several burial mounds in this Asset Group were subject to partial excavation in the 19<sup>th</sup> century. This in itself forms a significant part of the history of the site, as the investigations carried out by antiquarians such as Sir Richard Colt Hoare and William Cunnington helped to promote an interest in, and understanding of Stonehenge and its wider landscape, and fostered the development of modern archaeology.

Several of the monuments within the Asset Group are amongst the largest and most conspicuous of the barrows within the WHS. They are also readily accessed by the many visitors to Stonehenge.

### **Contribution to the Integrity of the WHS**

The Asset Group exemplifies several of the Attributes of OUV and is one of the key monument groups within the WHS; it contains one of several barrow cemeteries prominently located on the near horizon around Stonehenge, it incorporates several more unusual forms of prehistoric monument and many of the monuments are relatively intact and incorporate prominent earthworks. It illustrates the importance that seems to have been attached to the relationships between Neolithic and Bronze Age monuments, particularly the focal position of Stonehenge in the landscape, and the continued influence of the Early Neolithic Greater Cursus (AG23).

The presence / survival of the Asset Group therefore makes a strong contribution to the overall Integrity of the cultural landscape of the WHS.

### **Contribution to the Authenticity of the WHS**

The accessibility and prominent visibility of many of the monuments within this group renders them an important component of the WHS because visitors are able to appreciate the Attributes of OUV that the group expresses / exemplifies. Its survival contributes to the overall cohesiveness and legibility of the cultural landscape of the WHS, and thus also its Authenticity.

The visible earthworks and surviving below ground archaeology holds considerable potential to increase our understanding of Neolithic and Bronze Age societies.

### **Assessment of significance and value**

The Asset Group's contribution to OUV is related to the tangible evidence it provides for the following Attributes of OUV:

- 2. The physical remains of the Neolithic and Bronze Age funerary and ceremonial monuments and associated sites.
- 3. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape.

- 5. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other.
- 6. The disposition, physical remains and settings of the key Neolithic and Bronze Age funerary, ceremonial and other monuments and sites of the period, which together form a landscape without parallel.
- 7. The influence of the remains of Neolithic and Bronze Age funerary and ceremonial monuments and their landscape settings on architects, artists, historians, archaeologists and others.

In accordance with Table 3, the Cursus Barrows (West) Asset Group is assessed as **Very High value**.

### Existing baseline

The A303 runs 1.2km south of the westernmost scheduled monument of the group and 800m south of the easternmost (NHLE 1012586). The road is visible from most of the monuments, excepting those within Fargo plantation. The movement of traffic and occasional glare / light pollution, elevates its conspicuousness. The road intermittently disappears partially or entirely from view due to topographical variation both from within the group and across the intervening landscape. It is not visible directly behind Stonehenge. Although neither particularly loud nor clear, traffic noise is often faintly perceptible.

The route of the former A344, occasional buses travelling along its length and the parking area to the north-west of Stonehenge are also visible from the asset, resulting in visual intrusion. BOAT AMES12, along which vehicles are often illegally parked, causes visually intrusive effects.

The existing A303 is assessed as having a **Minor** impact on Attributes of OUV of the WHS conveyed by this Asset Group, resulting in a **Moderate Adverse** effect.

### Assessment of impact of Scheme

The Scheme would have only positive impacts on this Asset Group. It would remove views of both road and traffic in south and south-eastward views. This includes sightlines towards King Barrow Ridge (i.e. the Old and New King Barrows, AG26), the eastern end of the Greater Cursus (AG23) and Normanton Down (AG19). Traffic noise would also be reduced. As a whole, this would enhance the group's setting, removing intrusive visual and aural effects. It would only be a partial improvement on the present baseline, however, since the effects of the present A303 are not particularly pronounced, and other negative impacts on the setting (e.g. plantations, pylons, other modern infrastructure, and traffic on the former A344 and BOAT AMES12) would remain unchanged.

**Impact on fabric**

The Asset Group would not be physically impacted by the Scheme. The Scheme would result in **No Change**.

**Impact on setting**

The Scheme would have only positive impacts on this Asset Group. It would remove views of both the existing A303 and traffic in south and south-eastward views. This includes sightlines towards King Barrow Ridge (i.e. the Old and New King Barrows), the eastern end of the Greater Cursus and Normanton Down. Traffic noise would also be reduced. As a whole, this would enhance the group's setting, removing intrusive visual and aural impacts.

The scale or severity of impact is assessed as a **Minor Positive Change**.

**Significance of effect**

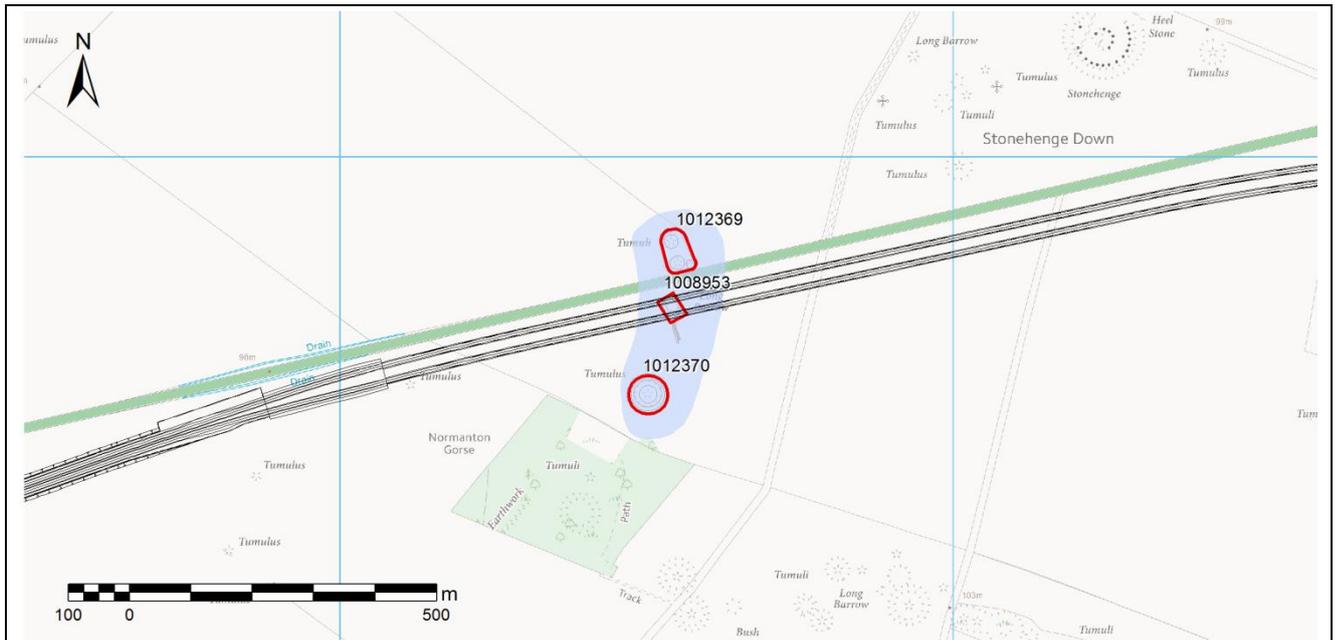
Taking account of the Very High value of the asset and in accordance with Table 5, the overall significance of effect of the Scheme on AG18 The Cursus Barrows (West) would be **Moderate Beneficial** (derived from a **Minor Positive** impact on a **Very High** value asset).

**Proposed mitigation**

No mitigation is proposed, as there are no direct physical impacts.

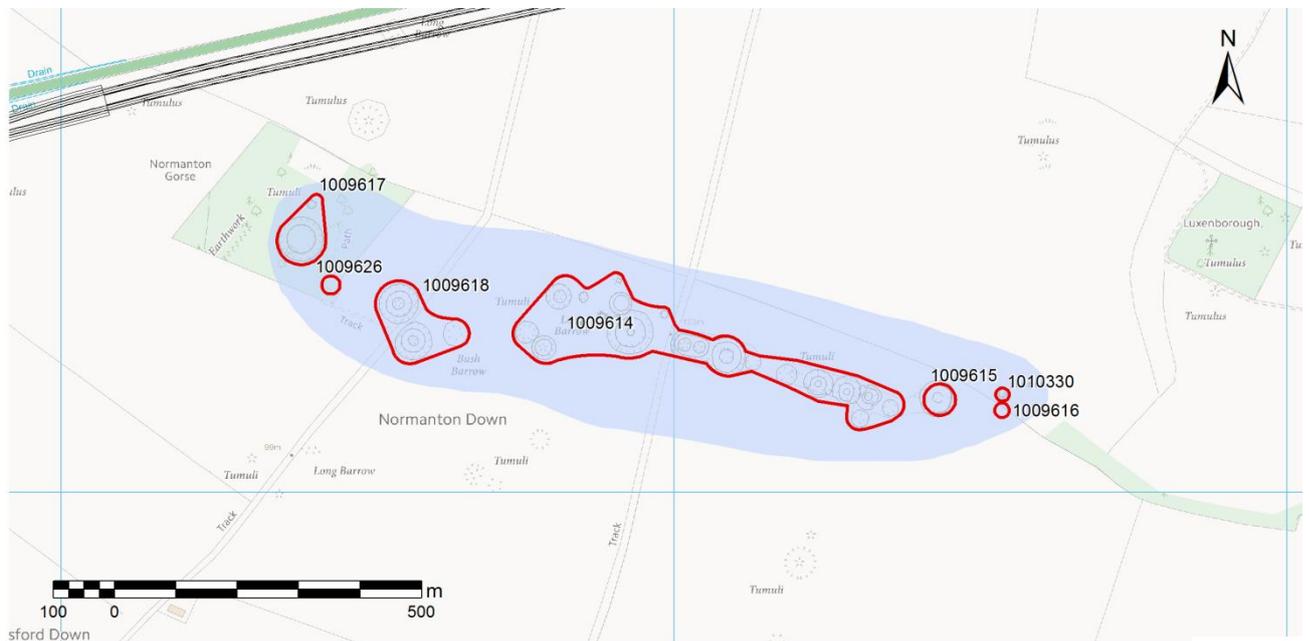
<b>Value of Asset Group AG18 (The Cursus Barrows (West))</b>	Very High	
Impact of the existing A303 and associated roads and infrastructure on the Attributes of OUV expressed by the Asset Group	Minor	
Significance of effect of existing A303 and associated roads and infrastructure on the Attributes of OUV expressed by the Asset Group	Moderate Adverse	
<b>Scale and severity of change / impact of Scheme</b>	Fabric	No Change
	Setting	Minor Positive Change
<b>Significance of effect of Scheme, taking into account embedded mitigation (design)</b>	Moderate Beneficial	
<b>Significance of effect of Scheme, following proposed additional mitigation (residual effect)</b>	Moderate Beneficial	

<b>AG19 Normanton Down Barrows</b>	
<b>Designation:</b>	Scheduled monument
<b>Reference IDs:</b>	<p>AG19A Normanton Down barrow group – north 1008953; 1008953; 1012370; MWI12487; MWI12998; MWI12999; MWI13000; MWI13001</p> <p>AG19B Normanton Down barrow group – central 1009614; 1009615; 1009616; 1009617; 1009618; 1009626; MWI12546; MWI12549; MWI13004; MWI13026; MWI13017; MWI13024; MWI13025; MWI13015; MWI13016; MWI13018; MWI13019; MWI13020; MWI13021; MWI13022; MWI13031; MWI13042; MWI13047; MWI13048; MWI13043; MWI13014; MWI13013; MWI13023; MWI13044; MWI13045; MWI13049; MWI13012; MWI13003; MWI12488; MWI12825; MWI12758; MWI74642; MWI13046</p> <p>AG19C Normanton Down barrow group – south-west 1009619; 1009620; 1009621; 1009622; 1009623; MWI13009; MWI12491; MWI12489; MWI13006; MWI13007</p> <p>AG19D Normanton Down barrow group – south-east 1009624; 1009625; 1010871; 1010872; 1010880; 1010885; MWI13104; MWI13103; MWI13094; MWI13105; MWI13106; MWI13089; MWI13092; MWI13093; MWI13090; MWI74642; MWI73462; MWI13094; MWI13094; MWI12714; MWI13091; MWI12756</p>
<b>Location (NGR):</b>	<p>AG19A Normanton Down barrow group – north: 411545 141724</p> <p>AG19B Normanton Down barrow group – central: 411925 141265</p> <p>AG19C Normanton Down barrow group – south-west: 411536 141049</p> <p>AG19D Normanton Down barrow group – south-east: 412177 140660</p>



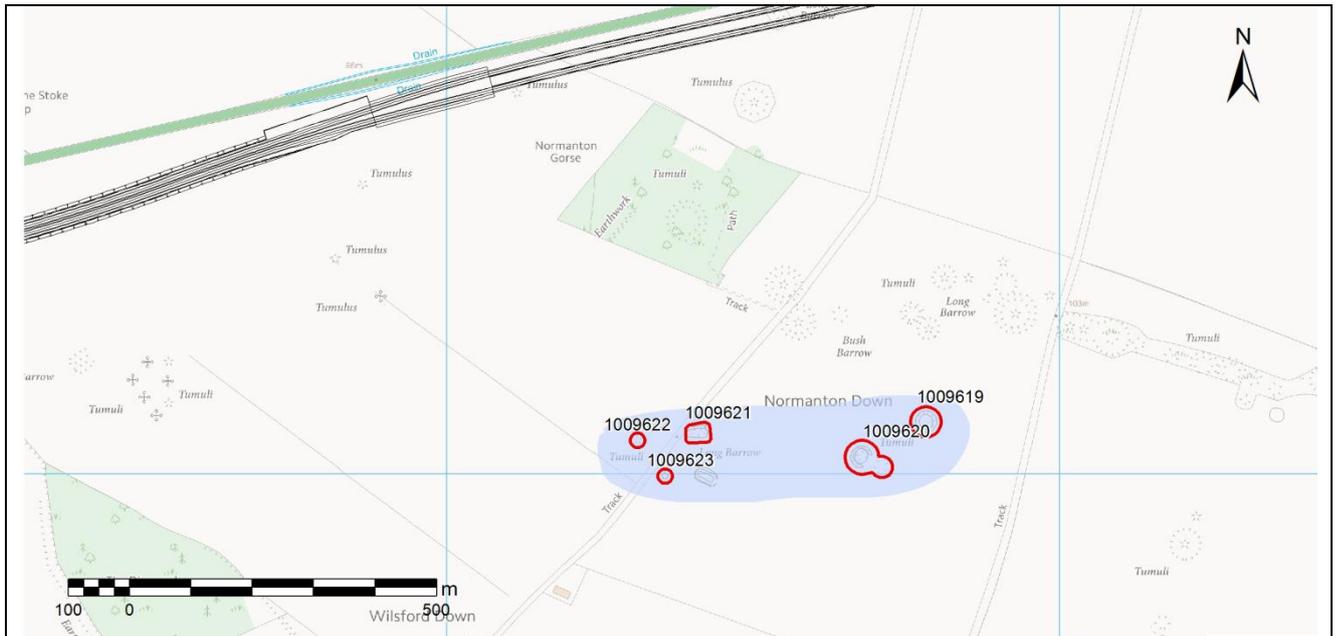
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AG19A



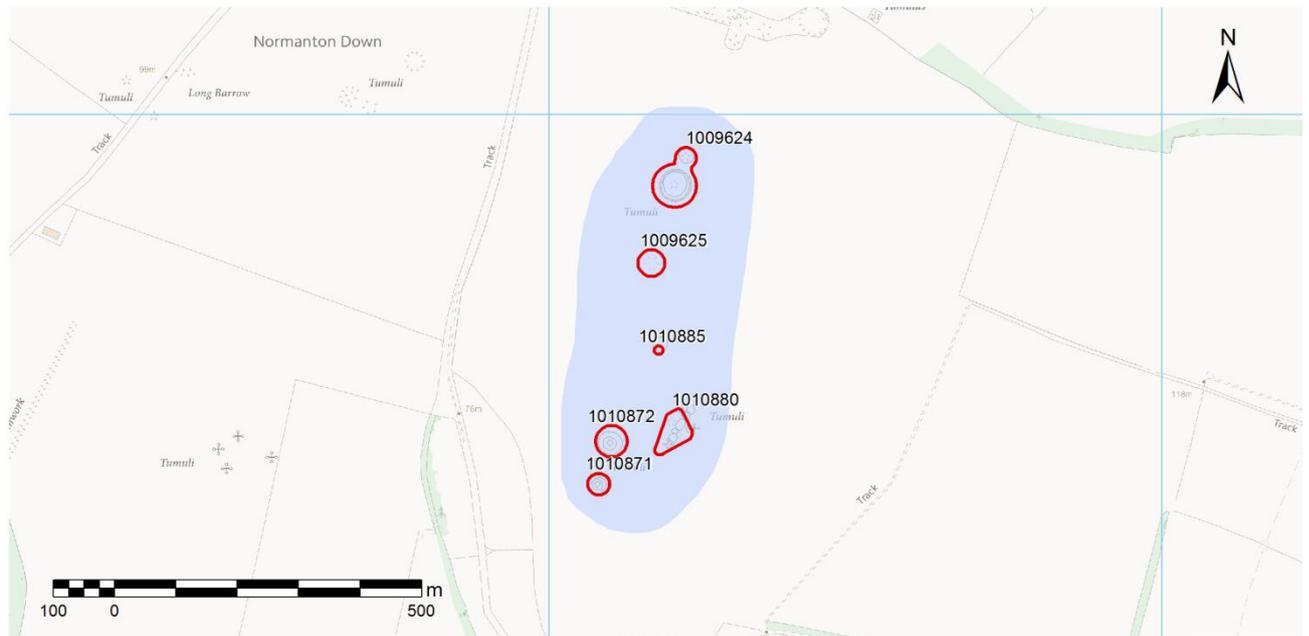
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AG19B



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### AG19C



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### AG19D

## Constituent elements of Asset Group

The Asset Group has been divided into four areas to facilitate analysis and assessment. Constituent elements are as follows:

- **AG19A Normanton Down barrow group – north** contains a scheduled long barrow (1008953), three scheduled bowl barrows (1012369) and the Sun Barrow, a scheduled bell barrow (1012370).
- **AG19B Normanton Down barrow group – central** contains a Neolithic long barrow (1009614), six bowl barrows (1010330; 1009616; 1009617; 1009618; 1009626; 1010330), 18 round barrows (1009614) and four disc barrows (1009615; 1009617; 1009618). The HER records associated Bronze Age finds (MWI12546), undated pits (MWI74642) and an undated pit alignment (MWI12758)
- **AG19C Normanton Down barrow group – south-west** contains a Neolithic long barrow (1009621; MWI12489), five bowl barrows (1009619; 1009620; 1009622), and a possible Neolithic mortuary enclosure (MWI12491).
- **AG19D Normanton Down barrow group – south-east** contains two scheduled round barrows (1009624), ten scheduled bowl barrows (1009625; 1010871; 1010872; 1010880; 1010885) and a non-designated undated circular enclosure (MWI13124).

#### Description

This is a very extensive group, which spans over 1.5km north to south and a similar distance east to west. Scheduled monuments within the group include 43 bowl barrows, seven disc barrows, four bell barrows, one pond barrow, one saucer barrow as well as a linear boundary and three long barrows. Non-designated assets include a long mortuary enclosure to the south-west and some further possible barrows identified from aerial photographs and geophysical survey. At least one of the barrows has been identified as a possible earlier henge.\* The majority of the barrows within this group survive as extant and prominent earthworks. While some have been truncated or levelled by modern agricultural activity, surrounding ditches and possible satellite features are also thought to survive as below-ground archaeological remains. The survival of below ground remains has been confirmed by recent geophysical survey.

Topographically the core of the group lies on a broad north-west to south-east aligned, slightly elevated, area of ground. The monuments occupy an area of mainly agricultural land along with some small areas of woodland. The core of the Normanton Down cemetery lies within pasture and within the Normanton Down Nature Reserve. Land divisions are formed by post and wire fences with occasional scattered shrubs. BOATs AMES11 and AMES12 traverse the area on a roughly north-east / south-west alignment.

\* The group extent adopted for this assessment is larger than that usually Attributed to the Normanton Down cemetery. The core of the traditionally-identified Normanton Down round barrow cemetery consists of 28 round barrows, including 17 bowl barrows, seven disc barrows, three bell barrows and a saucer barrow on a broad north-west to south-east alignment, potentially focused on a Neolithic long barrow. Further smaller groups of barrows lie to the south, north, south-west, west and east. Within the cluster of barrows in the northern part of the group is the monument often referred to as the ‘Sun Barrow’ (NHLE 1012370), which lies on the same solstitial axis as Stonehenge.

### Condition of the Asset Group

The 2010–2011 condition survey (Wessex Archaeology 2012) noted that most of the Normanton Down barrows were in fair condition, although some no longer have surviving earthworks. A few barrows at the east of the group had experienced negative change since the previous survey in 2002. Most barrows were subject to slow deterioration, with some displaying moderate deterioration. Three barrows east of BOAT AMES11 (NHLE 1009614) were assessed as highly vulnerable. Many barrows were impacted by mole burrowing, while one was impacted by badgers and another by rabbits. Several were impacted by sheep grazing. Barrows in Normanton Gorse were impacted by trees and bushes, and several barrows in the central group were impacted by dispersed and encroaching scrub. The site visit in May 2018 noted some impeded vegetation growth and resulting erosion on the side of the Sun Barrow arising from spoil from badger setts and / or stock erosion.

### Attributes of setting

Setting makes a high contribution to the significance of the group and its component elements. The group comprises numerous very large, upstanding monuments. They are prominent features, visible over extensive distances. Individually and collectively they have intrinsic visual interest and are a key landmark. The fact that part of the group lies within a modern agricultural landscape somewhat diminishes its overall quality of setting, but the core of the group occupies open pasture, which is reasonably close to what is assumed to have been its environment at the time of the monuments' creation. They remain some of the most legible monuments within the WHS and a tangible illustration of prehistoric funerary activity.

Their group setting is easily apparent, the concentration of monuments equalling that found anywhere else in the WHS. Topographic setting is another important element. Both within the Stonehenge landscape and nationally, barrows are often situated in locations where other monuments would have potentially been visible. The Normanton Down barrows can be seen as being part of this tradition of 'conspicuous barrows'.

The group shares inter-visibility with a number of other barrow cemeteries including Winterbourne Stoke Crossroads (AG12), the Diamond Group (AG13), Lake Barrows (AG16), Wilsford Barrows, King Barrow Ridge (AG26) and Stonehenge Bottom / Luxenborough Barrows (AG24) as well as barrows around Stonehenge (AG21, AG22) and Coneybury Hill. Some limited inter-visibility is also possible between the group and the western end of the Greater Cursus (AG23). Views from and to these monuments are therefore considered to substantially contribute to the significance of the asset.

Stonehenge itself is positioned within a low basin, with a number of barrows / groups situated on the low ridges surrounding it including Normanton Down as well as Stonehenge Down (AG21), the Cursus Barrows (AG18, AG28) and King Barrow Ridge (AG26). From Stonehenge, the barrows are a significant feature against the skyline and inter-visibility with Stonehenge is therefore considered to contribute to the significance of the asset. The

relationship between Stonehenge and the barrows along the main east-west ridge may be more significant since these barrows appear to represent a single phase of construction and potentially the burial ground for certain select individuals.

Due to the topography the barrow cemetery is also very striking in views from south and can also be seen to dominate any approach to Stonehenge from the south, with the monument complex only coming into view on this ridge. The Stonehenge stone circle is positioned on the midwinter sunset-midsummer sunrise solstitial axis and the 'Sun Barrow' to the south-west can be seen to continue this alignment. The relation between these two elements is therefore suggested to be particularly significant.

Key views include:

- West to Winterbourne Stoke Crossroads (AG12) and The Diamond (AG13);
- To and from Stonehenge (AG22), in particular the solstitial alignment between the Sun Barrow and Stonehenge;
- South and south-west to the Lake Barrows (AG16) and Wilsford barrows;
- North-east to King Barrow Ridge (AG26) and Stonehenge Bottom / Luxenborough Barrows (AG24);
- North to Stonehenge Barrows (AG21) and the Cursus Barrows (West) (AG18); and
- East to Coneybury Henge and Associated Monuments (AG29).

Although the situation of the group is predominantly within open ground, the current presence of mature trees around the scheduled barrows of Normanton Gorse obscures some of this inter-visibility, as does the woodland around the Cursus Barrows (West) and the Lake Barrows. It is also notable that, within the group, there are three long barrows which may have formed an early focus for the development of the cemetery. Inter-relationships between these three long barrows and long barrows at Winterbourne Stoke Crossroads and The Diamond may therefore be significant. However, due to later barrows, intervening woodland and the levelling of some of the long barrows, this inter-visibility is no longer very obvious.

For assets with such sweeping views, it is also inevitable that other modern landscape elements are visible. A pig farm is prominent, along with other agricultural buildings and – distantly – pylons and buildings at Larkhill. Large construction cranes were also visible against the skyline at the time of the site visits. Overall, however, the A303 and the pig farm are the dominant modern element, with other structures lacking prominence.

### **Integrity of the Asset Group**

#### **Wholeness**

All assets are located within the WHS boundary.

#### **Intactness**

The majority of the barrows within this group survive as prominent extant earthworks.

While some of the examples have been truncated or levelled by modern agricultural activity, surrounding ditches and possible satellite features are also thought to survive as below ground archaeological remains. The survival of below ground remains has been confirmed by recent geophysical survey (e.g. Wessex Archaeology 2017a).

Many of the barrows were excavated in the 19<sup>th</sup> century by William Cunnington and Sir Richard Colt Hoare, these and more recent investigations (e.g. Wessex Archaeology 1993; 2002) have demonstrated that the funerary and other archaeological remains survive and thus retain their integrity. However, archaeological excavation is, by nature, a destructive process. Consequently, the integrity of the barrows may have been affected by past excavations of the monuments, although this has been partially offset by the information gathered by these investigations, and the enhanced understanding of their place within the wider Stonehenge landscape.

### Threats

Although the Asset Group lies within agricultural land, the majority of the barrows remain as upstanding earthworks and have been taken out of cultivation even where situated within arable land. An area within the Asset Group containing the main linear cemetery is also now an RSPB Nature Reserve. However, barrows within the western part of the group have been levelled by modern ploughing. Continued ploughing of these features, in particular any increase in plough depth, has the potential to further truncate the surviving archaeological remains. Non-designated barrows and features within the group, as well as possible satellite and associated features which lie outside the scheduled monument areas, may also be at risk from plough damage even where the upstanding earthworks are preserved.

Two of the bowl barrows and a disc barrow, as well as the scheduled section of the linear earthwork, lie within Normanton Gorse. While their situation is likely to have protected them from agricultural activity, tree roots have the potential to cause damage to below ground archaeological remains due to bioturbation.

### Authenticity of the Asset Group

Factors that preserve or enhance the authenticity of the Asset Group include:

- Information obtained from antiquarian and modern investigations, which have shaped current understanding of Neolithic and Bronze Age societies that constructed and used the monuments, and enhanced the authenticity of interpretations;
- Ongoing research since the inscription of the WHS, which has provided new sources of information and opportunities for understanding these assets and their relationships within the wider cultural and natural landscape of the WHS;
- The inclusion of the majority of the monuments within grass downland, which

enables an appreciation of the original, open landscape character setting;

- The potential for archaeological deposits and features surviving which can enhance and add to our knowledge not just of these kinds of monuments but also of our understanding of the WHS as a whole;
- A number inter-visible relationships between this Asset Group and other contemporary monuments; and
- The very limited extent of modern reconstruction of the monuments (exceptions to which are noted below).

Factors that reduce or diminish the authenticity of the Asset Group include:

- The levelling of some of the barrows which reduces their legibility within the wider monumental landscape; and
- Key views / relationships between the monuments within this Asset Group and other monuments within the WHS which have been obscured by plantations.

These factors diminish the ability of the Asset Group to fully convey the OUV of the WHS, in particular Attribute 5, '*the siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other*'.

### Contribution to the Attributes that convey the OUV of the WHS

The monuments within this Asset Group convey the Attributes of OUV in the following ways:

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

While many of the burial mounds in the WHS have been subject to excavations in the 19th century, this in itself forms a significant part of their history as the interest of early antiquarians such as Sir Richard Colt Hoare and William Cunnington helped shape both modern archaeology and our interest and understanding of the Stonehenge and its wider landscape.

Even where monuments have no upstanding earthworks surviving, there is still the potential for below ground remains to survive, as well as other possible associated features which may have never had an earthwork component.

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

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

Due to the inter-relationship between the placement of monuments in association with landscape features and their placement in relation to other earlier and contemporary monuments these two Attributes of the OUV will be discussed in tandem.

The group is one of several 'conspicuous barrow' cemeteries in the Stonehenge landscape including Winterbourne Stoke Crossroads (AG08) and Old and New King Barrows (AG16) which share inter-visibility between themselves and Stonehenge (AG18) (Peters 2000).

Although the majority of the barrows in the group appear to be in the slightly later Wessex tradition, there is a cluster of Beaker burials at the western edge of the Asset Group with sightlines to the long barrows to the west at Winterbourne Stoke Crossroads (AG08) and The Diamond (AG09).

The prominence of the cemetery from the south, coupled with its inter-visibility with Stonehenge suggests it may have had a key significance with regards to approaches to Stonehenge from this direction (Woodward 2000, 131–2; Exon et al. 2000, 88–91, Needham et al. 2010). Some authors suggest a link between the high-status burials within the group and the Stonehenge Monument (Needham et al. 2010; Darvill 2016, 21).

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

While the influence of astronomy on several key monuments within the Stonehenge landscape is widely acknowledged, the location of barrow cemeteries is generally thought to be influenced by the landscape setting and in reference to other monuments with no clear evidence of any links to astronomical targets (Ruggles 1997, 221–223).

There has been some suggestion that long barrows may be orientated towards the sun-climbing or sun-rising parts of the sky (Chadburn and Ruggles 2017, 41) which does include a broad arc of possible alignments. The long barrows within the Asset Group exhibit three distinctly different alignments (north-north-east to south-south-west, east to west, north-north-west to south-south-east) and their possible connection to astronomical movement cannot be said to be conclusive.

The 'Sun Barrow' appears to continue the midwinter sunset-midsummer sunrise solstitial alignment south-west of Stonehenge (Field and Pearson 2011, 6) and therefore contributes to this Attribute of OUV.

It has also been suggested that a connection between the ridgeline where the main core of the barrow group is situated and the winter solstitial axis '*might have formed a 'pathway' linking the generic and timeless ancestors and gods of the henge to the specific, named ancestors set along the ridge*' (Needham et al. 2010, 31–2).

#### **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.**

The barrows within this group add to the concentration of significant features within the WHS. In particular Sun Barrow (1012370) and the Bush Barrow (1009618) are particularly well-known and influential barrows within this Asset Group.

### **7. The influence of the remains of Neolithic and Bronze Age funerary and ceremonial monuments and their landscape settings on architects, artists, historians, archaeologists and others.**

The Asset Group forms part of the wider cultural landscape around Stonehenge which has provided inspiration to artists and archaeologists from at least the 18th century. A number of barrows within the group were opened by the eminent antiquarians Sir Richard Colt Hoare and William Cunnington (Barret and Bowden 2010; Bowden et al. 2012). Lord Pembroke and William Stukeley also investigated examples within the group in the 1720s (ibid.). Their interest in the antiquities of the Stonehenge area was key to the development of the modern discipline of archaeology.

### **Contribution to the Integrity of the WHS**

The Asset Group comprises a defined and prominent group of round barrows within which archaeological remains are anticipated to survive, and as such it is an important contributor to several Attributes of OUV.

Barrows within the group, most notably the Sun Barrow, are thought to have key associations with the Stonehenge monument (AG22).

### **Contribution to the Authenticity of the WHS**

The barrow cemeteries within this Asset Group contain some of the most prominent upstanding earthworks in the WHS and are tangible examples of past prehistoric funerary activity. Our understanding of this activity is confirmed and enhanced by antiquarian excavations in the 18th and 19th centuries and modern archaeological investigations.

### **Assessment of significance and value**

The Asset Group's contribution to OUV is related to the tangible evidence it provides for the following Attributes of OUV:

- 2. The physical remains of the Neolithic and Bronze Age funerary and ceremonial monuments and associated sites.
- 3. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape.
- 4. The design of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the skies and astronomy (with particular reference to the

Sun barrow).

- 5. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other.
- 6. The disposition, physical remains and settings of the key Neolithic and Bronze Age funerary, ceremonial and other monuments and sites of the period, which together form a landscape without parallel.
- 7. The influence of the remains of Neolithic and Bronze Age funerary and ceremonial monuments and their landscape settings on architects, artists, historians, archaeologists and others.

In accordance with Table 3, the Normanton Down Asset Group is assessed as **Very High value**.

### Existing baseline

The A303 runs across the northern part of the group, dividing a cluster of three upstanding barrows (NHLE 1012369) from all others. It is extremely close to these monuments, and to the upstanding long barrow NHLE 1008953. The setting of all of these monuments is heavily compromised by traffic noise and visual intrusion. During twilight and at night, light pollution from traffic headlights is also apparent.

These impacts apply to most elements of the group of which all bar NHLE 1012369 are physically severed from the northern part of the WHS. The magnitude generally lessens with distance to the south but in practically all cases the impact upon individual monument settings is significant. The exceptions to the visual intrusion (though noise is still apparent) are those monuments standing within Normanton Gorse. Key monuments are affected, notably the Sun Barrow (NHLE 1012370), which is not only subject to the general effect of noise and visual intrusion, but whose interconnection with Stonehenge along the midwinter sunset-midsummer sunrise solstitial axis is both visually and physically interrupted. The core of the group (NHLE 1009618; 1009614; 1009615) also have views towards Stonehenge and other northerly elements of the WHS in which traffic movement and noise are a dominant, distracting element. These impacts are experienced from publicly-accessible viewpoints, notably those along BOATs AMES11 and AMES12.

The existing A303 is assessed as having a **Moderate Negative** impact on Attributes of OUV of the WHS conveyed by this Asset Group, resulting in a **Large Adverse** effect.

### Assessment of impact of Scheme

The Scheme would remove the existing A303 surface road from much of the WHS, including where it intersects with the Normanton Down group.

The decommissioned A303 would be converted to a restricted byway, allowing the Asset Group to be reconnected to three bowl barrows immediately north of the A303 on

Stonehenge Down. This would physically reunite the numerous monuments within the group with those in the northern part of the WHS, which would do much to restore their setting, general sense of place, and the visitor's ability to appreciate them within a seamless landscape. Amongst other benefits of this situation would be enhanced access, enabling an uninterrupted traverse between Stonehenge and the Normanton Down ridge along BOATS AMES11 and AMES12. However, westwards of the portal where the road would run in cutting, severance would persist.

The proposed tunnel runs beneath the long barrow 250m north of Normanton Gorse (NHLE 1008953). This would not have any impact as the tunnel would be at least 10m below archaeological horizons at this point.

### **Impact on fabric**

The Asset Group would not be physically impacted by the Scheme. The Scheme would result in **No Change**.

### **Impact on setting**

*AG19A Normanton Down barrow group – north:* The three bowl barrows to the north of the A303 on Stonehenge Down (NHLE 1012369) would also have long distance views to the west down the course of the dualled A303 carriageway.

The tunnel's western portal is located c.580m beyond the western limit of the group, with the road running in vertical cutting to the westernmost element of the WHS and in sloped cutting beyond. Lighting would be hooded and directional to minimise light spill from the western portal mouth. The barrows would have long distance views to the west down the course of the dualled A303 western approach road in cutting, beyond the end of the canopy.

However, views of traffic would not be available, while traffic noise would be very greatly reduced due to the tunnelled section of the Scheme and deep cutting. Nevertheless, for those elements of the Asset Group close to the western portal, there would be adverse effects. The 200m canopy over the cutting would not entirely remove the sight and sound of traffic, and neither would the proposed 150m long Green Bridge Four. Traffic noise would be audible around the cuttings, however the cuttings on the tunnel approaches would minimise the propagation of traffic noise from the A303, compared to the existing alignment on the surface. There are likely to be long distance views from the top of the Sun Barrow (bell barrow situated 50m north of Normanton Gorse and 170m south of the A303; NHLE 1012370) to the west down the course of the dualled A303 carriageway in cutting (see ES Chapter 6, Cultural Heritage: Appendix 6.9, Figure 13). It is assessed that this would constitute an impact resulting in both **Minor negative change** and **major positive change**.

*AG19B Normanton Down barrow group – central and AG19C Normanton Down barrow group – south-west.* The removal of the visual and audible impacts of traffic would be beneficial to the setting of the group as a whole. Views from numerous individual monuments would be improved, and compromised sightlines restored. This includes key views noted above, including those between the Sun Barrow and Stonehenge, and between Stonehenge and the core of the Normanton Down group. It is assessed that this would constitute a **Major Positive Change**.

*AG19D Normanton Down barrow group – south-east.* These elements of the Asset Group would also benefit from the removal of the visual and audible impacts of traffic and the restoration of sightlines. However, these benefits are tempered by distance, so it is assessed that this would only result in a **Minor Positive Change**.

No key archaeological materials that contribute to the OUV of the Asset Group would be impacted. The Scheme would, however, impact upon the relationship between monuments at the western end of the Normanton Down Group (*AG19A Normanton Down barrow group – north*) and the long barrows and later barrows at Winterbourne Stoke Crossroads (*AG12*) and The Diamond (*AG13*). The Scheme would therefore impact upon the Asset Group's expression of two Attributes of OUV:

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

This constitutes a change to Attributes that convey the OUV of the WHS and accordingly, is assessed as a Major Change. It is not considered that the Scheme would result in a loss of the Attributes of OUV conveyed by the Asset Group, or the total alteration of the resource, because this Asset Group also conveys these Attributes through:

- Relationships with other groups, especially Stonehenge (*AG22*), in particular the solstitial alignment between the Sun Barrow and Stonehenge;
- Inter-visibility with the Lake Barrows (*AG16*) and Wilsford barrows to the south-west, views north-east to King Barrow Ridge (*AG26*) and Stonehenge, Bottom / Luxenborough Barrows (*AG24*), views north to Stonehenge Barrows (*AG21*) and the Cursus Barrows (West) (*AG18*) and east to Coneybury Henge and Associated Monuments (*AG29*).

While the Scheme does not restore a pristine setting, the removal of the existing A303 would bring about a substantial improvement in the setting of the group and its constituent elements. This would involve **Minor Negative, Minor Positive and Moderate Positive Change**.

### Significance of effect

The Scheme would remove the existing A303 surface road from the central part of the WHS, including where it intersects with the Normanton Down group. This would physically reunite the numerous monuments within the group with those in the northern part of the WHS, which would do much to restore their setting, general sense of place, and the visitor's ability to appreciate them within a seamless landscape. Amongst other benefits of this situation would be enhanced access, enabling an uninterrupted traverse between Stonehenge and the Normanton Down ridge along Byways AMES 11 and AMES 12. It is noted, however, that westwards of the portal where the road runs in cutting, that severance would persist, although it would be partly relieved by Green Bridge Four.

While the Scheme does not restore a pristine setting, the removal of the A303 would bring about an improvement in the setting of the group and its constituent elements.

The removal of the visual and audible impacts of traffic would be beneficial to the setting of the group as a whole. Views from numerous individual monuments would be improved, and compromised sightlines restored. These include key views noted above, including those between the Sun Barrow and Stonehenge, and between Stonehenge and the core of the Normanton Down group. The tunnel's western portal is located beyond the limit of the group, with the road running in vertical cutting to the western limit of the WHS and in sloped cutting beyond. Views of traffic would not be available, while traffic noise would be very greatly reduced, and inaudible from the core of the group.

The significance of effect on elements of the Asset Group is assessed as follows:

- AG19A Normanton Down barrow group – north: **Slight Beneficial** (derived from **Minor Negative Change** and **Major Positive Change** to **Very High** value assets)
- AG19B Normanton Down barrow group – central and AG19C Normanton Down barrow group – south-west: **Large Beneficial** (derived from **Moderate Positive Change** to **Very High** value assets)
- AG19D Normanton Down barrow group – south-east: **Moderate Beneficial** (derived from **Minor Positive Change** to **Very High** value assets)

Taking account of the Very High value of the Asset Group and in accordance with Table 5, and combining the **Slight**, **Moderate** and **Large Beneficial** effects on setting, the overall significance of effect of the Scheme on AG19 Normanton Down Barrows Group is assessed overall as **Moderate Beneficial** (derived from **Moderate Adverse** and **Slight**, **Moderate** and **Large Beneficial** impacts on a Very High value asset).

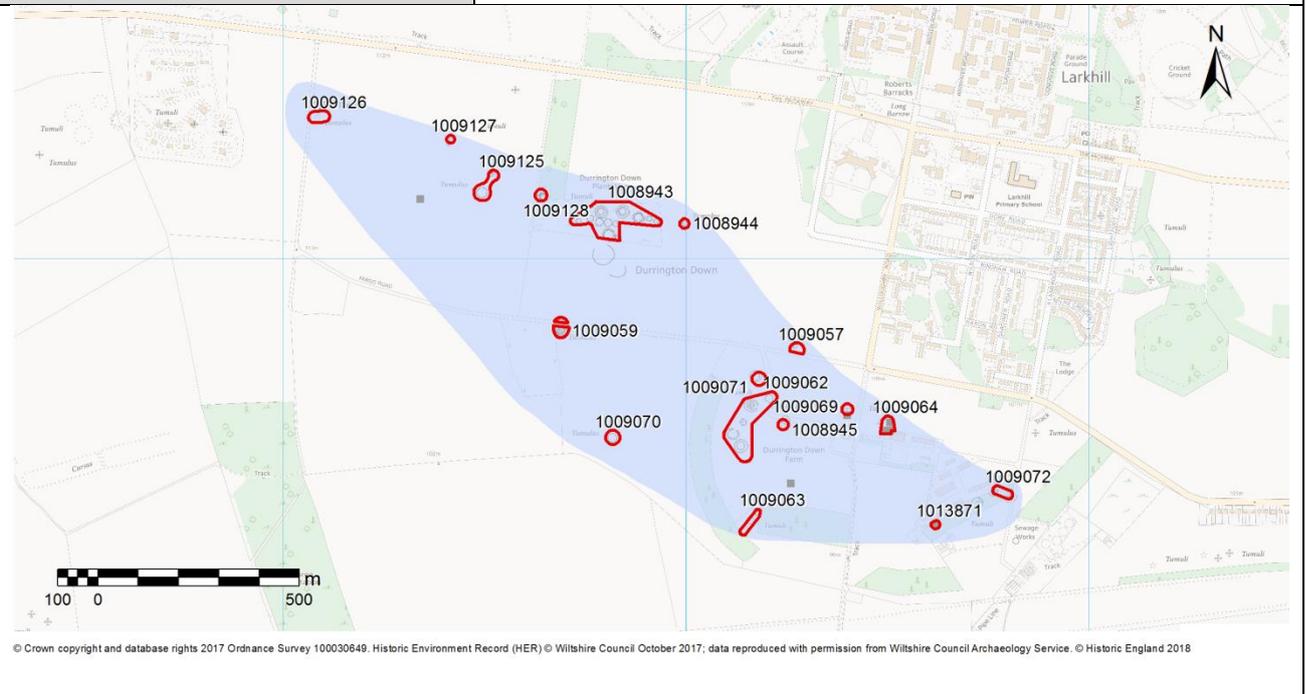
### Proposed mitigation

Archaeological monitoring would be undertaken on the removal of hardstanding material from the course of the existing A303 to create a restricted byway.

<b>Value of Asset Group AG19 (Normanton Down Barrows)</b>		Very High
Impact of the existing A303 and associated roads and infrastructure on the Attributes of OUV expressed by the Asset Group		Moderate
Significance of effect of existing A303 and associated roads and infrastructure on the Attributes of OUV expressed by the Asset Group		Large Adverse
<b>Scale and severity of change / impact of Scheme</b>	Fabric	No Change
	Setting	Minor Negative, Minor Positive and Moderate Positive Change
<b>Significance of effect of Scheme, taking into account embedded mitigation (design)</b>		Moderate Beneficial
<b>Significance of effect of Scheme, following proposed additional mitigation</b>		Moderate Beneficial

### AG20 Durrington Down Barrows

<b>Designation:</b>	Scheduled monument
<b>Reference IDs:</b>	1008943, 1008944, 1008945, 1009057, 1009059, 1009062, 1009063, 1009064, 1009069, 1009070, 1009071, 1009072, 1009125, 1009126, 1009127, 1009128, 1013871, MWI12701, MWI12703, MWI12704, MWI12706, MWI12707, MWI12708, MWI12709, MWI12710, MWI12733, MWI12734, MWI12735, MWI12736, MWI12737, MWI12738, MWI12739, MWI12740, MWI12741, MWI12742, MWI12750, MWI12767, MWI12768, MWI12809, MWI12824, MWI12829, MWI12830, MWI12832, MWI12833, MWI12834, MWI12835, MWI12836, MWI12837, MWI12838, MWI12839, MWI12840, MWI12841, MWI12842, MWI12843, MWI12844, MWI12845, MWI12846, MWI12511, MWI12661, MWI12702, MWI12765, MWI12828, MWI12831
<b>Location (NGR):</b>	412024 143755



### Constituent elements of Asset Group

Scheduled monuments within the Asset Group comprise:

- 32 or 33 scheduled bowl barrows; list entry 1009062 records four bowl barrows but there is only clear evidence for three;

- 3 scheduled disc barrows;
- 4 scheduled saucer barrows; and
- 1 scheduled pond barrow.

In addition to the scheduled monuments listed above, the Asset Group contains:

- 3 further possible bowl barrows recorded in the HER (MWI12661; MWI12702; MWI12765);
- 2 potential pond barrows recorded in the HER, though most likely to be modern military features (MWI12828; MWI12831); and
- A Bronze Age crouched inhumation burial (MWI12511).

### Description

The Asset Group covers a broad area of land to the south, south-west and west of Larkhill Camp occupying the edge of the higher ground occupied by the camp.

This Asset Group contains both two nucleated cemeteries and several outliers and small groups of barrows. The first nucleated cemetery lies within Durrington Down Plantation and comprises nine bowl barrows, two disc barrows and two saucer barrows within a central group as well as three bowl barrows and a pond barrow as possible outliers to the east and west. The second nucleated cemetery lies west of Durrington Down Farm and contains two saucer barrows and three (or four) bowl barrows with two outlying bowl barrows to the north-west and south-east. The other barrows include single barrows, pairs of barrows and groups of three. The discovery of an inhumation burial at some distance from the recorded barrows suggests potential for graves across a wider area.

Preservation of the barrow earthworks is variable, although the majority within the largest nucleated cemetery near Durrington Down Plantation still survives as relatively well preserved extant earthworks, whilst only two within the Durrington Down Farm group survive as slight earthworks.

The barrows within this group do not occupy a highly elevated position but lie just on the edge of higher ground to the north and north-east. They would be most visible from the south and south-west. There may have been a visual association between this Asset Group and the Lesser Cursus Barrows (AG11) and Cursus Barrows (West) (AG18).

Although some of the barrows have been reduced or been levelled by modern activity, archaeological and palaeoenvironmental remains with the potential to add to our understanding of funerary practices, landscape, technology and society are likely to survive. Partial excavations of the barrows in the 19<sup>th</sup> century, including by the notable antiquarian Sir Richard Colt Hoare, have also confirmed the survival of archaeological and palaeoenvironmental deposits and remains.

The assets have clear archaeological interest and, in part due to their context within the wider Stonehenge Neolithic and Bronze Age landscape, are nationally significant.

### Condition of the Asset Group

The 2010–2011 condition survey (Wessex Archaeology 2012) noted that many of the barrows, particularly in the east of the group, had no surviving earthworks above ground. In the west, barrows were in good condition. Some central examples were in fair or poor condition. Most barrows were stable or deteriorating slowly. A few barrows were affected by rabbit burrowing and some by sheep grazing. Many barrows were impacted by trees or bushes.

### Attributes of setting

The majority of the Asset Group lies within agricultural land to the south, south-west and west of residential development associated with Larkhill Camp. The south-eastern part of the Asset Group lies around Durrington Down Farm. Several small plantations lie within the land covered by the Asset Group, many of which are composed of coniferous trees. While outside the envelope of barrow cemeteries that surround the low basin within which Stonehenge is situated, there is the potential for glimpsed views between the south-eastern part of the Asset Group and Stonehenge (AG22). However, due to the intervening coniferous woodland at present, these views are currently not possible. Due to the low-lying position of Stonehenge it is unlikely to have been prominent in views from the group though the barrow cemetery itself may have been visible on the skyline in views from Stonehenge. Although also not currently readily legible due to intervening woodland, views between the Asset Group and barrows within the Lesser Cursus Barrows (AG11) and Cursus Barrows (West) (AG18), may also have contributed to the significance of the Asset Group. Although there are some limited views between barrows within the group, there are no clear significant views between the Asset Group and other monuments. Despite the proximity of local roads and residential development there is little intrusive traffic noise or light pollution.

### Integrity of the Asset Group

#### Wholeness

All the elements of this Asset Group are located within the WHS.

#### Intactness

The majority of the barrows are noted as extant earthworks on the OS maps of 1880 and 1887 and into the early 20<sup>th</sup> century. However, by the 1961 OS map, several barrows had been levelled and further reductions in some of the barrows were noted in the later 20<sup>th</sup> century. Earthworks have been reduced due to agricultural activity and the construction of roads and tracks.

Many of the barrows were excavated in the 19<sup>th</sup> century by Sir Richard Colt Hoare who also found evidence for earlier investigations. His results demonstrated that the funerary and other archaeological remains survive. However, archaeological excavation is, by nature, a destructive process. Consequently, the integrity of the barrows may have been affected by past excavations, although this has been partially offset by the information gathered by these investigations, and the enhanced understanding of their place within the wider Stonehenge landscape.

### Threats

Several of the barrows have been reduced or levelled in the later 20<sup>th</sup> century. The group currently lies within MOD land, so the condition of the barrows is now monitored and the extant earthworks are now largely fenced off to protect them from impacts from agriculture and burrowing animals.

Several of the barrows lie within modern plantation. While this has protected them from plough damage there are likely to be impacts from root disturbance.

### Authenticity of the Asset Group

Factors that preserve or enhance the authenticity of the Asset Group include:

- Investigations undertaken by the notable antiquarian Sir Richard Colt Hoare have provided evidence which has enhanced our understanding of these monuments and provided information and inspiration for future research of other barrow groups in the Stonehenge landscape; and
- Although the integrity of several of the barrows is reduced above ground, others survive as visible intact earthworks.

Factors that reduce or diminish the authenticity of the Asset Group include:

- Possible key views between the Asset Group and other contemporary monuments have been obscured by modern plantations. This diminishes the ability of the Asset Group to fully convey the OUV of the WHS, in particular Attribute 5, '*the siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other*'.

### Contribution to the Attributes that convey the OUV of the WHS

The monuments within this Asset Group convey the Attributes of OUV in the following ways:

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

Many of the barrows within this group are known to have been investigated by Sir Richard Colt Hoare in the early 19<sup>th</sup> century. This is significant part of their history as the interest of early antiquarians helped shape both modern archaeology and our interest and understanding of the Stonehenge landscape.

Even where monuments have no upstanding earthworks surviving, there is still the potential for below ground remains to survive, as well as other possible associated features which may have never had an earthwork component.

Accordingly, it is assessed that monuments within this Asset Group express this Attribute of OUV.

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

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

Due to the inter-relationship between the placement of monuments in association with landscape features and their placement in relation to other earlier and contemporary monuments, these two Attributes of the OUV will be discussed in tandem.

This Asset Group is located on the edge of the higher ground now occupied by Larkhill Camp. Inter-visibility and views from the south, south-west and west may once have been significant.

Some barrow cemeteries, particularly the early barrows, may be sited in reference to earlier monuments such as Neolithic long barrows, henges and the Greater Cursus (AG12) (Exon et al. 2000, 71). As the majority of the barrows were excavated in the 19<sup>th</sup> century detailed dating is not known though several are thought to have been in the slightly later 'Wessex' tradition. Views to the cursus and Stonehenge may once have been possible from the southern part of the Asset Group but these are no longer legible due to intervening woodland plantation.

**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 barrows within this group add to the concentration of significant features within the WHS. Whilst elements of the group are currently obscured by vegetation, and the inter-visibility from this location to several other barrow cemeteries is compromised, they can still be understood as part of the wider monumental landscape.

**7. The influence of the remains of Neolithic and Bronze Age funerary and ceremonial monuments and their landscape settings on architects, artists,**

**historians, archaeologists and others.**

The Asset Group forms part of the wider cultural landscape around Stonehenge which has provided inspiration to artists and archaeologists from at least the 18<sup>th</sup> century. Several barrows within the Asset Group were investigated by the antiquarian Sir Richard Colt Hoare, who himself found evidence of earlier excavations.

**Contribution to the Integrity of the WHS**

The Asset Group contains two nucleated barrow cemeteries along with other small groups and outliers within which archaeological remains are anticipated to survive, and as such it is an important contributor to several of the Attributes of the OUV of the WHS.

**Contribution to the Authenticity of the WHS**

The Asset Group contains upstanding earthworks and buried archaeological remains which are a tangible illustration of past prehistoric funerary activity within the WHS. Our understanding of this activity is confirmed and enhanced by 19<sup>th</sup> century archaeological investigations.

**Assessment of significance and value**

The Asset Group’s contribution to OUV is related to the tangible evidence it provides for the following Attributes of OUV:

- 2. The physical remains of the Neolithic and Bronze Age funerary and ceremonial monuments and associated sites.
- 3. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape.
- 5. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other.
- 6. The disposition, physical remains and settings of the key Neolithic and Bronze Age funerary, ceremonial and other monuments and sites of the period, which together form a landscape without parallel.
- 7. The influence of the remains of Neolithic and Bronze Age funerary and ceremonial monuments and their landscape settings on architects, artists, historians, archaeologists and others.

In accordance with Table 3, the Durrington Down Barrows Asset Group is assessed as being of **Very High value**.

**Existing baseline**

The Durrington Down Barrows currently experiences setting impacts from the rat-running

traffic along the Packway. The A303 is distant and not intrusive. The existing A303 is assessed as having **No** impact on Attributes of OUV of the WHS conveyed by this Asset Group, resulting in a **Neutral** effect.

### Assessment of impact of Scheme

It is anticipated that the Scheme would reduce rat-running and traffic jams on the Packway to the north of the Asset Group. The tunnel would result in extending the high load route from Longbarrow Junction, heading north up the A360, following the B3086 to the Packway, east along the Packway then following the A3028 south-east past Bulford to re-join the A303. There would still be a high load and diversionary route within or adjacent to the Asset Group.

It is anticipated that the Scheme would reduce rat-running and traffic jams on the Packway. However, there would still be considerable traffic volume on the Packway and the A345, including for the high load route. Impacts from the use of adjacent roads as a proposed diversionary route would be temporary and infrequent.

#### Impact on fabric

The Asset Group would not be physically impacted by the Scheme. The Scheme would result in **No Change**.

#### Impact on setting

It is assessed that the Durrington Down Barrows Asset Group would experience an impact resulting in **Negligible Negative** and **Negligible Positive Change**.

### Significance of effect

Taking account of the Very High value of the asset and in accordance with Table 5, the overall significance of effect of the Scheme on AG20 Durrington Down Barrows would be **Slight Beneficial** (derived from a **Negligible Negative** and **Negligible Positive Change** to a **Very High** value asset).

### Proposed mitigation

No mitigation is proposed, as there are no direct physical impacts.

#### Value of Asset Group AG20 (Durrington Down Barrows)

Very High

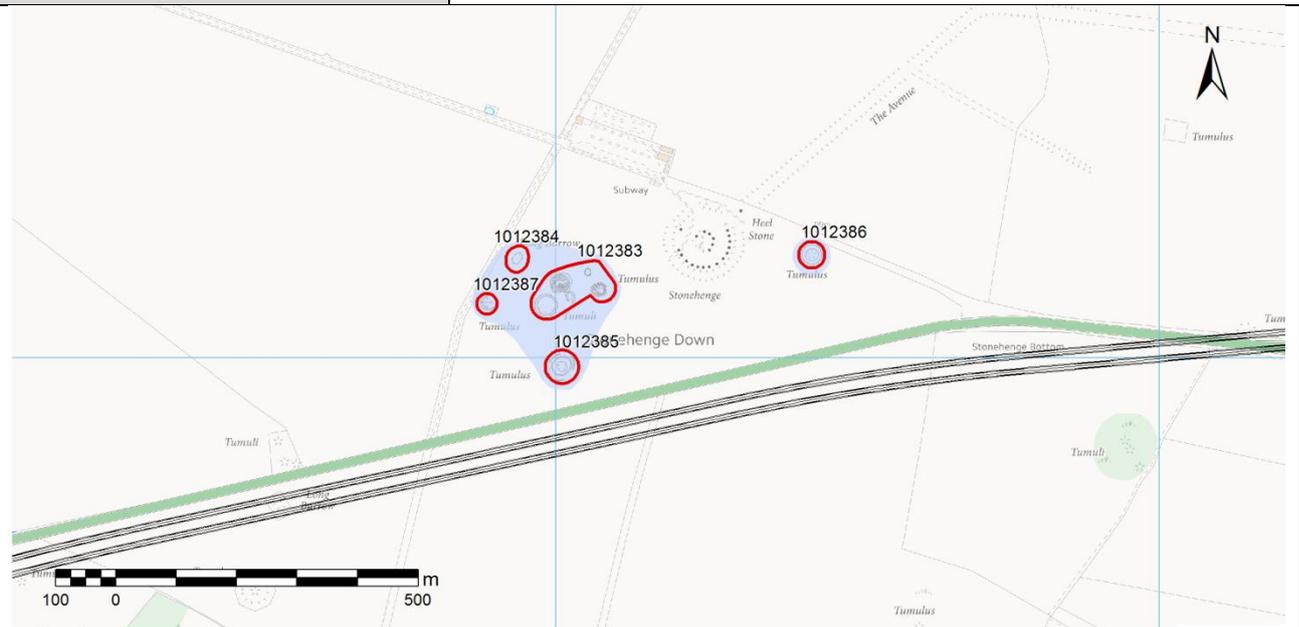
Impact of the existing A303 and associated roads and infrastructure on the Attributes of OUV expressed by the Asset Group

None

Significance of effect of existing A303 and associated roads and infrastructure on the Attributes of OUV expressed by the Asset Group		Neutral
<b>Scale and severity of change / impact of Scheme</b>	Fabric	No Change
	Setting	Negligible Negative and Negligible Positive
<b>Significance of effect of Scheme, taking into account embedded mitigation (design)</b>		Slight Beneficial
<b>Significance of effect of Scheme, following proposed additional mitigation (residual effect)</b>		Slight Beneficial

## AG21 Stonehenge Down Barrows

<b>Designation:</b>	Scheduled monuments
<b>Reference IDs:</b>	1012383, 1012384, 1012385, 1012386, 1012387, MWI12440, MWI12890, MWI12891, MWI12892, MWI12893, MWI12894, MWI12895, MWI12916, MWI13029
<b>Location (NGR):</b>	412021 142095



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## Constituent elements of Asset Group

The Asset Group contains nine individual prehistoric monuments located in close proximity to Stonehenge on Stonehenge Down. They lie within the triangular parcel of land bounded by the A303, the former A344 and BOAT AMES12, sometimes referred to as the Monument Field, or the Stonehenge Triangle (though some authorities, such as Richards (1990) use the latter term to refer to a larger area, extending as far west as the A360).

The Asset Group consists of five scheduled monuments:

- Five bowl barrows forming the greater part of a round barrow cemetery 200m south-west of Stonehenge on Stonehenge Down (NHLE 1012383; also known as Amesbury 5–9);
- Bowl barrow 230m west of Stonehenge forming part of a round barrow cemetery on Stonehenge Down (NHLE 1012384; Amesbury 10a);
- Disc barrow 220m south-west of Stonehenge forming part of a round barrow

<p>cemetery on Stonehenge Down (NHLE 1012385; Amesbury 10);</p> <ul style="list-style-type: none"> <li>– Bell barrow 100m east of Stonehenge immediately south of the A344 (NHLE 1012386; Amesbury 11); and</li> <li>– Bowl barrow 300m west-south-west of Stonehenge, forming part of a round barrow cemetery on Stonehenge Down (NHLE 1012387; Amesbury 4).</li> </ul>
<p><b>Description</b></p>
<p>The monuments are included within five scheduled areas. Two of the monuments, the disc barrow to the south of Stonehenge (Amesbury 10; NHLE 1012385) and the bell barrow to the east (Amesbury 11; NHLE 1012386) survive as prominent earthworks; the others within the group have all been reduced in height by cultivation.</p> <p>The Stonehenge Triangle is pasture. The surrounding landscape also contains occasional parcels of woodland. These include clumps of mixed deciduous trees, largely planted in the 19<sup>th</sup> century, such as those on King Barrow Ridge to the east and Winterbourne Stoke Clump to the west. There are also numerous 20<sup>th</sup> century coniferous plantations within the viewshed, particularly to the south of Larkhill Camp. The largest block of woodland evident from the location of the group is the Fargo Plantation, situated c. 1km to the north-east and coinciding with the western end of the Greater Cursus.</p> <p>The existing route of the A303 trunk road is clearly visible cutting through the landscape from east to west to the south of the Asset Group. BOAT AMES12 also traverses the WHS on a roughly north-south alignment approximately 200m to the west of Stonehenge. Vehicular traffic is now prevented from using the A344 from BOAT AMES12 to Airman’s Corner, although the route is still used by transit buses from the Stonehenge Visitor Centre.</p>
<p><b>Condition of the Asset Group</b></p>
<p>The 2010–2011 condition survey (Wessex Archaeology 2012) noted that extant barrows were in fair or poor condition, and either stable or only subject to slow deterioration. The group was subject to mole burrowing. One monument was impacted by sheep.</p>
<p><b>Attributes of setting</b></p>
<p>The Asset Group’s position at the heart of the WHS ensures that the importance of its relationships with the monumental henge complex and the surrounding cultural and natural landscape, although not fully understood in detail, remain broadly legible. It has an archaeological and group setting, not least with Stonehenge, and intrinsic visual interest. Key views include:</p> <ul style="list-style-type: none"> <li>– Views from Stonehenge towards the monuments assigned to the Asset Group;</li> </ul>

- Views from the individual components of the Asset Group towards Stonehenge;
- Views towards the barrows sited prominently on King Barrow Ridge (AG26), Normanton Down (AG19), the western end of the Greater Cursus (AG23) and those grouped on more distant ridges;
- Views from various vantage points in the surrounding landscape in which the constituents of the Asset Group (particularly the prominent mound of Amesbury 11; NHLE 1012386) are visible in conjunction with Stonehenge. These include views:
  - Views captured by celebrated artistic depictions of Stonehenge
  - Views experienced by visitors approaching Stonehenge from the direction of the new Stonehenge Visitor Centre
  - Views experienced whilst approaching Stonehenge from the east, along the A303
- Views towards the Greater Cursus (AG23), which enable the impressive scale of the monument to be appreciated along with its continued influence during the construction and use of the monuments; and
- Panoramic views towards Stonehenge from multiple vantage points across the WHS, particularly from the barrow groups clustered on the surrounding ridges.

There are several elements in the setting of Asset Group that detract from the observer's experience and appreciation of the monuments' significance. These elements also adversely affect the Integrity of the WHS and several of the Attributes that convey its OUV. This has impacted the ability of the observer to perceive important relationships between the group and other prehistoric sites and monuments or potentially significant aspects of the natural landscape, as well as the agency and motivations of those who constructed the monuments. The main elements comprise:

- The existing A303 (see above) and other roads;
- The surrounding landscape of intensive, industrial scale arable farming;
- Larkhill Camp;
- Plantations;
- Overhead cables and pylons within the wider landscape; and
- Other modern development within the WHS.

### **Integrity of the Asset Group**

#### **Wholeness**

All the necessary Attributes are located within the WHS.

#### **Intactness**

The survival of the above ground elements of the monuments is variable. Two of the

monuments, the bell barrow to the east of Stonehenge (Amesbury 11; NHLE 1012386) and the disc barrow to the south (Amesbury 10; NHLE 1012385), retain prominent earthworks. However, the remainder of the group appear to have been considerably reduced in height by ploughing, or to facilitate ploughing, probably during the 19<sup>th</sup> century (Field and Pearson 2011, 28–9).

Several of the monuments were partially excavated in the early 19<sup>th</sup> century by Sir Richard Colt Hoare and William Cunnington, who considered that some may have previously been investigated by William Stukeley and Lord Pembroke (Field and Pearson 2011, 29–31). This has affected the physical integrity of the monuments. However, presumably the buried remains of unexcavated portions of the monuments remain intact where they have not been subject to other sources of disturbance. Geophysical surveys of the monuments (e.g. Payne 1995, Linford et al. 2012) have indicated that their buried remains are likely to survive relatively well.

### Threats

There are currently no significant threats to the physical remains of the monuments. However, the integrity of the setting of the Asset Group continues to be adversely affected by several factors, detailed above.

The SoOUV makes specific reference to the impact of busy main roads on the Integrity of the WHS. The 2015 WHS Management Plan reiterates this, describing the major roads as the '*main adverse impact of development on integrity*' (Simmonds and Thomas 2015, 35). The closure of the A344 since 2013 has improved the visual integrity of the Asset Group and key views across the WHS as a whole, although the A303 continues to adversely affect the integrity of its setting, and its visual relationships with other components of the cultural landscape of the WHS.

### Authenticity of the Asset Group

Factors that preserve or enhance the Authenticity of the Asset Group include:

- Information obtained from antiquarian and modern investigations, which have shaped current understanding of Neolithic and Bronze Age societies that constructed and used them, and enhanced the authenticity of interpretations;
- Ongoing research since the inscription of the WHS, which has provided new sources of information and opportunities for understanding these assets and their relationships with the wider cultural and natural landscape of the WHS;
- The inclusion of the monuments within the grass downland of the heart of the WHS, which enables an appreciation of their original, open landscape character setting;
- Visitors can readily appreciate the location, setting and inter-relationships of the monuments within the Asset Group, particularly their association with Stonehenge.

Their inclusion within relatively accessible areas of the WHS is an important element of this. The diminished surface expression of some of the monuments reduces opportunities for visitors to the WHS to understand them in context. However, the buried remains are presumably largely well preserved, and the authenticity of the monuments is therefore unaffected; and

- The lack of modern reconstruction of the monuments.

### **Contribution to the Attributes that convey the OUV of the WHS**

The monuments within this Asset Group convey the Attributes of OUV in the following ways:

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

The monuments within this Asset Group form part of a wider concentration of Neolithic and Bronze Age funerary and ceremonial monuments. Together, these monuments illustrate the changing structure and organisation of the landscape within the WHS, and the shifting ways that societies articulated their beliefs.

Non-intrusive surveys of the monuments assigned to this Asset Group (Payne 1995; Linford et al. 2012; Pearson and Field 2011) have indicated that they exhibit a greater degree of complexity than had previously been recognised. These investigations also suggest that the physical remains of the monuments survive relatively well.

The physical remains, both above and below ground, of the individual monuments within this Asset Group have a high potential to contain important archaeological and palaeoenvironmental evidence pertaining to their construction, relative chronologies, territorial significance, and overall landscape context, in addition to information relating to the funerary and ceremonial practices, beliefs and social organisation of the communities that constructed them.

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

Recently, it has become apparent that some components of the Asset Group may have earlier origins than was once supposed, and could be the product of a long history of sequential development (Field and Pearson 2011). As a result, the relationship between the development of the Asset Group and Stonehenge may be more complex than it initially appears.

Whether or how various aspects of the natural landscape influenced the siting of the monuments is less apparent than with some other components of the WHS.

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

The proximity of the monuments to each other, and to Stonehenge clearly implies that they were deliberately sited in relation to each other. However, these relationships are only partially understood, and potentially more complex than this simple observation implies.

Though traditionally interpreted as round barrows (with the possible exception of Amesbury 10a; NHLE1012384), recent surveys have indicated that some of the elements of the Asset Group, such as Amesbury 7 and 9, may have originated as earlier and / or more unusual types of monument. In the absence of absolute dating evidence and modern controlled excavation, the precise character, chronology and developmental histories of the monuments are uncertain. Whilst acknowledging these gaps in knowledge, Field and Pearson discuss the implications arising from the possibility that some elements of these monuments may pre-date or be contemporary with the development of Stonehenge, suggesting that *'it is thus likely that the Stonehenge enclosure was not built in isolation but alongside and influenced by others as part of a range of related ceremonial monuments and activities within the immediate area'* (2011, 48).

If the earlier components of the Asset Group form part of a complex of interrelated monuments alongside Stonehenge, these may have had a role in influencing the siting of later barrows. In turn, it is possible that pre-existing monuments within the wider landscape may have influenced the siting of the Asset Group.

The form of some of the monuments assigned to the Asset Group also suggests that they were the product of more than one phase of construction, elaboration and alteration (Field and Pearson 2011, Linford et al. 2012). This would be consistent with the evidence from numerous other 'round barrows' investigated in the surrounding landscape, such as the 'Bulford Henges' (NHLE 1449706), or the Amesbury 71 barrow on Earls Farm Down (Christie 1967). Detailed examination of an increasingly large number of round barrows, combined with refinements in non-invasive survey techniques, have shown that many examples had a long history of sequential development, and sometimes incorporated earlier monuments, and / or elements such as segmented ditches, mortuary structures, circles of pits, posts or stakes, and in some cases, were used for multiple phases of burial. The earliest phases of some of these monuments may have played a primarily ceremonial rather than funerary role, perhaps only later being adapted for use as burial places, and the characteristic earthen mounds representing one of the latest phases of construction.

The monuments assigned to the Asset Group convey this Attribute of OUV in several respects, and hold considerable potential for future research.

**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 monuments assigned to the Asset Group occupy one of the most prominent locations in the WHS. The relationships between these monuments and other features of the cultural and natural landscape, particularly Stonehenge, still remain broadly legible, even if the specific meanings attached to these by prehistoric communities can no longer be fully understood. Although some elements of the group retain little surface expression, they nevertheless convey this Attribute of OUV.

**7. The influence of the remains of Neolithic and Bronze Age funerary and ceremonial monuments and their landscape settings on architects, artists, historians, archaeologists and others.**

The earthen mounds in the landscape surrounding Stonehenge were once more numerous and substantial than they appear today, the plough and the passage of time having since eroded many, and eradicated any surface traces of others. Their great antiquity has been recognised since well before John Aubrey and William Stukeley conducted their investigations in the late 17<sup>th</sup> and early 18<sup>th</sup> centuries. A great number of the burial mounds in the WHS, including several of those contained within this Asset Group, were subject to partial excavation in the 19<sup>th</sup> century and in some cases on earlier occasions.

This in itself forms a significant part of the history of the site, as the investigations carried out by antiquarians such as William Stukeley, Sir Richard Colt Hoare and William Cunnington promoted an interest in, and understanding of Stonehenge and its wider landscape, and greatly influenced the development of modern archaeology. Although they have not been subject to more recent excavations, the monuments located in close proximity to Stonehenge have continued to form the focus of research, with recent geophysical and earthwork surveys yielding new information that has the potential to advance understanding.

Although the iconic stones of Stonehenge have had a greater influence on our culture, art and imagination, they form only one part of a fossilised prehistoric landscape full of other monuments. The prominent location of these monuments close to Stonehenge has elicited a particular focus on them, such that they appear in numerous artistic depictions, often appearing in the backdrop to the stones, but occasionally in the foreground.

Although some of the components of the Asset Group are less prominent above ground than others, their location ensures that they are amongst the most conspicuous monuments within the WHS. They, and their contextual associations, are thus readily appreciated by the many visitors to Stonehenge.

### **Contribution to the Integrity of the WHS**

The Asset Group conveys several of the Attributes of OUV and is one of the key monument groups within the WHS. Recent research suggests that several monuments may have originated as earlier and more unusual forms of monument. Though variable, the survival of the physical remains of the monuments appears to be relatively good.

The associations of the monuments with each other and with Stonehenge illustrate the importance that seems to have been attached to the spatial and visual links between Neolithic and Bronze Age monuments. Although the specificities of these relationships are not fully understood, the close association between the monuments and Stonehenge is evident to the many visitors to the WHS. Future research has considerable potential to refine existing interpretations and understanding.

The presence and survival of the Asset Group therefore makes a strong contribution to the overall Integrity of the cultural landscape of the WHS.

### **Contribution to the Authenticity of the WHS**

The location and (in several cases) the prominent visibility of the monuments within this group renders them an important component of the WHS because visitors are able to appreciate the Attributes of OUV that the group expresses. Its survival contributes to the overall cohesiveness and legibility of the cultural landscape of the WHS, and thus also its authenticity.

The visible earthworks and surviving below ground archaeology have considerable potential to increase our understanding of Neolithic and Bronze Age societies.

### **Assessment of significance and value**

The Asset Group's contribution to OUV is related to the tangible evidence it provides for the following Attributes of OUV:

- 2. The physical remains of the Neolithic and Bronze Age funerary and ceremonial monuments and associated sites.
- 3. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape.
- 5. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other.
- 6. The disposition, physical remains and settings of the key Neolithic and Bronze Age funerary, ceremonial and other monuments and sites of the period, which together form a landscape without parallel.
- 7. The influence of the remains of Neolithic and Bronze Age funerary and ceremonial monuments and their landscape settings on architects, artists,

historians, archaeologists and others.

In accordance with Table 3, the Stonehenge Barrows Asset Group is assessed as of **Very High value**.

#### **Description of the current setting**

The monuments assigned to the Asset Group are situated in close proximity to Stonehenge on Stonehenge Down. They lie within the triangular parcel of land bounded by the A303, the former A344 and BOAT AMES12, sometimes referred to as the Monument Field, or the Stonehenge Triangle.

Stonehenge is situated in a rolling open landscape, much of which was historically under pasture. During the 20<sup>th</sup> century, large parts of the original downland were converted to arable cultivation. Much of the WHS remains arable in character today, with extensive fields laid across a large proportion of the wider landscape. However, large areas north of the A303, around Stonehenge and the monuments assigned to the Asset Group have been converted from arable to pasture since the 1920s and more recently by a policy of pasture reversion by the National Trust. Further areas to the south of the A303 have also been reverted to grassland with the aid of Defra grants and by the National Trust's pasture reversion policy.

The surrounding landscape also contains occasional parcels of woodland. These include clumps of mixed deciduous trees, largely planted in the 19<sup>th</sup> century, such as those on King Barrow Ridge to the east and Winterbourne Stoke Clump to the west. There are also numerous 20<sup>th</sup>-century coniferous plantations, particularly to the south of Larkhill Camp. The largest block of woodland evident from the location of the Asset Group is the Fargo Plantation, situated c. 1km to the north-east and coinciding with the western end of the Greater Cursus.

The existing route of the A303 trunk road is clearly visible cutting through the landscape from east to west to the south of the Asset Group. BOAT AMES12 also traverses the WHS on a roughly north – south alignment approximately 200m to the west of Stonehenge. Major changes to the road network have been completed since 2012 as part of the Stonehenge Environmental Improvement Project (SEIP). These have included the stopping up of the A344 between its junction with the A303 (Stonehenge Bottom) and its junction with BOAT AMES12. Vehicular traffic is now prevented from using the remainder of the A344 from BOAT AMES12 to Airman's Corner through a permanent traffic regulation order.

Today, few traces of the intensive use of this part of the Salisbury Plain area by the military from the late 19<sup>th</sup> century onwards, which included land within the WHS, are discernible from the location of the Asset Group. However, the presence of Larkhill Camp, c. 1.5km to the north is still evident in the form of distantly visible structures, partially screened by plantations.

Topographically, Stonehenge is located towards the western edge of a natural 'amphitheatre' some 2km in diameter. This area is bounded in the west by the high plateau forming Stonehenge Down, on the north by an east – west ridge on which is located the western section of the Cursus and its associated round barrow cemetery, on the east by a north – south ridge on which are sited the barrow cemeteries of New King Barrows and Old King Barrows (AG26) and the Coneybury Henge monument (AG29), and on the south by an east – west ridge on which is located the Normanton Down round barrow cemetery (AG19).

Aside from the striking presence of Stonehenge itself, it is the abundance of prominent archaeological sites and monuments within the surrounding landscape, one of the densest and most varied groups of Neolithic and Bronze Age monuments in Britain, which is amongst the most distinctive characteristics of the setting of the Asset Group.

### Existing baseline

The A303 runs immediately to the south of the Stonehenge Triangle. Its effects are very substantial:

- Visual intrusion of the road itself, its signage, and of traffic;
- Traffic noise;
- Light pollution;
- Severance and disruption of, or distraction from, key relationships with other monuments; and
- Restriction of visitor access to the remainder of the WHS, to the south of Stonehenge.

The A303 interrupts views of other broadly contemporary monuments:

- To the west towards the Winterbourne Stoke Crossroads and Diamond Group (AG12 and AG13);
- To the south-west towards the Lake Barrows (AG16);
- To the south towards the Normanton Down (AG19) and Wilsford Barrows;
- To the east towards the round barrow cemeteries on King Barrow Ridge (AG26); and
- To the south-east towards the Stonehenge Bottom / Luxenborough Barrows (AG24) and Coneybury Henge and Associated Monuments (AG29).

The A303 also interrupts views towards potentially significant natural features in the landscape:

- Towards the southern horizon; and
- Towards Stonehenge Bottom and the River Avon beyond, to the south-east.

The existing A303 is assessed as having a **Moderate** impact resulting in a **Large Adverse** effect.

### Assessment of impact of Scheme

The Scheme would remove the existing A303 surface road from the central portion of the WHS. The eastern portal brings traffic to the surface c. 1.7km away from the boundary of the Asset Group, while the western portal does so c. 1.2km distant, with traffic continuing in cutting beyond the WHS boundary 2.3km distant.

The Scheme would physically reunite the Stonehenge Barrows with the numerous monuments to the south, most immediately with those on Normanton Down, which would be more safely accessed than presently via BOATs AMES11 and AMES12. The removal of the visual and audible impacts of traffic on the A303 would also be extremely beneficial to the immediate environment, improving tranquillity, the visitor's sense of place, and their ability to appreciate the upstanding monuments of the group within a more seamless landscape. And, while the Scheme does not restore a pristine setting, the connections between these barrows and the adjacent Stonehenge monument would be perceived in greater isolation from modern infrastructure. Vastly improved views would include those northward from BOAT AMES12 on Normanton Down, southward from the Cursus Barrows, and westward from King Barrow Ridge. Sightlines compromised by the A303 would be restored, including all the key views noted above

The removal of the A303 would therefore bring about a substantial improvement but not all issues would be addressed by the Scheme. The wider setting within agricultural land would remain, as would overhead cables and pylons; the screening effect of plantations would persist; the northward prospect from the monument would remain unchanged; and modern development would continue to be visible more generally. The Scheme also does not include measures to restrict vehicle use of, and parking upon, the adjacent BOATs, with the result that vehicles would continue to be a prominent visual element in views of, from and including the Stonehenge Triangle.

#### Impact on fabric

The Asset Group would not be physically impacted by the Scheme. The Scheme would result in **No Change**.

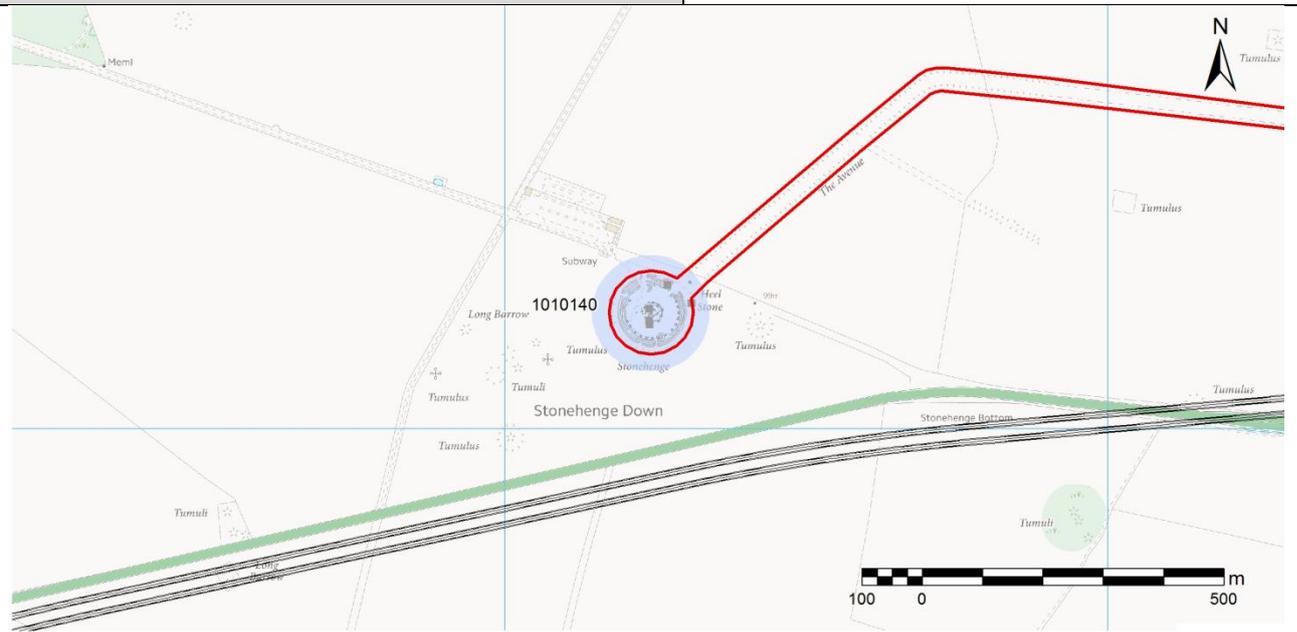
#### Impact on setting

It is assessed that the Stonehenge Down Asset Group would experience an impact resulting in **Major Positive Change**.

<b>Significance of effect</b>		
Taking account of the Very High value of the asset and in accordance with Table 5, Significance of effect assessment matrix, the overall significance of effect of the Scheme on AG21 Stonehenge Barrows would be <b>Very Large Beneficial</b> (derived from a <b>Major Positive Change</b> to a <b>Very High</b> value asset).		
<b>Proposed mitigation</b>		
No mitigation is proposed, as there are no direct physical impacts.		
<b>Value of Asset Group AG21 (Stonehenge Barrows)</b>		Very High
Impact of the existing A303 and associated roads and infrastructure on the Attributes of OUV expressed by the Asset Group		Moderate
Significance of effect of existing A303 and associated roads and infrastructure on the Attributes of OUV expressed by the Asset Group		Large Adverse
<b>Scale and severity of change / impact of Scheme</b>	Fabric	No Change
	Setting	Major Positive Change
<b>Significance of effect of Scheme, taking into account embedded mitigation (design)</b>		Very Large Beneficial
<b>Significance of effect of Scheme, following proposed additional mitigation (residual effect)</b>		Very Large Beneficial

**AG22 Stonehenge**

<b>Designation:</b>	Scheduled monument
<b>Reference IDs:</b>	1010140, MWI12442, MWI12450, MWI12515, MWI12517, MWI12520, MWI12914, MWI12915, MWI12919, MWI74644, MWI74646, MWI74647
<b>Location (NGR):</b>	412242 142193



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**Constituent elements of Asset Group**

The Asset Group consists of Stonehenge itself, comprising the monumental circular enclosure, stone settings, and associated buried remains and earthworks. The Avenue, which forms part of the same scheduling, is assigned to Asset Group AG27.

**Description**

Given its complexity, no description of the monument is offered here, a detailed summary is provided in ES Chapter 6, Cultural Heritage: Appendices 6.2 and 6.7.

Stonehenge is situated in a rolling open landscape, much of which was historically under pasture. During the 20th century, large parts of the original downland were brought into arable cultivation and much of the WHS remains arable in character today, with extensive fields laid across a large proportion of the landscape. However, substantial areas north of the A303, including around Stonehenge itself, have been converted from arable to pasture since the 1920s. Further areas to the south of the A303 have more recently been

reverted to grassland.

The surrounding landscape also contains occasional parcels of woodland. These include ridgeline clumps of mixed deciduous trees, largely planted in the 19th century, such as those on King Barrow Ridge and the Winterbourne Stoke Clump. There are also numerous 20<sup>th</sup>-century coniferous plantations, particularly to the south of Larkhill Camp. The largest block of woodland evident from Stonehenge is the Fargo Plantation, situated c. 1km to the north-east and coinciding with the western end of the Greater Cursus. Larkhill Camp itself, c. 1.5km to the north, is evident in the form of distantly visible structures, partially screened by plantations.

Located some 150m to the south of Stonehenge at its closest point, the existing route of the A303 is clearly visible as it cuts through the landscape on an east to west alignment. BOAT AMES12 also traverses the WHS on a roughly north-south alignment approximately 200m to the west of Stonehenge. Major changes to the road network have been completed since 2012 as part of the Stonehenge Environmental Improvement Project (SEIP). These have included the stopping up of the A344 between its junction with the A303 (Stonehenge Bottom) and its junction with BOAT AMES12. Only tourist transit buses and service vehicles now use the former A344, the eastern terminus of which now acts as the bus turning area.

Topographically, Stonehenge is located towards the western edge of a natural 'amphitheatre' c. 2km in diameter. This area is bounded in the west by the high plateau forming Stonehenge Down, on the north by an east-west ridge on which is located the western sector of the Cursus and its associated round barrow cemetery, on the east by a north-south ridge on which are sited the barrow cemeteries of New King Barrows and Old King Barrows and the Coneybury Henge monument, and on the south by an east-west ridge on which is located the Normanton Down round barrow cemetery. It is the abundance of prominent archaeological sites and monuments within the surrounding landscape – one of the densest and most varied groups of Neolithic and Bronze Age monuments in Britain – which is one of the most distinctive characteristics of the setting of Stonehenge. Prominent dry valleys, cut deeply into the surrounding downland, such as Stonehenge Bottom, are also distinctive features. The wooded slopes and floodplain of the River Avon, which form the eastern boundary of the WHS some 1.7km south-east of Stonehenge, are only distantly and intermittently perceptible above the intervening ridgelines.

#### **Condition of the Asset Group**

The 2010–2011 condition survey (Wessex Archaeology 2012) indicated that the monument was in fair condition, which had not changed since the previous survey in 2002. The monument was stable and in parts, deteriorating slowly. It was subject to impacts from rabbit burrowing.

## Integrity of the Asset Group

### Wholeness

Stonehenge comprehensively and recognisably conveys all the Attributes of OUV. Its status as ‘a globally famous and iconic monument’ is the basis of one of the defined Attributes that conveys the OUV of the WHS. The monument also expresses all of the remaining Attributes of OUV. The SoOUV repeatedly cites it as exemplifying numerous aspects of the criteria for which the WHS is inscribed.

### Intactness

Documented references to Stonehenge date back to at least the first half of the 12th century, when Geoffrey of Monmouth and Henry of Huntingdon gave their accounts of the monumental complex of ‘Stanenges’. Although it is likely that exploratory holes had long been dug within and around the monument, perhaps the earliest recorded excavations date to 1620, when George Villiers (later, the Duke of Buckingham) opened a trench within the stone settings while James I was staying nearby at Wilton. Stonehenge has since been subject to intense antiquarian and archaeological scrutiny (Pearson and Field 2010, 32–49), resulting in the excavation of a considerable proportion of the monument.

Although the inherently destructive act of excavation has diminished the integrity of the archaeological component of the monumental complex, recent intrusive investigations, such as those carried out as part of the Strumble Preseli Ancient Communities and Environment Study (‘SPACES’) and the Stonehenge Riverside Project, and the application of newly developed and recently refined non-intrusive techniques, have demonstrated that the site still retains huge potential for future research.

The henge complex is still a dominant feature in the landscape. Its form and design are well preserved, and visitors are able to appreciate that:

*[...] Stonehenge is one of the most impressive prehistoric megalithic monuments in the world on account of the sheer size of its megaliths, the sophistication of its concentric plan and architectural design, the shaping of the stones, uniquely using both Wiltshire Sarsen sandstone and Pembroke Bluestone, and the precision with which it was built [...]* (UNESCO 2013).

The recognised astronomical associations of the monument remain intact and legible, as do many of the key relationships with other prehistoric monuments and aspects of the natural landscape that may have held meaningful associations. For example, the SoOUV states that:

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

*ceremonial and astronomical character.*' (UNESCO 2013).

### Threats

The site is subject to sensitive and informed management, and any proposals that may be perceived to affect, or have the potential to affect the monument are subject to intense public scrutiny. Highly effective controls are in place to protect, promote, conserve and enhance the WHS, as outlined in the 'Protection and Management Requirements' section of the SoOUV (UNESCO 2013).

The statement on Integrity contained within the SoOUV states that the 'Provision of buffer zones or planning guidance based on a comprehensive setting study should be considered to protect the setting of both individual monuments and the overall setting of the property'. Although these measures have been considered on several occasions (Simmonds and Thomas 2015), no formal setting study or dedicated guidance has yet been prepared, and no buffer zones have been established.

The SoOUV makes specific reference to the impact of busy main roads on the Integrity of the WHS. The 2015 WHS Management Plan reiterates this, describing the major roads as the '*main adverse impact of development on integrity*' (Simmonds and Thomas 2015, 35). At the time of inscription, the UK Government agreed to remove the A344 road to reunite Stonehenge and its Avenue and improve the setting of the stone circle. This was finally achieved in 2013, with the closure of the A344. The associated construction of the new Stonehenge Visitor Centre represented a major effort to improve the setting of the monument and to enhance the visitor experience. Further opportunities to reverse the impact of past development, deterioration or neglect are regularly explored. Amongst the most dramatic successes in recent times has been the reversion of large parts of the surrounding landscape to downland grazing.

Whilst the physical integrity of the monument is not exposed to any significant threats, there are factors that adversely affect the integrity of its setting. In particular, the A303 continues to harm the integrity of Stonehenge as a key component of the WHS. The A303 is a dominant visual element and causes considerable aurally intrusive effects. The road also cuts off Stonehenge from the wider landscape to the south, restricting visitor access, and intervenes in key astronomical alignments, and visual relationships with interrelated monuments and elements of the natural landscape that may have held meaning for Neolithic and Bronze Age people. These impacts were acknowledged at the time of the inscription of the WHS. The SoOUV states that '*The A303 continues to have a negative impact on the setting of Stonehenge, the integrity of the property and visitor access to some parts of the wider landscape. A long-term solution remains to be found.*' (UNESCO 2013).

The 2009 WHS Management Plan (English Heritage 2009) noted that traffic levels had increased since the WHS was inscribed in 1986. The current management plan also reiterates this (Simmonds and Thomas 2015, 35), stating that '*These impacts have not*

*largely changed in form though there is now a greater impact from increased traffic. More intensive use of the roads has an impact on the visual and tranquil enjoyment of the Site.'*

### **Authenticity of the Asset Group**

Ongoing research since the inscription of the WHS has strengthened our understanding of Stonehenge and its relationships with the wider cultural and natural landscape, and thus enhanced the Authenticity of the WHS.

The formal statement on Authenticity attached to the SoOUV states that '*Interventions have been limited mainly to excavations and the re-erection of some fallen or buried stones to their known positions in the early and mid-twentieth century in order to improve understanding*'.

Martin Barber (2014, 3) has stated that '*Stonehenge – both the stone settings and the surrounding earthworks – were subjected to more intervention and alteration during the 20<sup>th</sup> century than at any point since the mid-2<sup>nd</sup> millennium BC*'. Barber presents a detailed exploration of this, which focusses on the '*circumstances surrounding three key episodes – the appearance in 1881 of some timber supports; the straightening and concreting of the massive Stone 56 in 1901; and the uncompleted 'repairs' of 1919-20*', as well as the controversy that has surrounded these interventions both at the time, and subsequently. The effect of modern interventions, restorations or (for some) 'reconstructions' continues to elicit debate in relation to the Authenticity of the monument and the wider WHS, and the manner in which they have been presented.

The SoOUV statement on Authenticity acknowledges that the original ceremonial use of the monument is unknown, but goes on to highlight that it, along with Avebury, retains 'spiritual' significance for some and that '*many still gather at both stone circles to celebrate the Solstice and other observations*', before observing that '*Stonehenge is known and valued by many more as the most famous prehistoric monument in the world.*'

The 2015 WHS Management Plan (Simmonds and Thomas 2015, 36) states that:

*'Stonehenge itself is recognised throughout the world as a symbol of Britain as well as a masterpiece of great antiquity. This recognition has probably increased over the last two decades through the increase in access to digital media across the world, and the coverage of the recent visitor centre project.'*

The A303 does not just harm the integrity of the monument, it also adversely affects its authenticity. The UNESCO Operational Guidelines (2017, para. 82) state that:

*'Depending on the type of cultural heritage, and its cultural context, properties may be understood to meet the conditions of authenticity if their cultural values (as recognized in the nomination criteria proposed) are truthfully and credibly expressed through a variety of Attributes including:*

- form and design;*
- materials and substance;*

- *use and function;*
- *traditions, techniques and management systems;*
- *location and setting;*
- *language, and other forms of intangible heritage;*
- *spirit and feeling; and*
- *other internal and external factors.'*

The impact of the A303 on several of these aspects is limited in relation to Stonehenge, particularly the 'materials and substance', and the 'form and design' of the monument. However, the road has a greater adverse effect on the 'location and setting', and the 'spirit and feeling' of Stonehenge, which reduces the ability to appreciate the 'truthfulness' of the evidence for OUV.

### **Contribution to the Attributes that convey the OUV of the WHS**

The monuments within this Asset Group convey the Attributes of OUV in the following ways:

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

The 2015 WHS Management Plan (Simmonds and Thomas 2015, 32 para. 2.3.11) states that:

*'This monument is both an important and enduring symbol of man's prehistoric past, and an internationally recognised symbol of Britain. It is difficult to overstate its importance as one of the best-known and most inspirational monuments in the world.'*

The SoOUV states that Stonehenge itself is one of the principal factors in justifying the inclusion of the site on the World Heritage List:

'SoOUV criterion 1:

*Stonehenge is the most architecturally sophisticated prehistoric stone circle in the world. It is unrivalled in its design and unique engineering, featuring huge horizontal stone lintels capping the outer circle and the trilithons, locked together by carefully shaped joints. It is distinguished by the unique use of two different kinds of stones (Bluestones and Sarsens), their size (the largest weighing over 40t), and the distance they were transported (up to 240km) [...].'*

The WHS is of OUV for the following qualities:

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

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

The 2015 WHS Management Plan (Simmonds and Thomas 2015, 32 para. 2.3.11) states that *'[...] it is considered that Stonehenge, the most architecturally sophisticated stone circle in the world, is a masterpiece of human creative genius. This monument, a focal point within the WHS, survives well and is unrivalled in its design and unique engineering.'*

Stonehenge itself is also of profound archaeological interest. Its potential to yield new information about the communities that constructed and used the monument has been demonstrated repeatedly throughout its long history of archaeological enquiry.

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

The 2015 WHS Management Plan (Simmonds and Thomas 2015, 33 para. 2.3.15) states that *'It is now known that the monuments of Durrington Walls and Stonehenge were linked via their Avenues to the River Avon and possibly thence to each other.'*

It is evident that, at least by the time of the Avenue's construction, some meaningful association was formed between Stonehenge and the River Avon. In an attempt to explore this, Parker Pearson and Ramilisonina (1998) have speculated that there was a dualistic relationship in which Stonehenge was associated with the dead, whilst Durrington Walls was seen as the land of the living, with the Avon forming part of a processional route between the two.

From a broader landscape perspective, the surrounding topography may also have held meaningful associations. Stonehenge is situated within a natural 'amphitheatre' surrounded by ridges, which modulates inter-visibility across the surrounding landscape and towards the horizon, including views to and from the barrow cemeteries on the ridges surrounding the henge. It has also been suggested that the earliest earthwork component of the henge might deliberately represent a microcosm of the local 'bowl-like' landscape (Darvill 1997, 179–181). The prominent dry valley running down into Stonehenge Bottom is another potentially significant landscape feature.

The 2015 WHS Management Plan (Simmonds and Thomas 2015, 102–3) states that the *'change in viewpoints of key monuments such as Stonehenge and Silbury Hill suggest that anticipation and expectation in the form of views and movement towards monuments may have been an important element of historic ceremonies and rituals'*. Topography would have been a key factor in designing these experiences.

Other localised variations in landform may also have influenced the siting of Stonehenge. For instance, it has been suggested that a low oval mound, possibly of natural origin, just to the south of the centre of the monument, underlying a number of fallen stones, may partially explain the location of the monument (Bowden et al. 2015, 28).

Stonehenge may have been deliberately sited in relation to other natural features in the landscape. For instance, excavations carried out during the Stonehenge Riverside Project identified a series of natural features which were interpreted as having possibly '*influenced prehistoric people's choices of where to build this monument*' (Parker Pearson et al. 2008, 24). These included north-east to south-west aligned periglacial stripes within the Avenue. It was also suggested, '*more controversially, perhaps*' (Bowden et al. 2015, 28), that the Avenue banks themselves are at least partly modelled on natural ridges. Although a seemingly insignificant and entirely natural phenomenon, it was noted that these features happen to be aligned on the midsummer sunrise / midwinter sunset solstice axis. This led the researchers to claim that:

*'This remarkable coincidence of geological landform on a solstitial axis has to be considered as a feature which was meaningful to people of the 3<sup>rd</sup> millennium BC, so much so that they later embellished it by heightening the ridges with artificial banks flanked by ditches. This discovery, may explain one aspect of why Stonehenge is located where it is (ibid.).'*

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

The 2015 WHS Management Plan (Simmonds and Thomas 2015, 33 para. 2.3.15) states that:

*'A number of sites within the WHS are aligned on the midsummer sunrise and midwinter sunset axes, for example, Stonehenge, Woodhenge and parts of the Stonehenge Avenue. At Stonehenge, this factor appears to have been an extremely important one from the earliest stages of the monument and throughout its subsequent development. The midwinter sunrise–midsummer sunset solstitial axis may also be of importance. In addition, the solstitial sightline extending south-eastwards from the southern circle at Durrington Walls is of importance as well as the north-west to south-east axis of the station-stone rectangle at Stonehenge, which remains the most plausible and striking manifestation of a possible alignment upon the moon when close to its extreme most southerly rising or most northerly setting points.'*

Several theories emerged during the 1960s and 1970s, suggesting that Stonehenge may have functioned as a form of astronomical observatory or computing device to predict eclipses. However, it has become accepted by many authorities in recent years that evidence for assertions of this nature is lacking, and that the principal astronomical alignment at Stonehenge is its orientation towards the north-east, the direction of the midsummer solstice sunrise, and to the south-west, towards the direction of the midwinter solstice sunset (Ruggles 1997; Chadburn 2010; Chadburn and Ruggles 2017). In particular, there is a '*growing consensus that the midwinter sightline was more important than the midsummer one*' (Chadburn and Ruggles 2017, 51).

As summarised by Chadburn and Ruggles (2017), the significant astronomical alignments at Stonehenge comprise:

- Stone settings at Stonehenge (Bluestone and Trilithon horseshoes, Bluestone Circle, Sarsen Circle, Slaughter Stone and its companion, Heel Stone and its companion), and the relevant sightlines and horizons. Aligned on midwinter sunset (but could also be midsummer sunrise); north-east to south-west;
- Stonehenge Avenue (straight segment closest to Stonehenge) and the relevant sightlines and horizons. Aligned on midwinter sunset (but could also be midsummer sunrise); north-east to south-west; and
- Stonehenge Station-Stone Rectangle and the relevant sightlines and horizons (north-west – south-east). Aligned on most southerly moonrise / most northerly moonset and midsummer sunrise / midwinter sunset.

In addition, discoveries made during the Hidden Landscapes Project included two huge pits within the Greater Cursus, positioned on the solstitial alignment of the midsummer sunrise and midwinter sunset when viewed from the Heel Stone at Stonehenge. This may be evidence for a link between the earlier Cursus monument and Stonehenge, possibly related to processional activity and the astronomical associations of the henge (Anon 2011; Gaffney et al. 2012).

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

The 2015 WHS Management Plan (Simmonds and Thomas 2015, 33 para. 2.3.18) states that:

*'[...] from Stonehenge itself, a number of important barrow groups are visible, such as those on King Barrow Ridge and Normanton Down. These barrow cemeteries were deliberately built on prominent ridgelines and are clearly visible from Stonehenge, and indeed from each other, as well as from other monuments such as the Cursus. Other barrow groups further away, such as the Lake Barrows, would also have been visible from Stonehenge.'*

Depending on the extent and location of tree cover, and the prominence of any upstanding earthworks, many of the prehistoric funerary and ceremonial monuments within the WHS both earlier and later than Stonehenge itself, would have shared inter-visibility with the monument.

It is apparent that the monuments within the WHS were often deliberately sited in relation to one another. Views and sightlines may have held meaningful associations for the communities that constructed these monuments. Although the precise motivations driving this phenomenon cannot be deciphered from a modern perspective, the spatial associations and visual relationships between monuments and the wider landscape provide evidence for the agency, beliefs and preoccupations of prehistoric societies. In addition to inter-visibility, spatial and contextual associations, including alignment and

proximity, may have also been meaningful. Key examples include:

- The Greater (AG23) and Lesser Cursus monuments (AG15), and the barrows clustered around them, to the north;
- The barrow groups sited on Durrington Down (AG20), to the north of the Cursuses;
- The barrow groups sited on Normanton Down (AG19), to the south;
- New King Barrows and Old King Barrows (AG26) and the Coneybury henge monument (AG29) to the east;
- The barrows clustered around Stonehenge in close proximity, particularly the bell barrow known as Amesbury 15, or alternatively the Sun Barrow, (NHLE 1012370) and the disc barrow (NHLE 1012385) which are located on the midwinter sunset alignment to the south-west of Stonehenge, and the long barrow sited just off this alignment (NHLE 1008953) (AG19); and
- The Neolithic long barrows at Winterbourne Stoke (AG12) and Lake (AG16), and the later barrows clustered around them, on the south-western approach to Stonehenge.

It has been observed that:

*‘There are clusters of other monuments which are not visible from Stonehenge, and never would have been. For example, the complex of sites in the Durrington Walls area includes its avenue leading from the river to the henge, its associated settlement, Woodhenge, and other Neolithic and Bronze Age barrows and sites along the ridge south of Woodhenge.’* (Simmonds and Thomas 2015, 34 para. 2.3.19).

Recent interpretations have identified important associations between Stonehenge and other sites in the surrounding landscape, which would never have been visible from each other. For example, the link between Durrington Walls and Stonehenge formed by their avenues and the River Avon, as proposed by Parker Pearson and Ramilisonina (1998).

In some cases, restricted inter-visibility may have been an important element. For instance, the eastern sections of the Avenue (AG27) may have been aligned to structure views whilst processing along the route, until the monument is suddenly revealed on the final approach.

Although the precise function of the Avenue remains unclear, it is clearly an integral, albeit later component of the Stonehenge complex. It is evident that the monument links Stonehenge with the recently discovered West Amesbury Henge and the Avon. Part of its route also corresponds with the midsummer sunrise / midwinter sunset solstice axis at Stonehenge.

From c.3000 BC, the henge became an important focal point in this landscape, with later monuments, particularly round barrows, seemingly positioned in relation to it. There are also some suggestions of a deliberate (north-west to south-east) alignment between Stonehenge and later Beaker burials in Amesbury 56, Amesbury 54, the Fargo henge,

Amesbury 51 and the Stonehenge ditch (the Stonehenge Archer). However, Bowden et al. (2015, 53) have argued that *'the extension of this alignment to include the Coneybury and West Amesbury Henges and the 'Amesbury Archer' is more difficult to sustain'*.

It has long been suspected that the siting of Stonehenge was influenced by the presence of earlier monuments in the surrounding landscape. Recent research such as the Hidden Landscapes Project has indicated that, prior to the first phase of its construction, this landscape was populated with a greater density of pre-existing funerary and ceremonial monuments than previously thought. Many of these are no longer evident above ground. This raises the possibility that the relationships between the henge and other, earlier monuments may be more complex than it appears today.

## **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**

Stonehenge is legibly part of a cohesive, fossilised prehistoric landscape, containing a multitude of archaeologically significant sites and monuments, with complex contextual associations and relationships. This provides an outstanding illustration of the evolution of monument construction and of the continual use and shaping of the landscape over more than 2000 years, from the Early Neolithic to the Bronze Age.

## **7. The influence of the remains of Neolithic and Bronze Age funerary and ceremonial monuments and their landscape settings on architects, artists, historians, archaeologists and others**

The SoOuv notes that:

*'Since the 12th century when Stonehenge was considered one of the wonders of the world by the chroniclers Henry of Huntington and Geoffrey of Monmouth, the Stonehenge and Avebury sites have excited curiosity and been the subject of study and speculation. Since early investigations by John Aubrey, Inigo Jones, and William Stukeley, they have had an unwavering influence on architects, archaeologists, artists, and historians. The two parts of the World Heritage Property provide an excellent opportunity for further research.'* (UNESCO 2013).

Several summaries of recent archaeological research within the WHS have been published (e.g. Darvill 2016, Pitts 2018 and Historic England 2017. Darvill (2016, 21–2) also provides references to numerous studies focussing on the influence of the WHS on artists and the development of modern archaeology.

In describing this Attribute of OUV, the 2015 WHS Management Plan (Simmonds and Thomas 2015, 34 paras. 2.3.22–23) states that:

*'[...] Stonehenge has been depicted in a number of key views by artists of the British Romantic Movement of the 18<sup>th</sup> and 19<sup>th</sup> centuries [...] The WHS has been pivotal in the development of archaeology from early antiquarian investigations by*

*Aubrey and Stukeley in the late 17<sup>th</sup> and early 18<sup>th</sup> centuries. Both the Avebury and Stonehenge parts of the WHS have continued since then as an important focus for evolving archaeological practice and techniques.'*

The 2015 WHS Management Plan (Simmonds and Thomas 2015, 37) goes on to say that:

*'This Attribute is expressed most clearly in artworks and literature depicting or inspired by the WHS, many centred on the stone settings at Stonehenge or Avebury [...] Many such views remain largely unaffected by modern development apart from the major roads which can of course be an aspect of the artist's or writer's response to the WHS as seen in V S Naipaul's *The Enigma of Arrival* (1987). This position has not altered since 1986 apart from the increased volume and noise of road traffic. This Attribute is also expressed by the fact that the WHS has been one of the key areas in the development of landscape archaeology since the work of Stukeley and others in the 18<sup>th</sup> century.'*

The setting of Stonehenge is a key component of this Attribute of OUV. It follows that aspects of the current setting which detract from an appreciation of the influence of the monument on architects, artists, historians, archaeologists and others, for example by intruding in celebrated artistic depictions of the monument, could be viewed as potentially harmful to the OUV of the WHS. The existing route of the A303 in particular is singled out as an intrusive element of the setting of the monument.

Along with William Stukeley's numerous depictions (see HIA Annex 7 – Influences of the monuments and landscape of the Stonehenge part of the WHS on artists: Viewpoint 4, Stukeley's *Prospect from Bush Barrow*), works by John Constable and JMW Turner are amongst the most famous and celebrated artistic depictions of the monument. Many of the artistic works by the Romanticists and others are from viewpoints on Stonehenge Down, focussing on the stones as the main subject of the paintings. A number of famous works, including several by Turner, illustrate the view towards the stones from the east, encompassing the lines of the trackways which now coincide with the routes of the A303 and / or the former A344. These works typically evoke the remote and bleak aspect of the landscape in which the stones were located to emphasise the antiquity of the monument. Views from this location today present a very different scene in which the busy flow of traffic along the A303 is particularly intrusive.

### **Contribution to the Integrity of the WHS**

The henge complex is widely held to have been a major focus of ceremonial and funerary activity within the surrounding landscape. Stonehenge also dominates modern perceptions of the WHS, and, together with the associated Neolithic and Bronze Age monuments within the surrounding landscape, has exerted '*an unwavering influence on architects, artists, historians, and archaeologists*' (SoOUV; Criterion ii).

As one of the key or principal monuments of the WHS, it is held to '*exemplify the creative*

*genius and technological skills for which the property is inscribed* (SoOUV; Statement of Integrity). Its survival, along with the interrelated monuments within the WHS boundary, provides an *'outstanding illustration of the evolution of monument construction and of the continual use and shaping of the landscape over more than 2000 years'* (SoOUV; Criterion ii) and an *'Exceptional insight into the funerary and ceremonial practices in Britain in the Neolithic and Bronze Age'* (SoOUV; Criterion iii). Together with their settings and associated sites, these are deemed to form a 'landscape without parallel'. Stonehenge is fundamental to the overall Integrity of the WHS.

### Contribution to the Authenticity of the WHS

Stonehenge is integral to the overall Authenticity of the WHS; it exemplifies all of the Attributes of OUV and is central to interpretations of the cultural landscape of the WHS. The long history of investigation focussed on the monumental henge complex and its associations has profoundly shaped our wider understanding of prehistory, whilst ongoing research continues to yield new discoveries and refinements to existing knowledge.

### Assessment of significance and value

The Asset Group's contribution to OUV is related to the tangible evidence it provides for the following Attributes of OUV:

- 1. Stonehenge itself as a globally famous and iconic monument
- 2. The physical remains of the Neolithic and Bronze Age funerary and ceremonial monuments and associated sites.
- 3. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape.
- 4. The design of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the skies and astronomy.
- 5. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other.
- 6. The disposition, physical remains and settings of the key Neolithic and Bronze Age funerary, ceremonial and other monuments and sites of the period, which together form a landscape without parallel.
- 7. The influence of the remains of Neolithic and Bronze Age funerary and ceremonial monuments and their landscape settings on architects, artists, historians, archaeologists and others.

In accordance with Table 3, Method of the evaluation of heritage resources, the Stonehenge Asset Group is assessed as of **Very High value**.

## Existing baseline

The 'Protection and Management Requirements' section of the SoOUV states that '*The A303 continues to have a negative impact on the setting of Stonehenge, the integrity of the property and visitor access to some parts of the wider landscape*'. The 2015 WHS Management Plan reiterates this, describing the major roads as the '*main adverse impact of development on integrity*'.

The main aspects of the A303 and other roads that have an adverse effect on Stonehenge are:

- Visual intrusion of traffic and highway signage;
- Light pollution;
- Traffic noise, leading to loss of tranquillity;
- Severing or disruption of key relationships between monuments and natural features (including topography) in the landscape; and
- Restriction of visitor access to the WHS south of Stonehenge.

In physical terms, the A303 severs the Avenue, preventing movement along the monument and disrupting the important association between it and Stonehenge. The eastern section of the Avenue is also crossed by Stonehenge Road and the unnamed road between Vespasian's Camp and West Amesbury.

In visual terms, the A303 interrupts views of other associated monuments:

- To the west towards the Winterbourne Stoke Crossroads and Diamond Asset Groups;
- To the south-west towards the Lake Barrows Asset Group;
- To the south towards the Normanton Down and Wilsford Barrows Asset Groups;
- To the east towards the round barrow cemeteries on King Barrow Ridge; and
- To the south-east towards the Stonehenge Bottom / Luxenborough Barrows and Coneybury Henge and Associated Monuments.

The A303 interrupts views towards potentially significant natural features in the landscape:

- Towards the southern horizon; and
- Towards Stonehenge Bottom and the River Avon beyond, to the south-east.
- The A303 also intrudes into solstitial alignments:
  - from the Stonehenge station-stone rectangle to the south-east (southernmost moonrise); and
  - to the south-west, along the midwinter sunset alignment, intervening in the relationship between Stonehenge and other monuments, notably the 'Sun Barrow' immediately north of Normanton Gorse (Amesbury 15; NHLE 1012370).

Although less conspicuous than the A303, other roads also create visual and audible intrusion, as well as light pollution, for example along the Packway on the northern horizon, when viewed from Stonehenge.

The existing A303 is assessed as having a **Moderate** impact on Attributes of OUV of the WHS conveyed by this Asset Group, resulting in a **Large Adverse** effect.

### Assessment of impact of Scheme

The Scheme would remove the existing A303 surface road from the central portion of the WHS. The eastern portal brings traffic to the surface c. 1.7km away from Stonehenge, while the western portal does so c. 1.2km distant, with traffic continuing in cutting beyond the WHS boundary 2.3km distant.

The decommissioned A303 would be converted to a restricted byway, allowing Stonehenge to be reconnected to groups to the south. This would permit safe and ready visitor access into the southern part of the WHS using PRoW. The Scheme would physically reunite Stonehenge with the numerous monuments to the south, most immediately with those on Normanton Down, which would be more safely accessed than presently via BOATs AMES11 and AMES12. The removal of the visual and audible impacts of traffic on the A303 would also be extremely beneficial to the immediate environment of Stonehenge, improving tranquillity, the visitor's sense of place, and their ability to appreciate the monument within a more seamless landscape. And, while the Scheme does not restore a pristine setting, the Stonehenge monument would be perceived in greater isolation from modern infrastructure. Vastly improved views would include those northward from BOAT AMES12 on Normanton Down, southward from the Cursus Barrows, and westward from King Barrow Ridge.

Views towards and from numerous monuments would be improved, and sightlines compromised by the A303 restored in all directions. This includes key views noted above, including those between Stonehenge and the Sun Barrow; the Normanton Down and Wilsford barrows; the Lake Barrows; King Barrow Ridge; Stonehenge Bottom / Luxenborough Barrows; Coneybury Henge and Associated Monuments; and the Winterbourne Stoke Crossroads and the Diamond Asset Groups. Removing the existing A303 would reinstate important solstitial alignments to the south-east and south-west.

The free views of the monument available from the existing A303 could still be appreciated for free by NMUs as the course of the former route would be retained as a restricted byway.

The removal of the A303 would therefore bring about a substantial improvement in the setting of Stonehenge. However, not all issues would be addressed by the Scheme. The wider setting within agricultural land would remain, as would overhead cables and pylons; the screening effect of plantations would persist; solstitial axes would only be partially restored (Normanton Gorse, for example, blocks the south-west aligned axis immediately beyond the Sun Barrow); The northward prospect from the monument would remain unchanged and modern development would continue to be visible more generally. The

Scheme also does not include measures to restrict vehicle use of, and parking upon, the adjacent BOATs, with the result that vehicles would continue to be a prominent visual element in views of, from and including Stonehenge.

**Impact on fabric**

The Asset Group would not be physically impacted by the Scheme. The Scheme would result in **No Change**.

**Impact on setting**

It is assessed that the Stonehenge Asset Group would experience an impact resulting in a **Major Positive Change**.

**Significance of effect**

Taking account of the Very High value of the asset and in accordance with Table 5, the overall significance of effect of the Scheme on AG22 Stonehenge would be **Very Large Beneficial** (derived from a **Major Positive** impact on a **Very High** value asset).

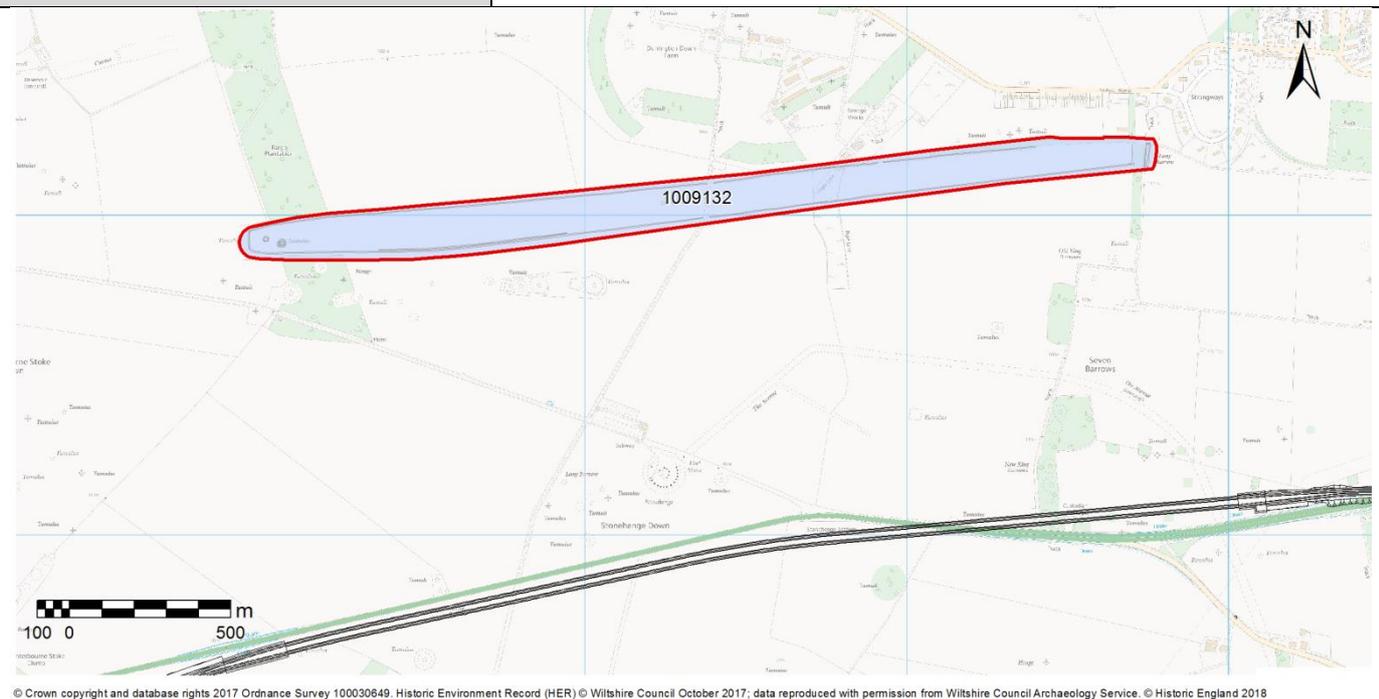
**Proposed mitigation**

No mitigation is proposed, as there are no direct physical impacts.  
Archaeological monitoring would be undertaken on the removal of hardstanding material from course of the A303 to create a restricted byway.

<b>Value of Asset Group AG22 (Stonehenge)</b>		Very High
Impact of the existing A303 and associated roads and infrastructure on the Attributes of OUV expressed by the Asset Group		Moderate
Significance of effect of existing A303 and associated roads and infrastructure on the Attributes of OUV expressed by the Asset Group		Large Adverse
<b>Scale and severity of change / impact of Scheme</b>	Fabric	No Change
	Setting	Major Positive Change
<b>Significance of effect of Scheme, taking into account embedded mitigation (design)</b>		Very Large Beneficial
<b>Significance of effect of Scheme, following proposed additional mitigation (residual effect)</b>		Very Large Beneficial

**AG23 The Greater Cursus, Amesbury 56 and Winterbourne Stoke 30 Round Barrows, and the Amesbury 42 Long Barrow**

<b>Designation:</b>	Scheduled monument
<b>Reference IDs:</b>	1009132, MWI12439, MWI12437, MWI12901, MWI12902
<b>Location (NGR):</b>	412297 143042 (centre point), 410960 142920 (western terminal), 413700 143190 (eastern terminal), 413745 143187 ('Amesbury 42' long barrow)



**Constituent elements of Asset Group**

The Asset Group contains a single scheduled monument (NHLE 1009132) encompassing the Greater Cursus, two round barrows situated within its western end (known as 'Amesbury 56' and 'Winterbourne Stoke 30') and a long barrow ('Amesbury 42') situated at its eastern end.

**Description**

The main element of the group is the Greater Cursus, which consists of a c. 3km long and up to 130m wide enclosure, aligned west-south-west to east-north-east across a flat ridge and partly within a shallow combe on the Avon-Till interfluvium, some 700m to the north of Stonehenge. It is defined by a ditch with inner and outer banks, which are punctuated by occasional gaps. Excavations at a number of locations have indicated that the ditch varies in depth, between c.0.75m and 2m. The monumental earthworks vary in prominence along the length of the Greater Cursus as a result of a combination of natural processes, modern disturbance and

deliberate levelling.

The group also includes two round barrows situated within its western end and a long barrow ('Amesbury 42') situated at its eastern end. The Early Neolithic long barrow 'Amesbury 42' is visible as a slight earthwork some 80m long by 15m wide, although this is difficult to identify, having been reduced in height by cultivation and forestry. Of the two Late Neolithic or Early Bronze Age round barrows at the western end of the Cursus, the more westerly (a bell barrow) has been levelled by the construction of military buildings during 1914–18 and subsequent agricultural operations. The second, an example of the more common 'bowl' type, remains prominent above ground, although the surrounding ditch is now largely infilled and difficult to identify.

The eastern and western terminals of the Greater Cursus occupy elevated positions on the plateau-like interfluvium between the Till and the Avon. Between these two points, the Cursus descends into Stonehenge Bottom at the point where this is formed by two conjoining dry valleys. The landscape traversed by the Greater Cursus and extending to the south of the monument is largely open rolling grass downland. To the north, the character of the landscape is more mixed, with open fields and screening plantations surrounding the southern edge of development within and on the periphery of Larkhill Camp. Immediately north of the Greater Cursus, approximately 1km from its eastern end, lies the redundant Larkhill Sewage Farm. The western terminal of the Greater Cursus breaches the Fargo Plantation, a large and thickly planted north-south aligned belt of woodland.

#### **Condition of the Asset Group**

The 2010–2011 condition survey (Wessex Archaeology 2012) indicated that the Greater Cursus itself was in fair condition, with one round barrow at the western end no longer extant, and the other in poor condition. There was mole burrowing along the length of the Greater Cursus, and rabbit burrowing at its western end. The western part of the Cursus was impacted by cattle trampling.

#### **Attributes of setting**

The Greater Cursus is a complex and enigmatic monument whose function remains the subject of much speculation. It is beyond doubt a monument of very high significance in pure archaeological terms, but aspects of its setting also lend to that significance.

Although no longer particularly prominent above ground, the Greater Cursus is still a recognisable feature at ground level, and a major feature in the landscape when viewed from the air. Both the cursus itself, and the attendant upstanding barrows within the group, therefore have intrinsic visual interest. And, unsurprisingly for a monument which spans such a large part of the Stonehenge landscape, there are numerous connections with other monuments. These are manifested both in terms of an archaeological group setting, and also monument inter-visibility. Key visual relationships include:

- Views from each end of the Greater Cursus towards the opposing terminal;
- Views towards the Amesbury 42 long barrow from along the Greater Cursus, illustrating the juxtaposition of the two monuments;
- Views from the terminals of the Greater Cursus across the wider landscape to the east and west
- Views to the east and to the west, whilst travelling along the longitudinal axis of the Greater Cursus;
- Views from Stonehenge towards the Greater Cursus, which illustrate the apparent continued prominence, scale and importance of the Early Neolithic cursus during the Late Neolithic and Early Bronze Age;
- Expansive views across the wider landscape from the elevated positions at the terminals of the Greater Cursus;
- Views from multiple vantage points framing the Greater Cursus against the wider landscape, illustrating the vast scale of the monument and its position in relation to topographical variations and other prehistoric monuments; and
- Views encompassing the Greater Cursus and the barrows clustered prominently along its western end.

This setting is not pristine. In addition to the effects of the A303 noted above, numerous other factors combine to reduce the quality of setting, as follows:

- The audibly intrusive effects of other roads and military aviation activity;
- Overhead cables and pylons, i.e. those which are prominent on the skyline to the south-east of Stonehenge;
- The visually intrusive qualities of the former A344 and the visitor transit bus turning area, which intrude in views between the eastern part of the Greater Cursus and Stonehenge;
- BOAT AMES12, which physically severs the Greater Cursus, and along which visitors' vehicles are often parked, causing further visually intrusive effects;
- The intervening presence of the Fargo Plantation and the lack of surface expression of the Lesser Cursus, some 600m to the north of the Greater Cursus. This greatly diminishes the ability of the observer to appreciate the contextual / spatial relationship between these similar and broadly contemporary monuments;
- The presence of plantations, which block potential inter-visibility with other broadly contemporary Early Neolithic monuments in the wider landscape, particularly the long barrows clustered around Winterbourne Stoke Crossroads;
- Woodland and development beyond the eastern end of the Greater Cursus, which limit long distance views. This adversely affects the ability of the observer to appreciate any inter-relationship between the Greater Cursus and the Amesbury 42 long barrow, and other monuments, e.g. the Woodhenge / Durrington Walls complex, two long barrows sited nearby and the Cuckoo Stone, as well as the River Avon;

- The redundant Larkhill sewage works, sited immediately north of the Greater Cursus, which dominates the observer’s experience at Stonehenge Bottom;
- The presence of Larkhill Camp, and its surrounding development and plantations, which block any potential inter-visibility with contemporary Early Neolithic monuments to the north of the Greater Cursus and the Amesbury 42 long barrow, including several long barrows within and to the north of the military facility, and the site of the newly discovered Larkhill causewayed enclosure and the contemporary Robin Hood’s Ball;
- The screening effect of the woodland on King Barrow Ridge, which prevents inter-visibility between the Amesbury 42 long barrow and the Old and New King Barrows, which may have been deliberately sited (at least in part) to respect the position of the pre-existing monument; and
- The woodland which screens several of the later round barrows and other monuments (e.g. the Fargo Henge) clustered around both ends of the Greater Cursus, obscuring the associations between them.

### **Authenticity of the Asset Group**

Although the integrity of the monuments is variable, particularly above ground, their form and design have not been substantially modified since they fell out of active use.

The western terminal bank of the Greater Cursus was reconstructed in 1987 (Pearson and Field 2011, 21). Some minor reinstatement works (e.g. backfilling, reseeding) were presumably undertaken following previous archaeological excavations and removal of structures that had encroached on the Greater Cursus in the early 20<sup>th</sup> century. However, the authenticity of the monuments has not been significantly reduced by modern interventions.

The evidence yielded by antiquarian investigations, modern excavation and non-intrusive surveys has enabled the monuments to be better understood, enhancing the authenticity of interpretations of the monument and the landscape. Ongoing research undertaken since the inscription of the WHS has provided new sources of information and opportunities for understanding the monuments within the context of the wider WHS landscape.

Visitors are able to appreciate the location, setting and inter-relationships of the monuments within the Asset Group. Their inclusion within publicly accessible portions of the WHS is an important element of this, as is their location within grass downland, which enables an appreciation of the original, open character of their landscape setting.

### **Contribution to the Attributes that convey the OUV of the WHS**

The monuments within this Asset Group convey the Attributes of OUV in the following ways:

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

Although no longer particularly prominent above ground, the Greater Cursus is still a recognisable feature in the landscape. The monument has been subject to small scale excavation and localised disturbance (e.g. during the installation of a pipeline to the redundant Larkhill sewage farm). However, the buried remains of the Cursus can be expected to be well preserved and retain considerable potential to yield significant archaeological information. The Cursus is amongst the most important of the monuments that convey this Attribute of OUV. One of the round barrows at the western end of the monument has been levelled and totally excavated and so retains little, if any archaeological interest; it therefore does not strongly contribute to this Attribute of the OUV. The other round barrow and the Amesbury 42 long barrow have been subject to partial excavation. The earthworks of the latter have also been substantially reduced in height. Despite this, their unexcavated physical remains convey this Attribute of the OUV, as they retain the potential to provide important archaeological and palaeoenvironmental evidence pertaining to their construction, chronologies, and overall landscape context, in addition to information relating to the funerary practices, beliefs and social organisation of the communities that constructed them.

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

Relationships between the natural and cultural aspects of the Stonehenge landscape have been proposed for many of the principal monuments within the WHS. In the case of the Greater Cursus, the 2015 WHS Management Plan (Simmonds and Thomas 2015, 32 para. 2.3.16) states that ‘[...] *Whatever its original function, the Stonehenge Cursus seems to have been laid out in such a way as to link outward views over the Till and Avon valleys.*’

The relationship between some cursus monuments and valley systems might reflect ritual significance attached to watercourses and springs, although it is unclear if this was the case with the Greater Cursus (Bowden et al. 2015, 25). However, Julian Thomas has theorised (as summarised in Parker Pearson 2012, 145–6) that the Greater and Lesser Cursuses were:

*‘[...] monuments to former processional routes whose antiquity could have gone back to the Mesolithic. Their position, straddling the watershed between the Avon and its tributary the Till, occupies a natural routeway for people and animals crossing from one valley to another [...] perhaps the ditches and banks of the cursuses demarcated routes that had once been used by the ancestors, moving back and forth between the settlement areas in the two valleys.’*

It is also possible that the Greater Cursus may have fulfilled a role as a boundary, blocking north-south routes across Stonehenge Bottom between the higher land on either side between the Till and the Avon. Field and Pearson (2011) state that ‘*computer modelling of the relationship of the monument to the valley system also suggests that the monument may have been a territorial marker controlling access along the valleys to a discrete block of higher ground to the north*’.

Several researchers (e.g. Exon et al. 2000, 47–54; Pearson and Field 2011, 15–21, 36;

Bowden et al. 2015, 23) have explored how views experienced by anyone moving along the Greater Cursus are affected by variations in topography. Pearson and Field (2011, 36) have stated that:

*'In broad terms, the restricted view in all directions from the Stonehenge Cursus where it crosses Stonehenge Bottom is in stark contrast to the expansive views where it crosses the rising ground to the east and west. Across the King Barrow Ridge the view south from the Cursus is largely hidden because of the alignment of the bank along a break of slope but in the opposite direction is open and expansive [...] the way these different views emerge may not be accidental but down to deliberate choices in the location of the monument in how the Cursus uses natural breaks of slope and possibly in the differing heights of the banks. Consequently, the idea that the Cursus was a vehicle through which the wider landscape was experienced in precise and predetermined ways has something to recommend it.'*

Richards and Thomas (2012, 34) have also drawn attention to the fact that the westernmost section of the southern side of the Cursus aligns with the north side of Beacon Hill. However, Bowden et al. (2015, 22) have suggested that, whilst this is true, the *'significance of this has been exaggerated'*.

Although the two round barrows at the western end of the Greater Cursus were clearly sited in relation to the earlier monument and other contemporary barrows forming part of the Cursus Barrows (West) Group (AG18), due to their elevated position they would have been silhouetted on the skyline; this could also have held significance.

The site of the earlier Amesbury 42 long barrow is located in a prominent position at the northern end of King Barrow Ridge. This may have been deliberately chosen to take advantage of the inter-visibility with the surrounding landscape. In turn, the position of the long barrow may have influenced the development of the later Old and New King barrow cemetery to the south. The precise manner in which the natural landscape influenced the construction, siting and use of the monuments within this Asset Group, and any specific meaning that was attached to this by Neolithic and Bronze Age communities are uncertain. Nevertheless, numerous observations and theories have speculated that the relationship between the monuments and the natural landscape was significant. Accordingly, each of the monuments within the Asset Group is considered to convey this Attribute of OUV.

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

The chronological relationship between the Amesbury 42 long barrow and the Greater Cursus is not precisely understood, although it is generally thought that the former slightly pre-dates the latter (Parker Pearson 2012). Nevertheless, it is evident that the two monuments were deliberately sited in relation to one another.

Pearson and Field (2011, 36) note that the Greater Cursus may have been deliberately *'aligned along the axis between the long barrow on Winterbourne Down in the west and on King Barrow*

*Ridge (Amesbury 42) since these may have been the only prominent man made features in the landscape when the Cursus was constructed’.*

It has been hypothesised that the Greater Cursus may have formed a processional route, in which the meaningful direction of travel, from west to east culminated in the arrival at the long barrow (Exon et al. 2000, 44–52). Thomas (2009, 42) has speculated that this deliberate alignment may also continue further east to coincide with Neolithic pits on the same approximate axis near the Cuckoo Stone at Woodhenge.

Available evidence indicates that the Greater Cursus, possibly unlike some other Early Neolithic monuments such as Robin Hood’s Ball, retained a considerable degree of significance well into the Early Bronze Age. The monument influenced the siting of the two round barrows located within its western terminal. Two groups of round barrows were deliberately clustered around the eastern and western ends of the Greater Cursus (AG18 and AG28; Simmonds and Thomas 2015, 34 para. 2.3.19). The latter of these groups is also notable in that it includes earlier monuments; the Late Neolithic Fargo Henge and, possibly, a hengiform monument and pit / timber circle beneath the Amesbury 50 barrow (Gaffney et al. 2012), which may also have been deliberately sited in relation to the Greater Cursus. A number of other poorly understood ‘anomalous features’ and annular features, some of which had not previously been identified, have been detected within and on the periphery of the Greater Cursus via geophysical survey during the Hidden Landscapes Project (ibid.).

The siting of the prominent linear arrangement of later round barrows on King Barrow Ridge to the south may have been influenced by the location of the Amesbury 42 long barrow and other factors such as topography and the position of Stonehenge and other pre-existing monuments.

## **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 2015 WHS Management Plan (Simmonds and Thomas 2015, 34 para. 2.3.21) states that:

*‘The design, position and inter-relationship of the monuments are evidence of a highly organised prehistoric society able to impose its concepts on the environment. In some parts of the WHS, monuments or groups of monuments [...] are so well-preserved and prominent that they and their physical and topographical inter-relationships form immediately recognisable parts of an archaeological landscape.’*

The Greater Cursus and the barrows within the Asset Group are legibly part of a cohesive, fossilised prehistoric landscape, containing a multitude of archaeologically significant sites and monuments, with complex contextual associations and relationships. This provides ‘an outstanding illustration of the evolution of monument construction and of the continual use and shaping of the landscape over more than 2000 years, from the Early Neolithic to the Bronze Age’ (SoOUV criterion ii).

The Greater Cursus is the largest single monument in the WHS. It is also one of the earliest, along with the long barrows such as Amesbury 42. The Greater Cursus is an integral aspect of

this Attribute of the WHS's OUV.

Although the earthworks of the Greater Cursus and the Amesbury 42 long barrow are no longer especially prominent, these monuments remain conspicuous in the landscape. The vast scale of the Greater Cursus demonstrates the complex and structured nature of Neolithic societies. The Greater Cursus held continued influence during the later development of the Stonehenge landscape.

The disposition of the Greater Cursus, the Amesbury 42 long barrow and the two round barrows, demonstrates the complex inter-relationships between prehistoric monuments constructed at different times.

### **7. The influence of the remains of Neolithic and Bronze Age funerary and ceremonial monuments and their landscape settings on architects, artists, historians, archaeologists and others**

The earliest published reference to the Greater Cursus is William Stukeley's 1740 work *Stonehenge, a Temple Restor'd to the British Druids*, in which the author claimed to have first noticed the monument some 17 years earlier in 1723. The publication included two engravings of panoramic views of the Cursus from the north and west (see HIA Annex 7 – Influences of the monuments and landscape of the Stonehenge part of the WHS on artists). In drawing attention to the Greater Cursus, and proposing that it may have been designed for horse races and sporting events in the manner of classical civilisations, Stukeley essentially discovered and named an entire class of prehistoric monument.

Numerous other examples of cursus monuments have since been recognised in Britain, particularly since aerial photography began to be used for archaeological prospection. Since Stukeley, the Greater Cursus influenced antiquarians such as Sir Richard Colt Hoare and later archaeologists, many of whom have advanced theories about the purpose of the monument and others like it.

### **Contribution to the Integrity of the WHS**

The SoOUV acknowledges that the Greater Cursus is one of the 'major monuments' of the WHS. The Greater Cursus, along with the Amesbury 42 long barrow, and the two round barrows within its western end, form an integral / interrelated part of the wider complex of Neolithic and Bronze Age sites and monuments within the WHS, and therefore their presence and survival contributes to the overall Integrity of the WHS.

### **Contribution to the Authenticity of the WHS**

The Greater Cursus, and the associated barrows, exemplify several of the Attributes of OUV of the WHS, and their survival makes an important contribution to the overall authenticity of the cultural landscape of the WHS.

The above and below ground remains of the monuments hold considerable potential for archaeological research to provide evidence that would expand our understanding of prehistory. It therefore exemplifies the SoOUV's assertion, in relation to the Authenticity of the WHS as a whole, that the '*materials and substance of the archaeology supported by the archaeological archives continue to provide an authentic testimony to prehistoric technological and creative achievement*'.

### Assessment of significance and value

The Asset Group's contribution to OUV is related to the tangible evidence it provides for the following Attributes of OUV:

- 2. The physical remains of the Neolithic and Bronze Age funerary and ceremonial monuments and associated sites.
- 3. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape.
- 5. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other.
- 6. The disposition, physical remains and settings of the key Neolithic and Bronze Age funerary, ceremonial and other monuments and sites of the period, which together form a landscape without parallel.
- 7. The influence of the remains of Neolithic and Bronze Age funerary and ceremonial monuments and their landscape settings on architects, artists, historians, archaeologists and others.

In accordance with Table 3, the Greater Cursus, Amesbury 56 and Winterbourne Stoke 30 Round Barrows and Amesbury 42 Long Barrow Asset Group is assessed as of Very High value.

### Existing baseline

The A303 is located c. 1km to the south at its closest point. It intermittently disappears partially or entirely from view due to topographical variation both from within the Greater Cursus and across the intervening landscape. Nevertheless, where the road is visible, the movement of traffic and occasional glare / light pollution, elevates its conspicuousness. A key view in which this occurs is that towards Stonehenge. Although neither particularly loud nor clear, the noise generated by the passage of traffic along the A303 is often perceptible from the Greater Cursus.

BOAT AMES12 bisects the Cursus, along which vehicles are often illegally parked, causing visually intrusive effects.

The route of the former A344, occasional buses travelling along its length and the parking area to the north-west of Stonehenge are also visible from the asset, resulting in visual intrusion.

The impact of the existing A303 on the Attributes of OUV expressed by the Asset Group is assessed as **Moderate Negative**. Consequently, the significance of effect of the existing A303 on the Attributes of OUV expressed by the Asset Group is assessed as **Large Adverse**.

### Assessment of impact of Scheme

The Scheme would remove surface road from much of the WHS. Traffic on this route would no longer be visible or audible from the Greater Cursus or the other monuments within this group. The key view towards Stonehenge would be improved, as would broader southward-looking views from the Greater Cursus.

The Scheme would not address the numerous other negative aspects which degrade the current setting, leading to only a partial improvement on the current situation.

#### Impact on fabric

The Asset Group would not be physically impacted by the Scheme. The Scheme would result in **No Change**.

#### Impact on setting

It is assessed that the Asset Group would experience an impact resulting in **Moderate Positive Change**.

### Significance of effect

Taking account of the Very High value of the asset and in accordance with Table 5, Significance of effect assessment matrix, the overall significance of effect of the Scheme on AG23 The Greater Cursus, Amesbury 56 and Winterbourne Stoke 30 Round Barrows, and the Amesbury 42 Long Barrow would be **Large Beneficial** (derived from a **Moderate Positive** impact on a **Very High** value asset).

### Proposed mitigation

No mitigation is proposed, as there are no direct physical impacts.

**Value of Asset Group AG23 (The Greater Cursus, Amesbury 56 and Winterbourne Stoke 30 Round Barrows, and the Amesbury 42 Long Barrow)**

Very High

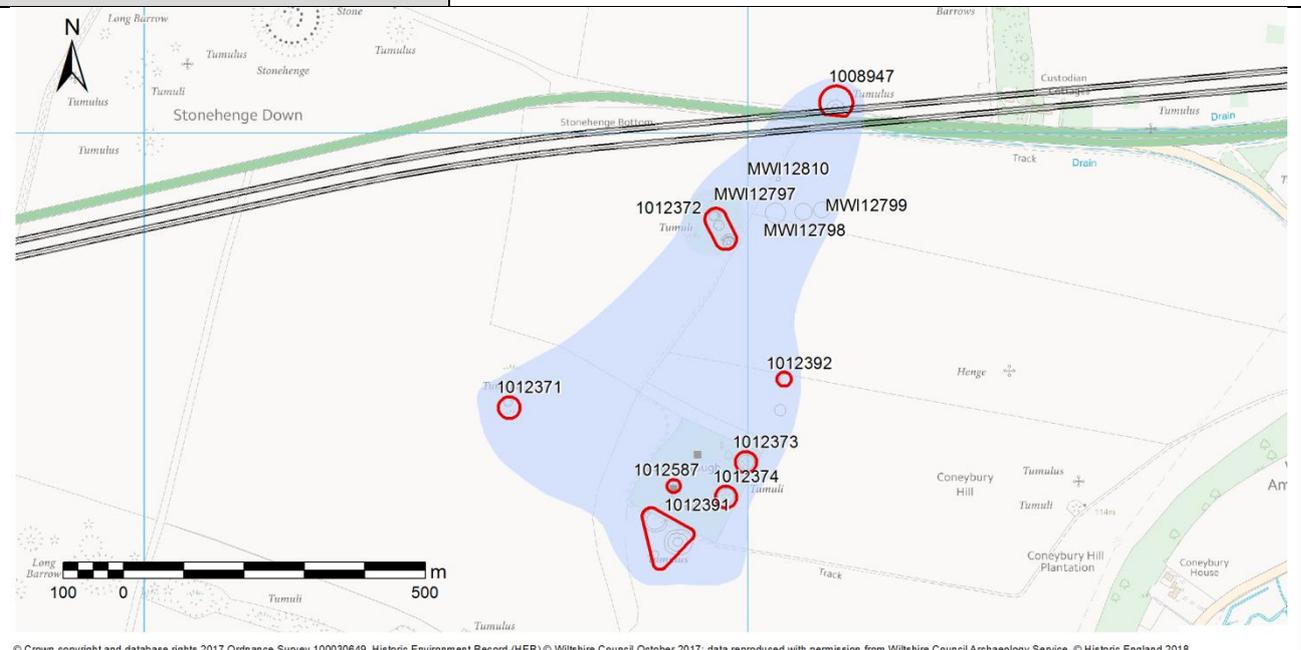
Impact of the existing A303 and associated roads and infrastructure on the Attributes of OUV expressed by the Asset Group

Moderate

Significance of effect of existing A303 and associated roads and infrastructure on the Attributes of OUV expressed by the Asset Group		Large Adverse
<b>Scale and severity of change / impact of Scheme</b>	Fabric	No Change
	Setting	Moderate Positive Change
<b>Significance of effect of Scheme, taking into account embedded mitigation (design)</b>		Large Beneficial
<b>Significance of effect of Scheme, following proposed additional mitigation (residual effect)</b>		Large Beneficial

## AG24 Stonehenge Bottom / Luxenborough Barrows

<b>Designation:</b>	Scheduled monument
<b>Reference IDs:</b>	1008947, 1012371, 1012372, 1012373, 1012374, 1012391, 1012392, 1012587, MWI12624, MWI12746, MWI12797, MWI12798, MWI12799, MWI12810, MWI12924, MWI13030, MWI13033, MWI13034, MWI13035, MWI13036, MWI13037, MWI13038, MWI13039, MWI13040, MWI13041, MWI13051
<b>Location (NGR):</b>	412905 141623



### Constituent elements of Asset Group

The Asset Group contains 12 scheduled bowl barrows (or 10 bowl barrows and 2 bell barrows) and 5 possible additional non-designated barrows.

### Description

The group comprises 12 bowl barrows located at Stonehenge Bottom and Luxenborough Plantation. It includes a discrete cluster of six bowl barrows in Luxenborough Plantation, two outliers to the north-west and north-east, a further group of three bowl barrows in woodland to the north and the 'King Barrow' (NHLE 1008947) on the northern edge of the A303. Whilst the individual barrows of Amesbury 19 (NHLE 1012374) and Amesbury 22 (NHLE 1012372; MWI13035) are recorded in the NHLE as bowl barrows, they are also described as bell barrows by some authors. There is evidence for the possible position of

five further barrows visible on aerial photographs (MWI12797, MWI12798, MWI12799, MWI12810, and MWI13040). In addition to the barrows, a pair of standing stones was recorded by William Stukeley in the area of Luxenborough Plantation. Archaeological evidence for Neolithic pits (MWI12462, MWI12466, and MWI12548) and finds (e.g. MWI12497) from the area of the Asset Group is indicative of earlier activity within the landscape.

Several of the barrows within the group lie within areas of woodland and as such survive as earthworks; though likely reduced in height. Others within cultivated fields have been truncated or levelled by modern agricultural activity, although surrounding ditches and possible satellite features are also thought to survive as below-ground archaeological remains. The King Barrow has been partially impacted by the widening of the A303, with the southern part of the monument now removed and the exposed side of the barrow supported by a stone wall revetment.

The group is located on higher ground overlooking the dry valley of Stonehenge Bottom. The monuments are situated within several large agricultural fields with most of the barrows located within two discrete areas of plantation. The surrounding landscape is predominantly agricultural, comprising large pasture and arable fields and small areas of plantation. The fields are largely divided by post and wire fences. Electricity pylons lie within views to the south-east. Further woodland can be seen in longer distance views, particularly along King Barrow Ridge.

#### **Condition of the Asset Group**

The 2010–2011 condition survey (Wessex Archaeology 2012) indicated that the extant barrows were in fair condition. Most had experienced no change or positive change since the previous survey in 2002. Many were stable, and others were only deteriorating slowly. One barrow (NHLE 1012374) was highly vulnerable. Several barrows experienced badger burrowing and impacts from trees and bushes.

#### **Attributes of setting**

Monuments on open ground are heavily reduced or erased by ploughing, while the upstanding examples are sited in woodland. This lack of visibility also obscures the group setting which, while extant archaeologically and appreciable on mapping, is not particularly legible on the ground. The topographical setting, on slightly elevated ground, is key to understanding the siting of the monuments.

While the group is not particularly prominent, their wider visual connections contribute to their significance. Although visibility from and towards the group is partially obscured by vegetation and woodland, in late prehistory the barrow cemeteries of King Barrow Ridge, Normanton Down and Winterbourne Stoke Crossroads as well as barrows around Coneybury Hill, Stonehenge and the western end of the Greater Cursus could well have

been inter-visible. To the east, the earlier henge monument at Coneybury may also have been visible. The Stonehenge monument also lies within the viewshed. Key views include:

- South-east to Coneybury Hill;
- North to King Barrow Ridge;
- West and north-west to Stonehenge and its associated barrows as well as long distance views to the Cursus barrows and Winterbourne Stoke Crossroads barrows ; and
- Views west and south-west to the Normanton Down Barrows.

The area adjacent to the King Barrow was chosen as the location for several important paintings of Stonehenge, including examples by John Constable, J M W Turner, as well as illustrations for important antiquarian works by William Stukeley and Richard Colt Hoare. Within these views King Barrow is often depicted in the foreground.

The modern landscape of agricultural fields and plantations is unrepresentative of both the prehistoric setting, and that depicted by antiquarians and 19<sup>th</sup>-century artists. This detracts significantly from the quality of setting and erodes the visitor's sense of place. The woodland has the additional effect of interrupting the visual relationship of the monuments with those others described above.

### **Integrity of the Asset Group**

#### **Wholeness**

All the elements of the Asset Group are located within the WHS.

#### **Intactness**

Several of the barrows within the group lie within areas of woodland and survive as earthworks; though likely reduced in height. While some of the other examples have been truncated or levelled by modern agricultural activity, surrounding ditches and possible satellite features are also thought to survive as below ground archaeological remains. Many of the barrows were excavated in the 19<sup>th</sup> century by Sir Richard Colt Hoare who also found evidence for earlier investigations; these and more recent investigations (Ashbee 1981) have demonstrated that funerary and other archaeological remains survive and thus retain their integrity. However, archaeological excavation is, by nature, a destructive process. Consequently, the integrity of the barrows may have been affected by past excavations of the monument, although this has been partially offset by the information gathered by these investigations, and the enhanced understanding of its place within the wider WHS landscape.

The King Barrow has been partially impacted by previous improvement of the A303 in the 1960s, with the southern part of the monument now removed and the exposed side of the

barrow supported by a stone wall revetment.

### Threats

Several of the barrows lie within areas of plantation. While their situation is likely to have protected them from agricultural activity, tree roots have the potential to cause damage to below ground archaeological remains due to bioturbation.

Other barrows within the group have been levelled by modern ploughing. Continued ploughing of these features, in particular any increase in plough depth, has the potential to further truncate the surviving archaeological remains.

### Authenticity of the Asset Group

Factors that preserve or enhance the authenticity of the Asset Group include:

- The potential for archaeological deposits and features surviving which can enhance and add to our knowledge not just of these kinds of monuments but also of our understanding of the WHS as a whole; and
- A number of inter-visible relationships between this Asset Group and other contemporary monuments.

Factors that reduce or diminish the authenticity of the Asset Group include:

- The levelling of some of the barrows reduces their legibility within the wider monumental landscape diminishing the ability of the Asset Group to fully convey the OUV of the WHS, in particular Attribute 5, '*the siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other*';
- Modern plantation around a number of the barrows obscures their position and setting, screening some of the key inter-relationships between the barrows and other contemporary monuments;
- The presence of the A303 causes severance between the barrows within the group and the WHS; and
- Negative impacts to the setting of the Asset Group caused by the A303.

### Contribution to the Attributes that convey the OUV of the WHS

The monuments within this Asset Group convey the Attributes of OUV in the following ways:

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

While many of the burial mounds in the WHS have been subject to excavations in the 19<sup>th</sup>

century, this forms a significant part of their history as the interest of early antiquarians such as Sir Richard Colt Hoare and William Cunnington helped shape both modern archaeology and our interest and understanding of Stonehenge and its wider landscape. Even where monuments have no upstanding earthworks there is still the potential for below ground remains to survive as well as other possible associated features which may have never had an earthwork component.

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

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

Due to the inter-relationship between the placement of monuments in association with landscape features and their placement in relation to other earlier and contemporary monuments these two Attributes of the OUV will be discussed in tandem.

Most of the barrows within the Asset Group are positioned on the eastern side of a broad ridge overlooking the dry valley of Stonehenge Bottom to the west. This elevated position enhances their visibility within views from Stonehenge (Bishop 2011, 42).

As a result of its landscape position, the Asset Group's barrows interact with several other monuments in the landscape, namely the cemeteries on King Barrow Ridge (AG26), Normanton Down (AG19) and at Winterbourne Stoke Crossroads (AG12) as well as the barrows and henge around Coneybury Hill (AG29), Stonehenge and its barrows (AG22 and AG21 respectively), and the Cursus Barrows (AG18 and AG28). These inter-relationships clearly convey this Attribute of the OUV of the WHS.

**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 barrows within the Asset Group add to the concentration of important and significant features within the WHS. While elements of the group are currently obscured by trees the inter-visibility from this location to several other barrow cemeteries is clearly legible.

**7. The influence of the remains of Neolithic and Bronze Age funerary and ceremonial monuments and their landscape settings on architects, artists, historians, archaeologists and others**

The Asset Group forms part of the wider cultural landscape around Stonehenge, which has provided inspiration to artists and archaeologists from at least the 18<sup>th</sup> century.

The area adjacent to the King Barrow at the northern edge of the group forms a key location for several important paintings of Stonehenge including examples by John

Constable, J M W Turner as well as illustrations for important antiquarian works by William Stukeley and Sir Richard Colt Hoare (Ashbee 1981, 3–5; HIA Annex 7 – Influences of the monuments and landscape of the Stonehenge part of the WHS on artists). Within these views King Barrow is often depicted in the foreground. Distinctive within these views is the former road junction of the A344 and the A303. Stukeley’s south-east prospect from Stonehenge also indicates that the King Barrow was a prominent feature.

Several of the barrows within the Asset Group were investigated by Sir Richard Colt Hoare, who also found evidence of earlier excavations.

### **Contribution to the Integrity of the WHS**

The Asset Group comprises a collection of round barrows within which archaeological remains are anticipated to survive, and as such it is an important contributor to several of the Attributes of the OUV of the WHS.

The King Barrow is thought to have a key association with the Stonehenge monument as it is the location for several paintings of the monument.

### **Contribution to the Authenticity of the WHS**

The barrow cemeteries within this Asset Group are a tangible illustration of past prehistoric funerary activity. Our understanding of this activity is confirmed and enhanced by 19<sup>th</sup>-century and modern archaeological investigations.

### **Assessment of significance and value**

The Asset Group’s contribution to OUV is related to the tangible evidence it provides for the following Attributes of OUV:

- 2. The physical remains of the Neolithic and Bronze Age funerary and ceremonial monuments and associated sites.
- 3. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape.
- 5. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other.
- 6. The disposition, physical remains and settings of the key Neolithic and Bronze Age funerary, ceremonial and other monuments and sites of the period, which together form a landscape without parallel.
- 7. The influence of the remains of Neolithic and Bronze Age funerary and ceremonial monuments and their landscape settings on architects, artists, historians, archaeologists and others.

In accordance with Table 3, the Stonehenge Bottom / Luxenborough Barrows Asset Group is assessed as of **Very High value**.

#### Existing baseline

The A303 physical severs the northernmost element of the group (NHLE 1008947) from the other monuments to the south. This barrow, however, is something of an outlier of the group (which itself is an artificial construct), so this impact should not be overstated. Perhaps more significantly, the A303 divides these monuments (and others in the locality, for example those around Coneybury Hill) from the northern part of the WHS. Traffic noise and visual intrusion from the A303 is experienced when standing at most locations within the group; the King Barrow is particularly affected. Although the present A303 adopts the historic routeways captured by Turner and Constable, its current character bears no resemblance to what appears in these paintings (see HIA Annex 7 – Influences of the monuments and landscape of the Stonehenge part of the WHS on artists).

The impact of the existing A303 on the Attributes of OUV expressed by the Asset Group is assessed as **Minor**. Consequently, the significance of effect of the existing A303 on the Attributes of OUV expressed by the Asset Group is assessed as **Moderate Adverse**.

#### Assessment of impact of Scheme

The Scheme would be in tunnel at this location, with the portals at considerable distance to both the east (c. 900m) and west (c. 2km). The physical severance of the A303 would cease to exist, restoring the connection between the northern and southern part of the WHS. The sight and sound of traffic would also be removed. The sightlines interrupted by the A303 would be restored, with the caveat that the screening effects of woodland would persist. The overall setting would be improved, although again the agricultural and plantation environment would remain. A significant impact would be experienced in relation to King Barrow: while not returning to its 19<sup>th</sup>-century situation, would become more reminiscent of that depicted by Turner and Constable, with more pristine views of the monument towards, and in combination with, Stonehenge. The Scheme would provide the opportunity to re-establish the King Barrow as a viewing point.

#### Impact on fabric

The Asset Group would not be physically impacted by the Scheme. The Scheme would result in **No Change**.

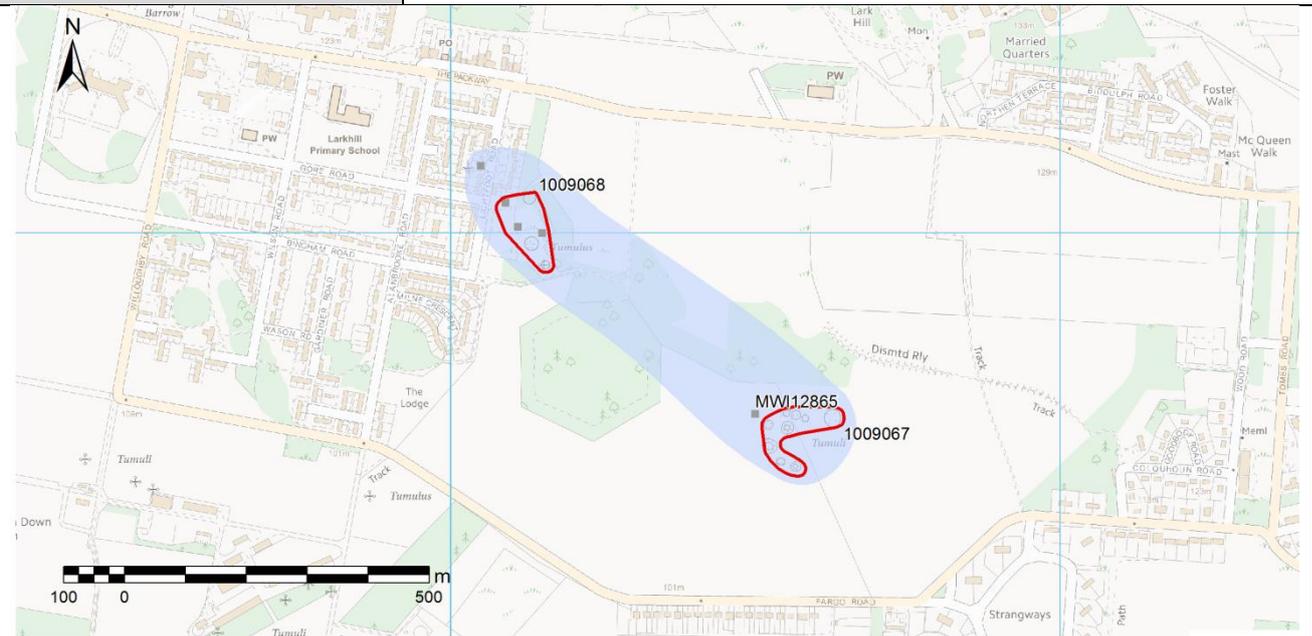
#### Impact on setting

It is assessed that the Asset Group would experience an impact resulting in **Major Positive Change**.

<b>Significance of effect</b>		
Taking account of the Very High value of the asset and in accordance with Table 5, the overall significance of effect of the Scheme on AG24 Stonehenge Bottom / Luxenborough Barrows would be <b>Very Large Beneficial</b> (derived from a <b>Major Positive</b> impact on a <b>Very High</b> value asset).		
<b>Proposed mitigation</b>		
The construction of the existing A303 has partially destroyed a scheduled bowl barrow in the north of the Asset Group (NHLE 1008947). This site would be subject to protection measures during the preliminary works and construction. Sensitive mitigation, e.g. archaeological investigation or appropriate landscaping, would be applied to protect the asset and improve its setting in the new context of the restricted byway. Archaeological monitoring would be undertaken on the removal of hardstanding material from course of the A303 to create a restricted byway.		
<b>Value of Asset Group AG24 (Stonehenge Bottom and Luxenborough Barrows)</b>		Very High
Impact of the existing A303 and associated roads and infrastructure on the Attributes of OUV expressed by the Asset Group		Minor
Significance of effect of existing A303 and associated roads and infrastructure on the Attributes of OUV expressed by the Asset Group		Moderate Adverse
<b>Scale and severity of change / impact of Scheme</b>	<b>Fabric</b>	No Change
	<b>Setting</b>	Major Positive Change
<b>Significance of effect of Scheme, taking into account embedded mitigation (design)</b>		Very Large Beneficial
<b>Significance of effect of Scheme, following proposed additional mitigation</b>		Very Large Beneficial

## AG25 Packway Barrows

<b>Designation:</b>	Scheduled monument
<b>Reference IDs:</b>	1009067, 1009068, MWI12770, MWI12771, MWI12772, MWI12773, MWI12774, MWI12853, MWI12854, MWI12860, MWI12861, MWI12862, MWI12863, MWI12864, MWI12866, MWI12867, MWI12868, MWI12869
<b>Location (NGR):</b>	413349 143858



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### Constituent elements of Asset Group

The Asset Group comprises:

- 14 scheduled bowl barrows (in two groups, six to the north-west and eight to the south-east);
- 1 scheduled pond barrow (within the group to the south-east)
- An additional bowl barrow to the north-west, since destroyed by modern residential development.

### Description

The Asset Group lies to the south-east of Larkhill Camp and comprises two discrete barrow cemeteries. One of seven bowl barrows, one of which has since been destroyed, originally lay at the south-eastern edge of the residential development associated with Larkhill Camp. Another mound lying immediately to the south-west of the group has been

concluded to be a modern military feature (MWI12779). The second group includes eight bowl barrows and a single pond barrow to the south-east. Four mounds to the north of this group have also been concluded to probably not be additional barrows (MWI12865).

Within the north-western group, three of the barrows are recorded as surviving as earthworks within the list entry, though only one can currently be clearly identified due to overlying vegetation and the 1971 OS map suggesting that only one is extant. All seven barrows are recorded on the 1901 OS map as well as another possible outlier to the west. All barrows within the south-eastern group are still visible as earthworks.

The two cemeteries are likely to have an association between each other and with other contemporary monuments in the vicinity including the barrows to the south-east near Countess Farm (AG31) and to the south along King Barrow Ridge (AG26).

Although some of the barrows have reduced or been levelled by modern activity, archaeological and palaeoenvironmental remains with the potential to add to our understanding of funerary practices, landscape, technology and society are likely to survive. Partial excavations of the barrows in the 19<sup>th</sup> century, including by the notable antiquarian Sir Richard Colt Hoare, have also confirmed the survival of archaeological and palaeoenvironmental deposits and remains.

The assets have clear archaeological interest and, in part due to their context within the wider Stonehenge Neolithic and Bronze Age landscape, are nationally significant.

#### **Condition of the Asset Group**

The 2010–2011 condition survey (Wessex Archaeology 2012) indicated that extant barrows were in poor or good condition. Many of the northerly barrows in this group have no surviving earthworks above ground. The barrows were stable or deteriorating slowly. Numerous barrows were impacted by trees, bushes and scrub.

#### **Attributes of setting**

The north-western barrow group occupies the edge of a higher area of ground currently occupied by the residential development of Larkhill Camp while the south-eastern cemetery lies on a spur of higher ground that forms part of the broad ridgeline occupied by the Old and New King Barrows to the south (AG26).

While outside the traditional envelope of barrow cemeteries which surround the low basin within which Stonehenge is situated, there are potential glimpsed views between the south-eastern barrow group and Stonehenge (AG22). However, due to intervening settlement and woodland these views are no longer active. Due to the low-lying position of Stonehenge, it is unlikely to have been prominent in views from the group though this barrow cemetery may itself have been visible on the skyline in views from Stonehenge. Although also no longer legible due to intervening features, views between the north-western and south-eastern cemeteries within the Asset Group, south-eastwards towards

barrows within the Durrington Walls, Woodhenge and Associated Sites Asset Group (AG33) and westwards to barrows on Durrington Down (AG20), may also have contributed to the significance of the asset. The south-eastern barrow group in particular forms part of a broad ridge of higher ground within which the 'conspicuous barrows' of the Old and New King Barrows are prominently located (Peters 2000). Views to this Asset Group (AG26) may have therefore been significant.

Although not completely visible due to intervening plantations, the easternmost barrow within the Cursus Barrows (West) (AG18) is visible.

Key views include:

- Views from the south-eastern barrow group south-west towards the Cursus Barrows (West) (AG18);
- Potential views between monuments within this Asset Group;
- Potential views towards other barrow groups, including the Old and New King Barrows to the south (AG26), south-eastwards towards barrows within the Durrington Walls, Woodhenge and Associated Sites Asset Group (AG33) and westwards to barrows on Durrington Down (AG20).

Intervening housing and vegetation currently obscures much of the potential inter-visibility particularly for the north-western barrow group. Despite the proximity of The Packway, local roads and residential development there is little intrusive traffic noise or light pollution.

### **Integrity of the Asset Group**

The integrity of the Asset Group varies between the two barrow cemeteries with the south-eastern group being generally better preserved and more complete.

#### **Wholeness**

All the necessary elements are located within the WHS.

#### **Intactness**

The north-western barrow group was impacted by the creation and expansion of Larkhill Military Camp in the early 20<sup>th</sup> century which appears to have levelled five of the barrows. The southernmost barrow is shown as levelled on the 1971 OS map. Although the north-westernmost barrow now lies beneath a residential property in Lightfoot Road, the remaining levelled barrows lie within open and undeveloped ground and as such the below ground survival of any archaeological remains could be good.

The south-eastern group all survive as extant earthworks. In addition to the upstanding barrow mounds, surrounding ditches and possible satellite features are also thought to survive as below ground archaeological remains.

Many of the barrows were excavated in the 19<sup>th</sup> century by Sir Richard Colt Hoare who also found evidence of earlier investigations. His results demonstrate that the funerary and other archaeological remains survive and thus retain their integrity. However, archaeological excavation is, by nature, a destructive process. Consequently, the integrity of the barrows may have been affected by past excavations of the monuments, although this has been partially offset by the information gathered by these investigations, and the enhanced understanding of their place within the wider Stonehenge landscape.

### Threats

The north-western barrow group lies within rough open ground, much of which is covered in scrub and some trees. This vegetation is likely to cause some localised disturbance to below ground archaeological remains due to root disturbance.

The south-eastern group lies adjacent to arable agricultural land, but has remained outside the cultivation area, though it is not fenced or enclosed.

### Authenticity of the Asset Group

Factors that preserve or enhance the authenticity of the Asset Group include:

- Investigations undertaken by the notable antiquarian Sir Richard Colt Hoare have provided evidence which has enhanced our understanding of these monuments and provided information and inspiration for future research of other barrow groups in the Stonehenge landscape; and
- Although the integrity of the north-western barrow group is reduced above ground, the south-eastern group survives as visible intact earthworks.

Factors that reduce or diminish the authenticity of the Asset Group include:

- Possible key views between the two barrow cemeteries and with other contemporary monuments have been obscured by modern development and plantations which does diminish the ability of the Asset Group to fully convey the OUV of the WHS, in particular Attribute 5, '*the siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other*'.

### Contribution to the Attributes that convey the OUV of the WHS

The monuments within this Asset Group convey the Attributes of OUV in the following ways:

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

The Stonehenge landscape includes the '*densest concentration of Bronze Age burial*

*mounds in Britain* (Simmonds and Thomas 2015, 33), as well as a number of earlier Neolithic long barrows, henges and possible mortuary enclosures. These monuments contain important information on the mortuary and ceremonial practices of the communities that built and used them as well as potential information about technology, society and landscape. The concentration of monuments suggests that Stonehenge provided a key focus of activity at this time.

While many of the burial mounds in the WHS have been subject to excavations in the 19<sup>th</sup> century, with many of the barrows within this group known to have been investigated by Richard Colt Hoare. This in itself forms a significant part of their history as the interest of early antiquarians such as Richard Colt Hoare and William Cunnington helped shape both modern archaeology, and our interest and understanding of Stonehenge and its wider landscape.

Even where monuments have no upstanding earthworks surviving, there is still the potential for below ground remains to survive, as well as other possible associated features which may have never had an earthwork component.

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

and

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

Due to the inter-relationship between the placement of monuments in association with landscape features and their placement in relation to other earlier and contemporary monuments, these two Attributes of the OUV will be discussed in tandem.

As the majority of the barrows were excavated in the 19<sup>th</sup> century detailed dating is not known though at least one is thought to have been in the slightly later 'Wessex' tradition. However, views to the cursus are available from the south-eastern group. Views to Stonehenge and other barrow cemeteries, while no longer clearly experienced in the modern landscape, may have also been significant.

### **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 barrows within this group add to the concentration of important and significant features within the WHS. While elements of the group are currently obscured by vegetation, and the inter-visibility from this location to several other barrow cemeteries is compromised, they can still be understood as part of the wider monumental landscape.

### **7. The influence of the remains of Neolithic and Bronze Age funerary and**

### **ceremonial monuments and their landscape settings on architects, artists, historians, archaeologists and others**

The Asset Group forms part of the wider cultural landscape around Stonehenge which has provided inspiration to artists and archaeologists from at least the 18<sup>th</sup> century. Several barrows within the Asset Group were investigated by the antiquarian Richard Colt Hoare, who himself found evidence of earlier excavations.

### **Contribution to the Integrity of the WHS**

The Asset Group contains two barrow cemeteries within which archaeological remains are anticipated to survive, as such convey several of the Attributes of OUV of the WHS.

### **Contribution to the Authenticity of the WHS**

The two barrow cemeteries within this Asset Group both contain upstanding earthworks and are therefore a tangible illustration of past prehistoric funerary activity within the WHS. Our understanding of this activity is confirmed and enhanced by 19<sup>th</sup>-century archaeological investigations.

### **Assessment of significance and value**

The Asset Group's contribution to OUV is related to the tangible evidence it provides for the following Attributes of OUV:

- 2. The physical remains of the Neolithic and Bronze Age funerary and ceremonial monuments and associated sites.
- 3. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape.
- 5. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other.
- 6. The disposition, physical remains and settings of the key Neolithic and Bronze Age funerary, ceremonial and other monuments and sites of the period, which together form a landscape without parallel.
- 7. The influence of the remains of Neolithic and Bronze Age funerary and ceremonial monuments and their landscape settings on architects, artists, historians, archaeologists and others.

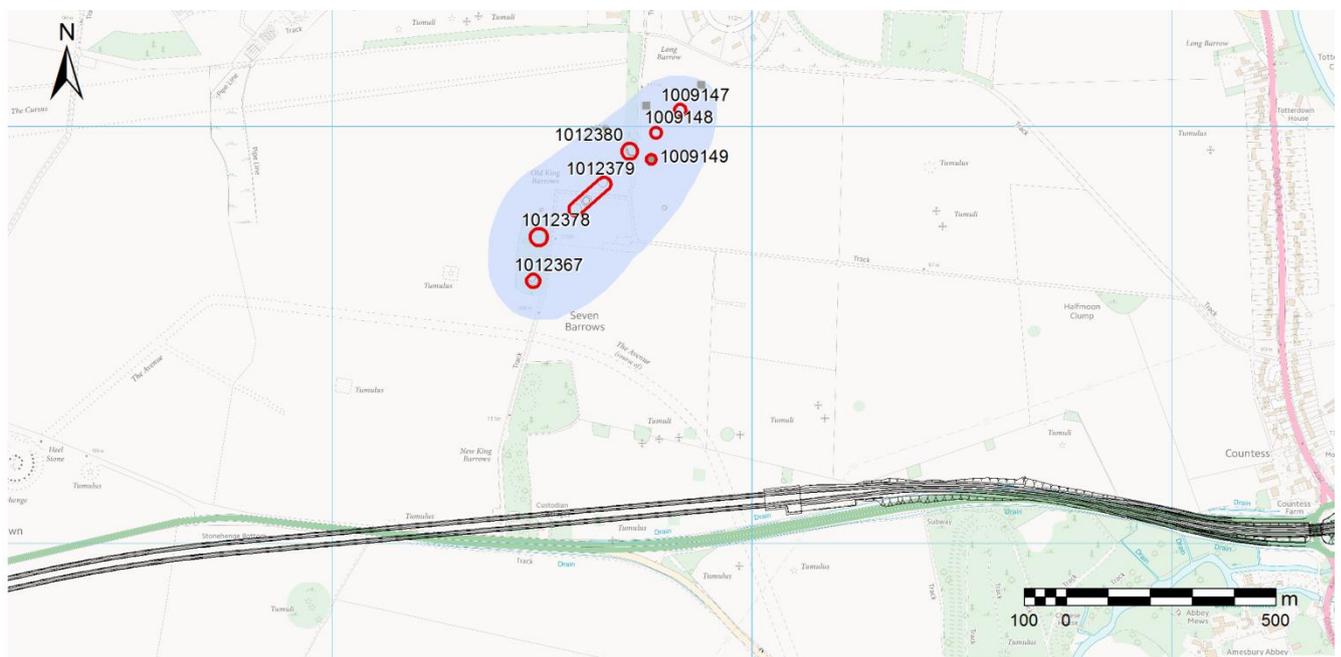
In accordance with Table 3, the Packway Barrows Asset Group is assessed as **Very High** value.

<b>Existing baseline</b>	
<p>AG25 the Packway Barrows currently experiences setting impacts from the rat-running traffic along the Packway. The A303 cannot be readily discerned even from the south-eastern barrow group, and due to distance and aural and lighting aspects are not intrusive. The existing A303 is assessed as having <b>No</b> impact on Attributes of OUV of the WHS conveyed by this Asset Group, resulting in a <b>Neutral</b> effect.</p>	
<b>Assessment of impact of Scheme</b>	
<p>It is anticipated that the Scheme would reduce rat-running and traffic jams on the Packway to the north of the Asset Group. The tunnel would result in extending the high load route from Longbarrow Junction, heading north up the A360, following the B3086 to the Packway, east along the Packway then following the A3028 south-east past Bulford to re-join the A303. There would still be a high load and diversionary route within or adjacent to the Asset Group.</p> <p>Although there would be improvements on the volume of rat-running, there would still be traffic on the Packway and the A345 for the high load route. Impacts from the use of adjacent roads as a proposed diversionary route would be temporary and infrequent.</p> <p><b>Impact on fabric</b></p> <p>The Asset Group would not be physically impacted by the Scheme. The Scheme would result in <b>No Change</b>.</p> <p><b>Impact on setting</b></p> <p>It is assessed that the Packway Barrows Asset Group would experience an impact resulting in <b>Negligible Positive Change</b>.</p>	
<b>Significance of effect</b>	
<p>Taking account of the Very High value of the asset and in accordance with Table 5, the overall significance of effect of the Scheme on AG25 Packway Barrows would be <b>Slight Beneficial</b> (derived from a <b>Negligible Positive</b> impact on a <b>Very High</b> value asset).</p>	
<b>Proposed mitigation</b>	
<p>No mitigation is proposed, as there are no direct physical impacts.</p>	
<b>Value of Asset Group AG25 (Packway Barrows)</b>	Very High
<b>Impact of the existing A303 and associated roads and</b>	None

infrastructure on the Attributes of OUV expressed by the Asset Group		
Significance of effect of existing A303 and associated roads and infrastructure on the Attributes of OUV expressed by the Asset Group		Neutral
<b>Scale and severity of change / impact of Scheme</b>	Fabric	No Change
	Setting	Negligible Positive Change
<b>Significance of effect of Scheme, taking into account embedded mitigation (design)</b>		Slight Beneficial
<b>Significance of effect of Scheme, following proposed additional mitigation (residual effect)</b>		Slight Beneficial

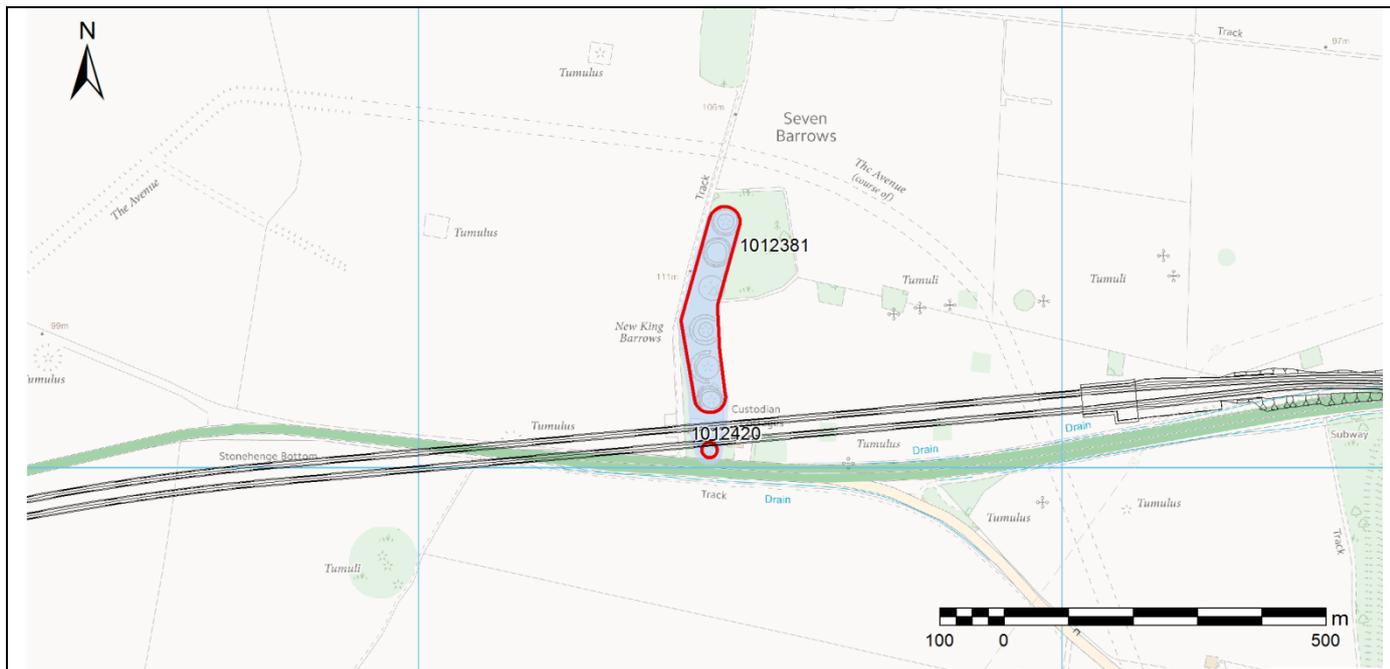
## AG26 Old and New King Barrows

<b>Designation:</b>	Scheduled monument
<b>Reference IDs:</b>	<p>AG26A King Barrows – Old King Barrows, north: 1009149; 1012367; 1009147; 1012379; 1012380; 1009148; 1012378; MWI12655; MWI12656; MWI12719; MWI12787; MWI12871; MWI12949; MWI12961; MWI12962; MWI72763</p> <p>AG26B King Barrows – New King Barrows, south: 1012381; 1012420; MWI12687; MWI12931; MWI12928; MWI12929; MWI12930; MWI12931; MWI12932; MWI12933; MWI12934</p>
<b>Location (NGR):</b>	<p>AG26A King Barrows (Old King Barrows, north): 413639 142865</p> <p>AG26B King Barrows (New King Barrows, south): 413439 142206</p>



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AG26A



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## AG26B

### Constituent elements of Asset Group

The Asset Group is divided into two groups to facilitate assessment :

- AG26A King Barrows (Old King Barrows, north) comprises a linear round barrow cemetery of nine scheduled bowl barrows (1009149; 1012367; 1009147; 1012379; 1012380; 1009148; 1012378)
- AG26B King Barrows (New King Barrows, south) is a round barrow cemetery of three bowl barrows and four bell barrows (1012381; 1012420).

### Description

The Asset Group includes 16 scheduled bowl barrows and four scheduled bell barrows, which together form the two barrow cemeteries known as the 'Old' and 'New' King Barrows. Old King Barrows lies to the north of the Avenue (AG27) and comprises at least nine bowl barrows on a broad south-west to north-east alignment. New King Barrows lies directly to the south of the Avenue and comprises at least three bowl barrows and four bell barrows.

The Asset Group occupies one of the most prominent ridgelines within the Stonehenge landscape, aligned on an elevated north-north-east / south-south-west axis. The majority of the barrows within the group lie within copses of woodland that are set amidst pasture (to the west) and large arable fields (to the east). To the west of the group lies a dry valley known as Stonehenge Bottom. Adjacent to the southernmost barrow (NHLE 1012420) is Custodian Cottages.

King Barrow Ridge possesses extensive long-distance views, particularly to the east and west.

To the east there are views towards Beacon Hill, which include Solstice Park and the aircraft hangars at MOD Boscombe Down; to the west there are views into Stonehenge Bottom, to Normanton Down, across Stonehenge Down and to Stonehenge.

The ridge was used as a parkland prospect in the late 18<sup>th</sup> century. It features in historic artistic depictions and was also used as a viewpoint by artists painting Stonehenge.

### Condition of Asset Group

The 2010–2011 condition survey (Wessex Archaeology 2012) indicated that extant barrows were in fair condition, and only deteriorating slowly. One barrow in the Old King Barrows (NHLE 1012380) was highly vulnerable. The barrows were impacted by burrowing badgers, moles and in the south, rabbits. Many barrows were impacted by trees, bushes and scrub, including dense scrub.

### Attributes of setting

Because of their situation within woodland, some of the King Barrows monuments can only be seen from their immediate vicinity. Others, however, are made more prominent by the backdrop of trees, as in the views of the New King Barrows from Stonehenge and the Avenue Barrows. These are well-preserved and highly legible monuments with great intrinsic visual interest. Their focus on the ridgeline appears to define them as a coherent group, though the lack of modern investigation precludes detailed understanding of the monuments' exact temporal relationships. There is a direct landscape association with the Avenue, which bisects the group and which the barrows appear to respect.

King Barrow Ridge is a striking feature in the landscape: indeed, it is one of the few landmarks which can be almost ubiquitously seen. There are important views both to and from the group. The barrow cemeteries of Winterbourne Stoke Crossroads (AG12), Normanton Down (AG19) and Stonehenge Bottom / Luxenborough (AG24) to the west and south-west and Countess Farm (AG31) to the east as well as barrows around Coneybury Hill (AG29), Stonehenge (AG22) and the western end of the Greater Cursus (AG23) are likely to have been inter-visible. Views from and to these monuments are therefore considered to substantially contribute to the significance of the Asset Group.

Stonehenge is situated within a low basin with a number of barrows situated on the low ridges surrounding it, including King Barrow Ridge as well as Normanton Down (AG19), Stonehenge Down (AG24) and the Cursus barrows (AG18 and AG28). Views to the Stonehenge monument complex are, therefore, considered to contribute to the significance of the asset, with The Avenue (AG27) crossing through the Asset Group. Some inter-visibility is also apparent between King Barrow Ridge and the monument complex at Durrington Walls (AG33) though this connection is no longer clearly legible.

Key visual connections include:

- Intra-group views;

- Views to and from Stonehenge (AG18) and The Avenue (AG27);
- Views to and from Winterbourne Stoke Crossroads (AG12), the Cursus including the long barrow at its eastern end (AG23), the Cursus barrows (AG18, AG28) and Stonehenge barrows (AG21);
- Views to and from Normanton Down (AG19) and Stonehenge Bottom / Luxenborough (AG24);
- Views to and from Coneybury Henge and Associated Monuments (AG29);
- Views east across the Countess Farm barrows (AG31), although these lack surface expression.

### **Integrity of the Asset Group**

The integrity of the Asset Group varies. While the barrows situated on the apex of the ridge survive as prominent earthworks, other barrows within the Asset Group have been levelled by agricultural activity.

#### **Wholeness**

All the elements of this Asset Group are located within the WHS.

#### **Intactness**

The barrows situated along the King Barrow Ridge survive as extant and prominent earthworks; however the other examples have been levelled by modern agricultural activity. Despite this loss of the upstanding earthworks, surrounding ditches and possible satellite features are also thought to survive as below ground archaeological remains. The survival of below ground remains has been confirmed by recent geophysical survey (e.g. Gaffney et al. 2012).

With the exception of some limited modern investigation, the prominent 'King Barrows' along King Barrow Ridge survive as well-preserved earthworks. Some of the other truncated and levelled barrows within the Asset Group were investigated in the 19<sup>th</sup> century demonstrating that the funerary and other archaeological remains survive and thus retain their integrity. However, archaeological excavation is, by nature, a destructive process. Consequently, the integrity of the barrows may have been affected by past excavations of the monuments, although this has been partially offset by the information gathered by these investigations, and the enhanced understanding of their place within the wider Stonehenge landscape.

#### **Threats**

The monuments within the western part of the Asset Group, including those along the ridgelines lie within the ownership of the National Trust. Those within the western part of the Asset Group now lie within pasture and so are no longer being impacted by plough damage and truncation. The apex of the ridge line is colonised by trees which have the potential to

cause damage to below ground archaeological remains due to bioturbation. However, since the loss of trees during winter storms in 1987 and 1990, most of the trees on the earthworks themselves have largely been removed.

Assets within the eastern part of the Asset Group, however, lie within arable agricultural land. Continued ploughing of these features, in particular any increase in plough depth, has the potential to further truncate the surviving archaeological remains.

### Authenticity of the Asset Group

Factors that preserve or enhance the authenticity of the Asset Group include:

The potential for archaeological deposits and features surviving which can enhance and add to our knowledge not just of these kinds of monuments but also of our understanding of the WHS as a whole; and

A number of inter-visible relationships between this Asset Group and other contemporary monuments.

Factors that reduce or diminish the authenticity of the Asset Group include:

- The levelling of some of the barrows reduces their legibility within the wider monumental landscape diminishing the ability of the Asset Group to fully convey the OUV of the WHS, in particular Attribute 5, '*the siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other*';
- Mature trees along the ridgeline obscure the prominent barrows along the ridgeline from some viewpoints; and
- Negative impacts to the setting of the Asset Group caused by the A303.

### Contribution to the Attributes that convey the OUV of the WHS

The monuments within this Asset Group convey the Attributes of OUV in the following ways:

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

While many of the barrows in the WHS have been subject to excavations in the 19<sup>th</sup> century, this in itself forms a significant part of their history as the interest of early antiquarians such as Richard Colt Hoare and William Cunnington helped shape both modern archaeology and our interest and understanding of Stonehenge and its wider landscape.

Even where monuments have no upstanding earthworks surviving, there is still the potential for below ground remains to survive, as well as other possible associated features which may have never had an earthwork component.

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

and

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

Due to the inter-relationship between the placement of monuments in association with landscape features and their placement in relation to other earlier and contemporary monuments, these two Attributes of the OUV will be discussed in tandem.

The Old and New King Barrows in the Asset Group form a uniquely massive, regularly spaced barrow group in Stonehenge landscape with a strong linear element and particularly prominent due to their unusual placement on the summit of a ridge (Bishop 2011, 19-20).

The group is one of several 'conspicuous barrow' cemeteries in the Stonehenge landscape including Winterbourne Stoke Crossroads (AG12) and Normanton Down (AG19), which share inter-visibility between themselves and Stonehenge (AG22) (Peters 2000).

There is the suggestion that some barrow cemeteries, particularly the early barrows, may be cited in reference to earlier monuments such as Neolithic long barrows, henges and the Greater Cursus (AG23) (Exon et al. 2000, 71). Most the investigated barrows in the group appear to be in the slightly later 'Wessex' tradition. However, the long barrow to the north of the group at the eastern end of the Greater Cursus (AG23) may have influenced the placement of these later barrows. Views to Woodhenge and the adjacent timber circles, while no longer clearly experienced in the modern landscape, may have also been significant.

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

The monuments within this Asset Group are not considered to articulate this Attribute of OUV.

**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 barrows within this group add to the concentration of important and significant features within the WHS. While elements of the group are currently obscured by mature woodland, the inter-visibility from this location to several other barrow cemeteries is clearly legible.

**7. The influence of the remains of Neolithic and Bronze Age funerary and ceremonial monuments and their landscape settings on architects, artists, historians, archaeologists and others.**

The Asset Group forms part of the wider cultural landscape around Stonehenge which has provided inspiration to artists and archaeologists from at least the 18<sup>th</sup> century. Several barrows within the Asset Group were investigated by the eminent antiquarian Richard Colt Hoare, who

himself found evidence of earlier excavations. It is also recorded that George Villiers, Duke of Buckingham, investigated the barrows in 1620.

The prominent barrow cemetery within the Asset Group, known as ‘Seven Barrows’ at this time, is depicted as prominent mounds in illustrations from William Stukeley’s influential book on Stonehenge and were evidently clearly visible and well-known monuments in the 18<sup>th</sup> and 19<sup>th</sup> centuries. The King Barrow Ridge appears in the background of a number of paintings, and several paintings of Stonehenge were made from the west-facing slopes of the ridge (see HIA Annex 7 – Influences of the monuments and landscape of the Stonehenge part of the WHS on artists, Viewpoint 3: Stukeley’s *Prospect of Stonehenge from the East*).

The barrows were incorporated into the designed landscape and parkland of the Amesbury Estate in the later 18<sup>th</sup> century, forming a viewing point for Stonehenge and its surroundings.

### **Contribution to the Integrity of the WHS**

The Asset Group comprises a defined and prominent group of round barrows within which archaeological remains are anticipated to survive; as such it is an important contributor to several of the Attributes of OUV of the WHS.

### **Contribution to the Authenticity of the WHS**

The barrow cemeteries within this Asset Group contain some of the most prominent upstanding earthworks within the WHS and are therefore a tangible illustration of past prehistoric funerary activity. Our understanding of this activity is confirmed and enhanced by 17<sup>th</sup>-century, 19<sup>th</sup>-century and modern archaeological investigations.

### **Assessment of significance and value**

The Asset Group’s contribution to OUV is related to the tangible evidence it provides for the following Attributes of OUV:

- 2. The physical remains of the Neolithic and Bronze Age funerary and ceremonial monuments and associated sites.
- 3. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape.
- 5. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other.
- 6. The disposition, physical remains and settings of the key Neolithic and Bronze Age funerary, ceremonial and other monuments and sites of the period, which together form a landscape without parallel.
- 7. The influence of the remains of Neolithic and Bronze Age funerary and ceremonial monuments and their landscape settings on architects, artists, historians, archaeologists and others.

In accordance with Table 3, the Old and New King Barrows Asset Group is assessed as **Very High** value.

### Existing baseline

The A303 lies at the southern edge of New King Barrows, severing the monuments from the landscape to the south. The road is apparent from numerous locations from which the New King Barrows can be seen: viewed from the west (e.g. Stonehenge), east (e.g. the site of the Countess Farm barrows) and north (e.g. the Cursus and Avenue) it provides a dynamic, distracting backdrop to many views of King Barrow Ridge; from the south it also constitutes a prominent element (e.g. from Coneybury Hill and Normanton Down). Outward views from the monuments (or their unwooded fringes) are similarly affected: the westward prospect from New King Barrows towards Stonehenge, for example, contains an extensive longitudinal view along the carriageway. Near to the road, traffic noise is also very apparent, for example from the bridleway that runs alongside the New King Barrows.

The Old King Barrows, at c. 600m and greater from the A303, are somewhat less affected by traffic noise, although it is still apparent – considerably so when the wind is from the south. Similarly, many of the natural views towards them do not include the A303 (e.g. from New King Barrows / the Avenue, or the bridleway from Countess to the west). In southward views, for example from the eastern end of the Cursus, the A303 is a fairly distant backdrop, although moving traffic is readily apparent.

The impact of the existing A303 on the Attributes of OUV expressed by the Asset Group is assessed as **Moderate**. Consequently, the significance of effect of the existing A303 on the Attributes of OUV expressed by the Asset Group is assessed as **Large Adverse**.

### Assessment of impact of Scheme

The removal of the A303 from the central part of the WHS would physically reconnect King Barrow Ridge with the landscape to the south, and would radically improve views of, from and including the group. The new road, exiting the eastern portal 600m distant from the group, would be visible from a limited central part of New King Barrows. Further east, 2km distant, the Countess flyover would be a new element of views from the ridge, albeit comparatively minor. The effect of the Scheme varies according to its separation from the present A303 and the Scheme – the effects (negative from the present A303; positive from the Scheme) diminishing with distance.

#### AG26A Old King Barrows – north

The monuments within this sub-group would experience only a limited change to their setting. Due to the separating distance between the sub-group and the present A303, the existing road's effects are not as marked as for the New King Barrows, and thus its removal is also less significant. Nevertheless, the sub-group would benefit from physical reconnection with assets to

the south, and from the loss of glimpses of the existing A303.

It is assessed that this would constitute a **Minor Positive Change** to setting.

#### AG26B New King Barrows – south

The visual intrusion of the A303 would be removed from the setting of the barrows within this sub-group and there would be reconnection across the landscape to assets to the south, such as Coneybury Barrow (King Barrow). It is assessed that this would constitute a **Moderate Positive Change** to setting.

The road exiting the eastern portal would be visible from a limited central part of New King Barrows; however, this does not constitute a new impact, as traffic is currently apparent in this view as it comes down the ridge, crosses a dry valley on embankment and goes into the cutting adjacent to Vespasian's Camp.

Further east, 2km distant, the proposed Countess flyover would only be visible to a marginal extent in views from the ridge. It is assessed that this would constitute a **Minor Negative Change** to setting.

#### **Impact on fabric**

The Asset Group would not be physically impacted by the Scheme. The Scheme would result in **No Change**.

#### **Impact on setting**

Following construction, the road exiting the eastern portal would be visible from a limited central part of New King Barrows and the Countess flyover would only be visible to a marginal extent in the distance. However, the Scheme would remove the A303 from much of the WHS removing aural and visual intrusion and reuniting the landscape.

Overall, is assessed that the King Barrows Asset Group would experience an impact on setting resulting in **Moderate Positive Change**.

#### **Significance of effect**

Traffic would no longer be apparent in the environs of either of the sub-groups of AG26. The impact of the Scheme would vary according to its separation from the present A303 and the Scheme, essentially diminishing with distance. The effects would be as follows:

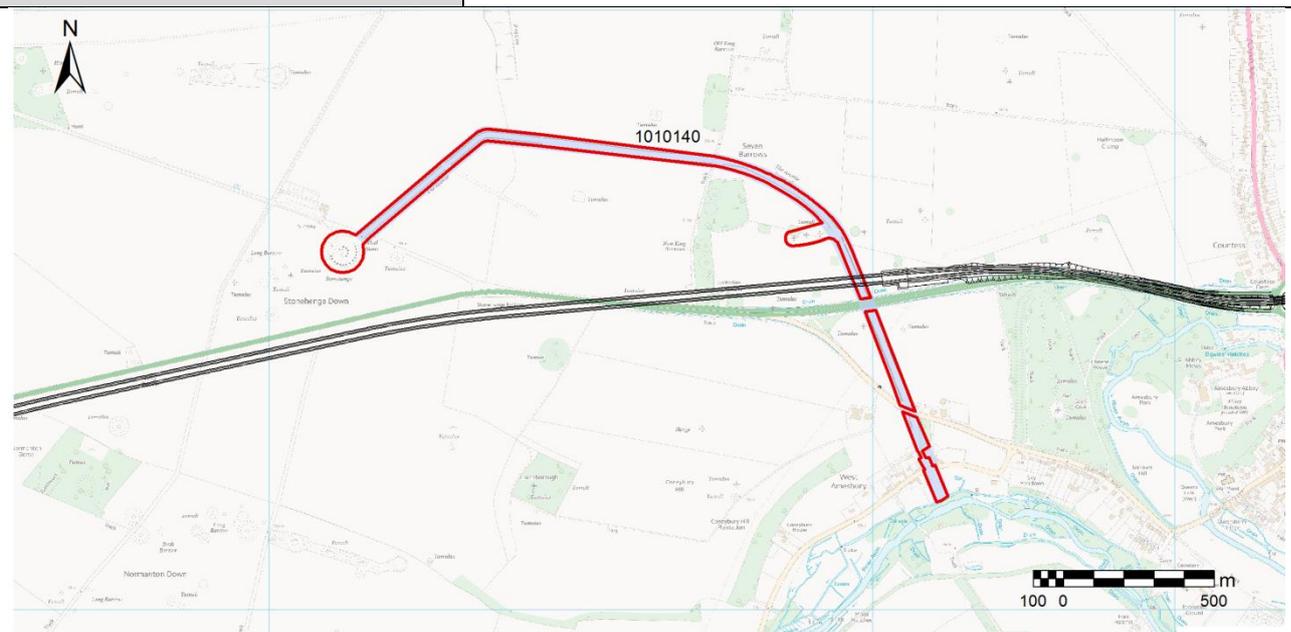
- Old King Barrows – north: **Moderate beneficial** (Minor impact on Very High value assets).
- New King Barrows – south: **Large beneficial** (Moderate impact on Very High value assets).

Taking account of the Very High value of the asset and in accordance with Table 5, the overall significance of effect of the Scheme on AG26 Old and New King Barrows would be **Moderate**

<b>Beneficial</b> (derived from <b>Minor Negative, Moderate Positive</b> and <b>Major Positive</b> impacts on a <b>Very High</b> value asset).		
<b>Proposed mitigation</b>		
<p>There is a barrow immediately north of the existing A303 (NHLE 1012420). This site would be subject to protection measures during the preliminary works and construction. Sensitive mitigation, e.g. archaeological investigation or appropriate landscaping, would be applied to protect the asset and improve its setting in the new context of the restricted byway. Archaeological monitoring would be undertaken on the removal of hardstanding material from the course of the A303 to create a restricted byway.</p>		
<b>Value of Asset Group AG26 (Old and New King Barrows)</b>	Very High	
Impact of the existing A303 and associated roads and infrastructure on the Attributes of OUV expressed by the Asset Group	Moderate	
Significance of effect of existing A303 and associated roads and infrastructure on the Attributes of OUV expressed by the Asset Group	Large Adverse	
<b>Scale and severity of change / impact of Scheme</b>	Fabric	No Change
	Setting	Minor Negative, Moderate Positive and Major Positive
<b>Significance of effect of Scheme, taking into account embedded mitigation (design)</b>	Moderate Beneficial	
<b>Significance of effect of Scheme, following proposed additional mitigation</b>	Moderate Beneficial	

**AG27 The Avenue**

<b>Designation:</b>	Scheduled monument
<b>Reference IDs:</b>	1010140, MWI12527
<b>Location (NGR):</b>	413413 142239 (centre point), 412300 142230 (western end), 414230 141370 (eastern end), 412708 142580 (the 'elbow')



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**Constituent elements of Asset Group**

The Asset Group comprises the Stonehenge Avenue, which is scheduled along with Stonehenge and a group of three round barrows. For the purposes of this assessment, the round barrows are included in AG30, and Stonehenge is assigned to AG22.

**Description**

The Avenue extends from the north-west entrance of the Stonehenge enclosure to the River Avon. It does so in three straight sections of approximately 500m, 700m and 900m, divided by a sharp turn at 'the elbow' and a regular curve on the eastern slope of King Barrow Ridge. It is c.10m wide between banks that survive to a maximum height of 0.2m; the ditches are also to a maximum depth of 0.2m, though were originally deeper. The most visible portion of the Avenue extends from Stonehenge to the north-east across a large expanse of open chalk grassland (Stonehenge Down) for approximately 500m, dropping down into Stonehenge Bottom before turning sharply to the east at the 'elbow'. Although this section of the Avenue remains comparatively prominent, it is no longer especially

conspicuous when observed from across the wider landscape. From the 'elbow', the Avenue is barely or no longer discernible above ground for the remainder of its length to the Avon. From Stonehenge, the Avenue passes through open downland, extending through the plantations on King Barrow Ridge and past the Old and New King Barrows. Beyond the ridge to the east, the Avenue turns gradually to the south-east across three parcels of grassland enclosed by post and wire fences, before being crossed by the A303. This section of the Avenue bisects another linear cluster of barrows, which are no longer prominent above ground. The line of the Avenue extends to the south-south-east beyond the A303, through a ploughed field and between two barrows (NHLE 1012131 and 1012127), only one of which (to the east of the monument) remains prominent above ground. Beyond the ploughed field, the line of the Avenue is crossed by Stonehenge Road. It then extends through a small, grassed enclosure and through West Amesbury. The line of the Avenue is difficult to follow through the village, its course having been built over. The final section of the Avenue is projected to descend through a small parcel of private grassland to the wooded valley of the River Avon and the site of the 'West Amesbury Henge'.

#### **Condition of the Asset Group**

The 2010-2011 condition survey (Wessex Archaeology 2012) noted that the Avenue was in poor condition, but was stable and had not changed since the previous survey in 2002. Its vulnerability was described as low.

#### **Attributes of setting**

The Avenue is not a greatly upstanding monument, nor one that is readily discernible or particularly legible at ground level. It is far better perceived from the air (self-evidently a non-authentic viewpoint during prehistory, but one from which it has intrinsic visual interest), and through mapping and digital survey (e.g. geophysical survey). Nevertheless, it presents a coherent linear feature for much of its original extent, whose significance derives in large part from its setting. This exists both in terms of physical relationships with the landscape through which it passes, and dynamic (changing) visual interconnections with the prehistoric ceremonial and funerary monuments along its route. Of particular importance in this regard is the continued legibility of the relationship between the Avenue and Stonehenge. Its linear character also makes it a means of traversing the remains of the late prehistoric landscape which (depending on which interpretation of its function one accepts) may replicate ancient itineraries. The sections of the Avenue from which these relationships can most readily be appreciated lie within the open access portion of the WHS. In the more fragmented southern part, where surrounding monuments generally have less surface expression, these associations are far less evident.

Traversing the Avenue, key views include:

- Views along the Avenue from the 'elbow' to the south-west towards the Heel Stone

and Stonehenge, along the solstitial alignment (midwinter sunset);

- Views along the Avenue and the Heel Stone to the north-east from Stonehenge, along the solstitial alignment (midsummer sunrise);
- Views along the Avenue from the west-north-west towards the prominent barrows on King Barrow Ridge;
- Views towards barrows lying adjacent to the route of the Avenue, particularly where these remain conspicuous above ground;
- Panoramic views from King Barrow Ridge and the west-north-west to east-south-east aligned section of the Avenue, into the central part of the WHS and the large number of visible prehistoric monuments within it, including Stonehenge; and
- Views along the section of the Avenue towards the western end of the Greater Cursus and the barrows clustered around it.

The existing route of the A303 severs the line of the Avenue, along with Stonehenge Road and the unnamed road between Vespasian's Camp and West Amesbury. This restricts visitor access to the eastern part of the Avenue, and precludes an uninterrupted line of travel along the length of the monument between the River Avon and the site of the West Amesbury Henge, and Stonehenge. The A303 is visually intrusive, particularly between Stonehenge Bottom and King Barrow Ridge. It produces light pollution, which potentially diminishes the observers' ability to appreciate the astronomical associations of the Avenue, and directly intrudes in the solstitial alignment of the Avenue and Stonehenge on the midwinter sunset. It intrudes in the backdrop of potentially deliberately constructed views of Stonehenge and other monuments when travelling along the Avenue; and intrudes in views from the south-west, for example from the 'Sun Barrow' (Amesbury 15; NHLE 1012370), along the solstitial alignment of the midsummer sunrise towards Stonehenge and the Avenue beyond.

There are numerous other aspects of the setting of the Avenue which detract from the ability of the observer to appreciate its significance, or its place within the wider Stonehenge landscape:

- The lack of prominence of the monument above ground to the east of Stonehenge Bottom down to the Avon, which renders the Avenue essentially imperceptible at ground level;
- The lack of prominence of several of the barrows constructed adjacent to the route of the Avenue and in the wider landscape;
- The illegibility of the relationship between Stonehenge, the Avenue, the River Avon and the West Amesbury Henge, due to the lack of access to the eastern end of the Avenue. The lack of surface expression of the West Amesbury Henge and the eastern terminal of the Avenue also renders these relationships indistinguishable;
- The fragmentation of the eastern end of the Avenue and restrictions on access at West Amesbury;

- The visually intrusive qualities of overhead cables and pylons within the wider landscape, which are prominent on the skyline;
- The presence of the Packway and the screening plantations around the periphery of Larkhill Camp, which appear on the horizon on the solstitial alignment (midsummer sunrise) looking north-east from Stonehenge along the Avenue;
- The presence of Larkhill Camp and its surrounding plantations, which intervene in views that may once have encompassed the barrows groups on Durrington Down, as well as prehistoric monuments to the north of the WHS, including Robin Hood's Ball and several long barrows;
- The woodland on King Barrow Ridge, which obscures views from the Avenue into the centre of the WHS, and towards the Old and New King Barrows and the eastern end of the Greater Cursus;
- The Fargo Plantation, which obscures views towards the horizon, the western end of the Greater Cursus and several of the barrows clustered around it;
- Other plantations in the wider landscape, including the woodland along Lake and Wilsford ridges, Normanton Gorse and the Diamond, which potentially obscure views of barrows in the southern part of the WHS.

### Integrity of the Asset Group

The integrity of the Avenue is variable along its length. The section of the Avenue between its junction with the north-eastern entrance to Stonehenge and the 'elbow' remains legibly defined by earthworks. By contrast, its integrity has been substantially compromised further to the east, beyond Stonehenge Bottom, where the monument retains little surface expression.

#### Wholeness

All the components of this Asset Group are located within the WHS.

#### Intactness

Although the more conspicuous western part of the Avenue traverses grass downland, the monument crosses several ploughed fields to the east and south-east of King Barrow Ridge. Stukeley, in his discussion of the Avenue, decried the harmful effects of ploughing as early as 1740:

*'This together with the several views I have drawn of it, will give us nearly as good a notion of the whole, as we can at this day expect, and perhaps preserve the memory of it hereafter, when the traces of this mighty work are obliterated with the plough, which it is to be fear'd, will be its fate. That instrument gaining ground too much, upon the ancient and innocent pastoritall life; hereabouts, and everywhere else in England:*

*and by destructive inclosures beggars and depopulates the country*’. (Stukeley 1740, 35).

The easternmost end of the Avenue is partially obscured beneath the village of West Amesbury. Its eastern terminal has yet to be pinpointed, though investigations carried out as part of the Stonehenge Riverside Project indicate that it ended within 5m of the West Amesbury Henge (Allen et al 2016).

The Avenue has been subject to several episodes of archaeological excavation throughout the 20<sup>th</sup> century (e.g. as documented in Cleal et al. 1995, 291-329). Intrusive investigations were carried out during the Stonehenge Riverside Project (Parker Pearson et al. 2008a) and in association with the closure of the A344 as part of the Stonehenge Environmental Improvements Project (SEIP; Wessex Archaeology 2016).

These investigations demonstrated that the buried remains of the Avenue survive comparatively well and thus retain their integrity. However, archaeological excavation is, by nature, a destructive process. Although the integrity of the Avenue has been affected by past excavations of small sections of the monument, this has been offset by the important information gathered by these investigations, and the enhanced understanding of its place within the wider landscape.

### Threats

The SoOUV makes specific reference to the impact of busy main roads on the Integrity of the WHS. The 2015 WHS Management Plan reiterates this, describing the major roads as the *‘main adverse impact of development on integrity’* (Simmonds and Thomas 2015, 35). Prior to its closure in 2013, the A344 crossed the Avenue at Stonehenge, severing the relationship between these monuments. This had been regarded as one of the more severe impacts on the Integrity of the WHS since its inscription in 1986.

Although this impact has been reversed, with a corresponding improvement to the integrity of the western portion of the monument, the eastern part of the Avenue still coincides with the A303, Stonehenge Road and the unnamed road between Vespasian’s Camp and West Amesbury.

### Authenticity of the Asset Group

Factors that preserve or enhance the authenticity of the Avenue include:

- Ongoing research since the inscription of the WHS, which has provided new sources of information and opportunities for understanding and interpreting the Avenue and its relationships with the wider cultural and natural landscape of the WHS;
- Although the integrity of the Avenue is variable above ground, its form and design have not been substantially modified since the monument fell out of active use. Importantly, no attempt has been made to ‘reconstruct’ the Avenue, beyond the reinstatement of previously excavated or damaged sections of the monument through

backfilling and re-seeding;

- The Avenue is one of several monuments at Stonehenge that has retained its solstitial alignment. The key associations between the Avenue and Stonehenge, other monuments and significant aspects of the natural landscape are also largely intact; and
- Visitors are can appreciate the location, setting and inter-relationships of the western section of the Avenue, extending between the north-eastern entrance to Stonehenge and the ‘elbow’. The inclusion of the western part of the Avenue within publicly accessible portions of the WHS is an important element of this, although this necessitates that a careful balance is struck with the conflicting priority of protecting the subtle and fragile earthworks of the Avenue from erosion caused by visitor footfall.

The legibility of the eastern portion of the Avenue is diminished because this section remains obscured by its lack of surface expression as earthworks, and by its coincidence with West Amesbury and several roads. There is currently no access via PRow, permissive paths or open access provided by agri-environment schemes. These factors reduce opportunities for visitors to the WHS to understand the monument in context. However, the remains of this section of the Avenue are presumably largely well preserved underground, and the authenticity of the monument is therefore unaffected.

### **Contribution to the Attributes that convey the OUV of the WHS**

The monuments within this Asset Group convey the Attributes of OUV in the following ways:

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

The conspicuous, upstanding portions of the Avenue, close to Stonehenge and to the west of King Barrow Ridge legibly illustrate the imposition of the concepts and beliefs of prehistoric communities on the landscape.

The physical remains of the Avenue have been levelled above ground to the east of King Barrow Ridge. Nevertheless, the buried remains of the monument presumably remain largely intact and continue to hold very considerable archaeological interest. This is due to the potential for future archaeological investigation to yield important new information relating to the construction, development and use of the monument, and the wider prehistoric landscape in which it is situated.

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

The Avenue is an exceptional example of the apparently deliberate siting of prehistoric monuments within the WHS in relation to the landscape.

Although the motivations for the construction of the Avenue are unclear, it is apparent that

the monument links Stonehenge and the River Avon. The Avenue post-dates the earliest phases of Stonehenge. There are also suggestions that the monument may have been constructed in more than one stage, with the western sections extending to the river possibly being later than the north-east to south-west section following the solstitial alignment at Stonehenge. The position of the monument indicates that as the landscape evolved, the association between the river and Stonehenge acquired sufficient meaning for the Avenue to be constructed or modified. This must have required a considerable amount of time and effort, and demonstrates the high level of organisation of the society that created it.

It has been suggested by a number of authorities (cited in Cleal et al. 1995, 291) that the construction of the Avenue might have been linked to the physical transportation of the bluestones from the River Avon to Stonehenge. More recently, it has been hypothesised that the monument, which might post-date the movement of the bluestones, may commemorate the route taken in the hauling the bluestones (Parker Pearson 2012, 225-6; Allen et al. 2016). The course of the Avenue is not the most direct route between these two points, and there is some debate about whether this is the most energy efficient route across the terrain. This has prompted speculation that other factors may have influenced the route of the Avenue. For example, Exon et al. (2000, 72) have highlighted that when travelling along the Avenue the observer experiences a series of changes in the 'overall extent and ambience of view', suggesting that monument visibility may have been an important influence in the position of the monument. They describe the ways that views change to encompass different monuments while travelling from east to west along the Avenue, until:

*'[...] quite suddenly, and increasingly quickly, as the last slope is tackled, all is forgotten as the skylined profile of the great monument of Stonehenge fills the view ahead. All that has been seen on the way, and all that it symbolised is now overtaken and replaced by the overwhelming and central experience of the stones themselves.'* (Exon et al., 75).

Whether linked to the transportation of the bluestones, the deliberate framing of views along a processional route, or other possible interpretations, it seems likely that natural variations in local topography influenced the design and location of the Avenue.

It has also been suggested that other natural features in the landscape may have influenced the position of the Avenue and, by extrapolation, Stonehenge itself. For example, the seemingly coincidental alignment of natural periglacial striping on the solstitial axis seen within the Avenue has been interpreted as a potentially decisive factor in this regard (Parker Pearson et al. 2008a, 24; Allen et al 2016). Bowden et al. (2015, 28) note that researchers involved in the Stonehenge Riverside Project have also suggested, perhaps controversially, that the banks of the Avenue may be at least partly defined by natural chalk ridges (Parker Pearson 2012, 243-5).

Parker Pearson (2013) has drawn attention to two other natural features aligned on the solstitial axis, which might have influenced the position of Stonehenge and the Avenue. The first of these is Newall's Mound at the Avenue's elbow, found to be a natural mound of clay-

with-flints (Evans 1984). The second is a mound within the centre of Stonehenge that could be a natural chalk knoll.

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

The SoOUV states that:

*'The design, position, and inter-relationship of the monuments and sites are evidence of a wealthy and highly organised prehistoric society able to impose its concepts on the environment. An outstanding example is the alignment of the Stonehenge Avenue (probably a processional route) and Stonehenge stone circle on the axis of the midsummer sunrise and midwinter sunset, indicating their ceremonial and astronomical character.'*

Specifically, it is the north-east to south-west aligned section of the Avenue, along with the Heel Stone, which extends from the north-eastern side of Stonehenge, which follows this solstitial alignment (Chadburn and Ruggles 2017). It has been noted that:

*'Although the summer solstice is the main focus for modern celebrations, most scholars consider it much more likely that the stones were originally used mainly at midwinter' (Chadburn and Ruggles 2017, 44).*

Lawson (2007, 195) notes:

*'Irrespective of whether the Avenue commemorated the arrival of the bluestones or not, it seems quite reasonable to consider it as the formal approach to the stones, which linked the cosmological elements of the tangible world. It could have been used to process from the earthfast monument towards the rising midsummer sun, and then to the waters of the Avon, thus mimicking the sun's passage through the morning sky. Alternatively, it could have been used as twilight approached at midwinter to process towards the Stones and to witness the sun disappearing behind the tallest trilithon. At other times of year, the form and direction of the Avenue at its junction with the circle would be an important reminder of these important annual events in the astronomical calendar.'*

The integrity of the astronomical / solstitial sightlines in each direction along the Avenue remain relatively intact due to the fact that this part of the monument is still evident above ground.

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

The Avenue is deliberately sited in relation to Stonehenge, forming an integral later addition to the ceremonial complex. The eastern end of the Avenue terminates at the relatively recently discovered West Amesbury Henge. The three monuments were interlinked, although the integrity and legibility of the relationship between the Avenue and

the West Amesbury Henge is diminished by the fact that these monuments are no longer visible above ground.

The Avenue may have been part of a larger and more complex composition of ceremonial monuments, in which Stonehenge was linked, via the monument, to the Avon and thence to the henge complex at Durrington Walls (Parker Pearson and Ramilisonina 1998).

Exon et al. (2000) have noted that, although the function of the Avenue may have changed during its period of use, the views available across the landscape from along its length would have remained unchanged. This prompted the researchers to explore the possibility that meaning was attached to the inter-visibility between the Avenue and other prehistoric monuments, as well as the changing nature of views available to the observer whilst travelling along its length. This may have played a role in determining the route of the Avenue.

The precise chronology of the Avenue and the barrows and other prehistoric monuments within the surrounding landscape is not fully understood. Many of the round barrows are likely to post-date the Avenue, although some of the earlier examples may have preceded its construction. The GIS-based visibility analysis carried out by Exon et al. (2000) also indicated that numerous earlier monuments, including Early Neolithic long barrows, several henges, the Greater Cursus and, possibly, Robin Hood's Ball would also have been visible whilst traversing the Avenue. For example, the researchers describe how '*From the River Avon the view is dominated by one (Amesbury 42) long barrow and the outline of Beacon Hill soaring above. These features may symbolise deep origins of life within the Mesolithic and Early Neolithic periods [...]*' (ibid., 75).

If, as is widely accepted, the siting of monuments in relation to each other is, or was significant, then it can be extrapolated that meaning may also have been attached to the gaps between them. For example, it has been observed that, within the WHS, there are '*[...] also areas which appear to have been deliberately left empty of monuments. These are important for our constantly developing understanding of the landscape as whole.*' (Simmonds and Thomas 2015, 34 para. 2.3.21).

Similarly, the absence of inter-visibility between monuments, where deliberately constructed, may also have held meaning for the builders of the Avenue. Exon et al. (2000), continuing their journey along the Avenue from the Avon, go on to describe how other monuments appear and recede from view whilst travelling along its route. From the top of King Barrow Ridge, which would have yielded wide ranging views across the landscape encompassing numerous henges, long barrows, and the Greater Cursus, several of these monuments disappear from view whilst continuing to the west down into Stonehenge Bottom. The researchers (ibid., 75) imply that meaning may have been attached to this: '*The walker experiences a negative and out-of-worldly state, but contact with the ultimate ancestral origins, a handhold to security in the past, are maintained.*'

Lawson (2007, 195) describes how, as King Barrow Ridge was crested, Stonehenge would gradually have been revealed as the centrepiece of a natural bowl ringed with barrows,

raising anticipation of arrival at the monument. From here, the henge would pass out of view whilst descending into Stonehenge Bottom. The journey along the Avenue would then culminate with the approach to Stonehenge from the 'elbow', along the north-east to south-west aligned section, which still provides views that reveal and frame the stones prominently against the horizon.

Barrett (1997) has also explored how the architectural order inherent in the design of Stonehenge may have been perceived and understood, and had meaning invested in it, by those traversing the Avenue from Stonehenge Bottom towards the stones.

#### **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 design and position of the Avenue, and its inter-relationships with other monuments convey this Attribute of the OUV of the WHS. The significance and physical relationships between the Avenue, other prehistoric monuments and the landscape remains recognisable within its setting to the west of King Barrow Ridge. To the east, where the Avenue and other prehistoric monuments are no longer evident above ground and their landscape setting is fragmented by roads and development, the ability of the observer to appreciate these meaningful contextual associations is greatly diminished.

#### **7. The influence of the remains of Neolithic and Bronze Age funerary and ceremonial monuments and their landscape settings on architects, artists, historians, archaeologists and others**

The Avenue was marked on a plan of Stonehenge, drawn in 1666 by John Aubrey for Charles II. It also forms the subject of Stukeley's etchings of views from various vantage points across the Stonehenge landscape (see HIA Annex 7 – Influences of the monuments and landscape of the Stonehenge part of the WHS on artists: Viewpoint 1, Stukeley's *Direct View of Stonehenge*). However, it does not figure prominently in many of the more celebrated artistic depictions of Stonehenge, such as those by Turner and Constable, which typically focus on the stones themselves. Despite this, the Avenue, as one of the more conspicuous, enigmatic and unique constructions within the WHS, has long attracted the attentions of antiquarians and archaeologists seeking to understand the Stonehenge landscape.

A key moment in this history of research was O.G.S. Crawford's rediscovery, in the early 1920s, of the eastern section of the Avenue, which appears to have been untraced and obscured under ploughed fields since at least the time of Stukeley (Crawford 1924, 57-59). Crawford's identification of the Avenue past King Barrow Ridge towards the River Avon, subsequently proved by excavation, also demonstrated the value of his pioneering use of aerial photography for archaeological prospection.

### Contribution to the Integrity of the WHS

The Avenue is a key component of the monumental henge complex, and its survival, albeit variable above ground conveys several Attributes of OUV.

### Contribution to the Authenticity of the WHS

The Avenue conveys many of the Attributes of OUV of the WHS. Its survival, albeit incomplete and barely perceptible above ground for part of its length, makes an important contribution to the overall cultural landscape of the WHS.

Although the eastern part of the Avenue retains little surface expression, the survival of its buried remains means that the monument holds considerable potential for archaeological research.

### Assessment of significance and value

The Asset Group's contribution to OUV is related to the tangible evidence it provides for the following Attributes of OUV:

- 2. The physical remains of the Neolithic and Bronze Age funerary and ceremonial monuments and associated sites.
- 3. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape.
- 4. The design of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the skies and astronomy.
- 5. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other.
- 6. The disposition, physical remains and settings of the key Neolithic and Bronze Age funerary, ceremonial and other monuments and sites of the period, which together form a landscape without parallel.
- 7. The influence of the remains of Neolithic and Bronze Age funerary and ceremonial monuments and their landscape settings on architects, artists, historians, archaeologists and others.

In accordance with Table 3, the Avenue Asset Group is assessed as Very High value.

### Existing baseline

The A303 has multiple negative effects on the setting of the monument, the principal of which are that it:

- Severs the line of the Avenue, along with Stonehenge Road and the unnamed road between Vespasian's Camp and West Amesbury. This restricts visitor access to the eastern part of the Avenue, and precludes an uninterrupted line of travel along the

length of the monument between the River Avon and the site of the West Amesbury Henge, and Stonehenge;

- Imposes a visually intrusive presence whilst traversing the length of the monument, particularly between Stonehenge Bottom and King Barrow Ridge;
- Imposes a varying degree of audible intrusion, which reduces the sense of tranquillity, particularly on those parts of the monument immediately abutting the A303;
- Produces light pollution, which potentially diminishes the observers ability to appreciate the astronomical associations of the Avenue;
- Directly intrudes in the solstitial alignment of the Avenue and Stonehenge on the midwinter sunset;
- Intrudes in the backdrop of potentially deliberately constructed views of Stonehenge and other monuments when travelling along the Avenue; and
- Intrudes in views from the south-west, for example from the ‘Sun Barrow’ (NHLE 1012370; also known as Amesbury 15), along the solstitial alignment of the midsummer sunrise towards Stonehenge and the Avenue beyond.

The impact of the existing A303 on the Attributes of OUV expressed by the Asset Group is assessed as **Moderate**. Consequently, the significance of effect of the existing A303 on the Attributes of OUV expressed by the Asset Group is assessed as **Large Adverse**.

### Assessment of impact of Scheme

The removal of the A303 surface road would have substantial beneficial impacts on the setting of the monument, and its integrity as a key component of the WHS. All of the negative aspects of the A303 listed above would be addressed, either completely or in part:

- Physical severance of the monument would be reduced, albeit not removed entirely, as the course of the current A303 would become a restricted byway.
- The visual and aural impact of the road and traffic would be removed to a very large degree. The change would be most discernible in northward-looking views from the southern section of the Avenue (i.e. where it currently approaches the A303), and in its northerly and westerly parts, whilst traversing the monument around King Barrow Ridge and Stonehenge Bottom. This represents a radical improvement on the current situation. Longitudinal eastward views of the Scheme, accompanied by some traffic noise, would continue to exist at and near the point at which the new road coincides with the Avenue;
- Partial restoration of the midwinter sunset solstitial alignment;
- The removal of the A303 would make it possible to traverse the greater part of the monument length on foot as a continuum, except at its south-eastern extreme. This would restore physical connectivity along much of this important prehistoric ceremonial route.

The Stonehenge Avenue looking south-west (mid-winter sunset) shares the same south-west solstitial alignment as Stonehenge (AG22) and the same issues apply regarding its integrity. This south-west solstitial aligned axis would be partially restored by the removal of both the present A303 and its traffic. On the initial south-westerly approach towards Stonehenge along the Avenue from the 'elbow' at Stonehenge Bottom, Stonehenge itself forms the horizon; the more distant landscape only appears at the final stage of approach. This south-west solstitial aligned axis would be partially restored by the removal of both the present A303 and its traffic, extending an uninhibited sightline to the round barrow known as the Sun Barrow (0.9km away) before the sightline then quickly runs into the plantation known as Normanton Gorse (1.1km) which obscures it. The integrity of this solstitial axis would be partially improved by the Scheme as the current A303, which obscures the sightline, would be decommissioned and the traffic (along with the associated light pollution) would be diverted underneath the landscape via the tunnel.

The Scheme would tie into the existing A303 and there would be some additional visible land take for the eastern portal but the design aims to put most of the new road within the existing highway boundary. The eastern portal and approach road would still be visible in some views to the east, but would be screened as far as possible by a short section of canopy.

Other negative aspects of the current setting would not be addressed, including those associated with modern landscape elements, e.g. buildings, plantations and pylons. The illegible character of its eastern end would remain unchanged, as would the fragmented nature of access in this locality.

#### **Impact on fabric**

The Asset Group would not be physically impacted by the Scheme. The Scheme would result in **No Change**.

#### **Impact on setting**

It is assessed that the Asset Group would experience an impact resulting in **Moderate Positive Change**.

#### **Significance of effect**

The Scheme is assessed to have a **Large Beneficial** effect for the part of the Avenue west of King Barrow Ridge where the road is in tunnel, as parts of the Avenue would be reconnected, traffic is being removed and the A303 downgraded to a restricted byway. East of King Barrow Ridge, the Scheme is assessed as having a **Moderate Beneficial** effect, as the road would still be visible in some views, including those to the east towards Vespasian's Camp and Countess Farm Barrows.

Taking account of the Very High value of the asset and in accordance with Table 5, the overall significance of effect of the Scheme on AG27 The Avenue would be **Large Beneficial** (derived from a **Moderate Positive** impact on a **Very High** value asset).

**Proposed mitigation**

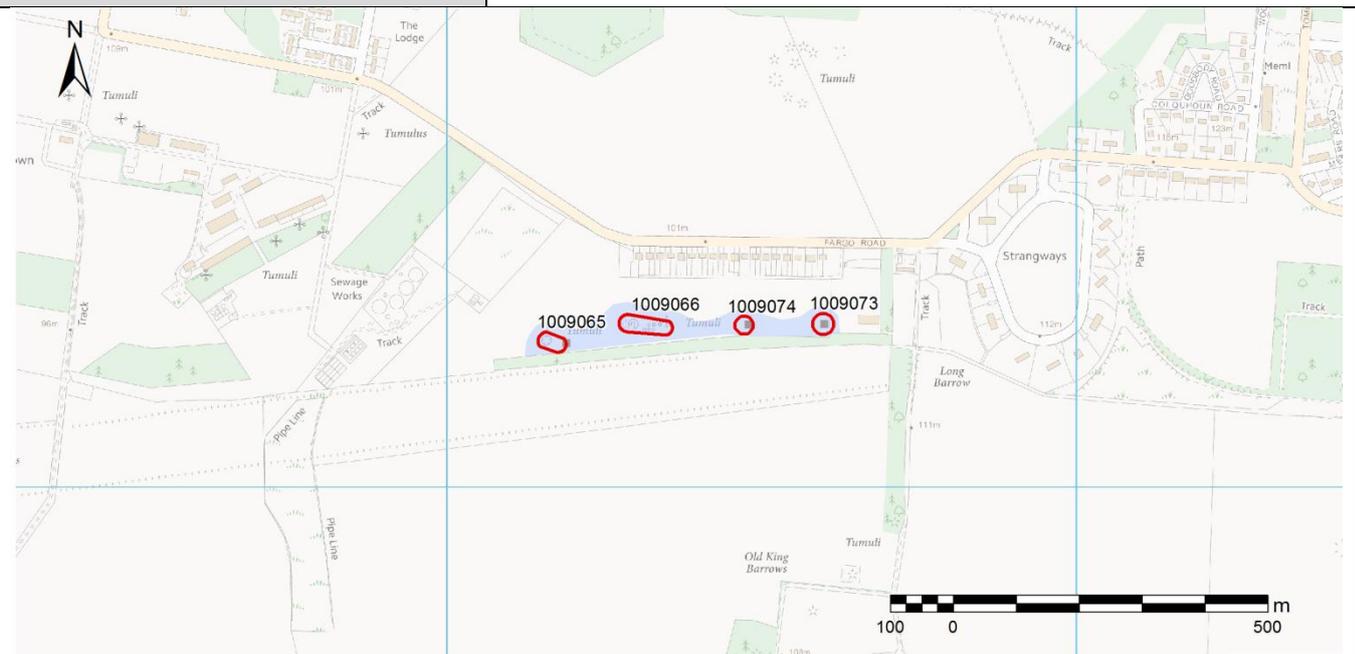
The construction of the existing A303 has severed The Avenue (NHLE 1010140). This site would be subject to protection measures during the preliminary works and construction. Sensitive mitigation, e.g. archaeological investigation or appropriate landscaping, would be applied to protect the asset and improve its setting.

Archaeological monitoring would be undertaken on the removal of hardstanding material from course of the A303 to create a restricted byway.

<b>Value of Asset Group AG27 (The Avenue)</b>		Very High
Impact of the existing A303 and associated roads and infrastructure on the Attributes of OUV expressed by the Asset Group		Moderate
Significance of effect of existing A303 and associated roads and infrastructure on the Attributes of OUV expressed by the Asset Group		Large Adverse
<b>Scale and severity of change / impact of Scheme</b>	Fabric	No Change
	Setting	Moderate Positive Change
<b>Significance of effect of Scheme, taking into account embedded mitigation (design)</b>		Large Beneficial
<b>Significance of effect of Scheme, following proposed additional mitigation (residual effect)</b>		Large Beneficial

## AG28 The Cursus Barrows (East)

<b>Designation:</b>	Scheduled monument
<b>Reference IDs:</b>	1009065, 1009066, 1009073, 1009074, MWI12850, MWI12851, MWI12852, MWI12855, MWI12856, MWI12857, MWI12858
<b>Location (NGR):</b>	413358 143254



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### Constituent elements of Asset Group

The Asset Group contains four scheduled monuments, located close to the northern side of the eastern end of the Greater Cursus (NHLE 1009132; AG23) and arranged in a line (some 450m in length) from west to east as follows:

- Two bowl barrows 30m north of The Cursus (NHLE 1009065; one of which is known as Durrington 62a);
- Three bowl barrows 40m north of The Cursus (NHLE 1009066; Durrington 60-2);
- Pond barrow 30m north of The Cursus (NHLE 1009074; Durrington 62b); and
- Bowl barrow 25m north of The Cursus (NHLE 1009073; Durrington 62c).

### Description

The group consists of a linear group of round barrows, described by the relevant NHLE descriptions as consisting of six of the more common 'bowl' types and one pond barrow. Only two of the monuments within the Asset Group (Durrington 60, part of NHLE 1009066;

and Durrington 62a, part of NHLE 1009065) retain any surface expression as earthworks, and even these appear to have been considerably eroded.

The barrows are located within an elongated, ploughed arable field, which is separated from the Greater Cursus by a narrow plantation densely populated with mature mixed woodland. Ordnance Survey mapping indicates that the plantation was established between 1924 and 1939. The plantation, which also extends around the eastern edge of the field containing the barrows, substantially curtails views across the surrounding landscape.

The northern edge of the field is bounded by a row of modern semi-detached properties on Fargo Road, which blocks long distance views to the north. The site of the redundant Larkhill Sewage Works lies to the west of the field, which were in the course of being removed in Spring 2018.

#### **Condition of the Asset Group**

The 2010-2011 condition survey (Wessex Archaeology 2012) indicated that the extant barrows were in poor condition, and mostly subject to slow deterioration.

#### **Attributes of setting**

At the time of their construction, the barrows would have been significant upstanding features. Depending on the extent and location of past woodland, their topographical situation may have offered considerable inter-visibility with other contemporary monuments. Today, several factors combine to diminish the ability to perceive this situation, namely:

- The lack of surface expression of several of the barrows, which greatly diminishes their legibility;
- The plantation to the south which segregates the group from the Greater Cursus, and greatly diminishes the ability to appreciate the close contextual / spatial relationships between them. The plantation also blocks inter-visibility with similar monuments clustered at the western end of the Greater Cursus, and other potentially significant visual links, including Stonehenge;
- The houses on Fargo Road, which are a conspicuously modern and visually intrusive element; these also block any views into the wider landscape to the north;
- The plantations and redundant Larkhill Sewage Works which intervene between the group and the landscape to the west, obscuring potential visual associations with the barrows on Durrington Down; and
- The modern agricultural setting within a ploughed field – far removed from the original landscape context of the monuments.

The key surviving views comprise those between the individual monuments within the group, and more general localised east-west vistas along the length of the linear barrow cemetery. As a consequence, the current setting of the monuments does not contribute strongly to their

significance. The immediate archaeological setting of the monuments is more significant, though again, below-ground survival within the group's environs will have been compromised by agricultural activities, woodland planting, and housing construction.

## **Integrity of the Asset Group**

### **Wholeness**

All the components of this Asset Group are located within the WHS. All of the assets within the group are within the WHS boundary.

### **Intactness**

Only two of the monuments within the Asset Group (Durrington 60; part of NHLE 1009066 and Durrington 62a; part of NHLE 1009065) retain any surface expression as earthworks, and these appear to have been considerably eroded.

Several of the barrows were built on during the First World War when the area was used as the site of a hutted camp (Soutar 2012, figure 4; Wessex Archaeology 1998, 39 and figure 3). The earthworks of some of the monuments may have been levelled during the construction of the camp. Although the structures presumably had relatively insubstantial foundations, their placement would have caused some ground disturbance to buried remains. Associated works, such as cutting drainage trenches, will have impacted on the barrows. Aerial photographs indicate that area around Durrington 62a may also have suffered damage from the digging of practice trenches (MWI12595) into and around the barrow(s).

The field containing the barrows has been ploughed continuously since the hutted camp was dismantled in the 1920s. It is likely that this has further truncated the above and below ground remains of the barrows.

All the barrows within this group, with the exception of the possible pond barrow known as Durrington 62b (NHLE 1009074; Soutar 2012, 14), were partially excavated in the early 19<sup>th</sup> century by Sir Richard Colt Hoare and William Cunnington. Colt Hoare also noted that Durrington 62a (NHLE 1009065) had been previously opened (Soutar 2012, 7). This has affected the physical integrity of the barrows, although the buried remains of unexcavated portions of the monuments may remain intact outside of other areas of disturbance.

The spatial associations between the monuments assigned to the Asset Group and other interrelated elements of the cultural landscape of the WHS remain intact. However, the visual integrity of the group as a linear barrow cemetery has been harmed by the levelling of the earthworks. Key relationships with the Greater Cursus and the heart of the WHS to the south have been severed by the establishment of the intervening plantation.

### **Threats**

Continued ploughing of the field containing the Asset Group is a key threat to the physical

integrity of the barrows, along with any associated buried remains that may lie outside of the constraint areas of the scheduled monuments.

### **Authenticity of the Asset Group**

Factors that preserve or enhance the authenticity of the Asset Group include:

- Evidence yielded by investigations undertaken by the antiquarians Colt Hoare and Cunnington, which has enabled these barrows to be partially understood, enhancing the authenticity of interpretations of the monuments and the wider cultural landscape of the WHS;
- Ongoing research since the inscription of the WHS, which has provided new sources of information and opportunities for understanding the context of these assets within the wider cultural and natural landscape of the WHS;
- Despite the loss of the above ground elements of some of the barrows, the buried remains of the monuments presumably survive at least partially intact; and
- The absence of any attempts to reconstruct the monuments.

Factors that reduce or diminish the authenticity of the Asset Group include:

- The limited extent / scope of dedicated / targeted modern investigation, which means that the specific nature and chronology of the monuments within this group are not fully understood; and
- The setting of the monuments, which has been fragmented by modern development, plantations and its inclusion within a large arable field. This is in contrast to the original character of the landscape, which was presumably relatively open, and diminishes the ability of visitors to appreciate the location, setting and inter-relationships of the majority of the monuments within the Asset Group. Restrictions on access also reduce opportunities for visitors to the WHS to experience / understand the monuments in context.

### **Contribution to the Attributes that convey the OUV of the WHS**

The monuments within this Asset Group convey the Attributes of OUV in the following ways:

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

The physical remains, both above and below ground, of the individual monuments within the Asset Group have a high potential to contain important archaeological and palaeoenvironmental evidence pertaining to their construction, relative chronologies, territorial significance, and overall landscape context, in addition to information relating to the funerary and ceremonial practices, beliefs and social organisation of the communities that

constructed them. Even those monuments that retain no surface expression retain considerable archaeological interest.

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

The group of barrows clustered at the eastern end of the Greater Cursus is one of a number of linear cemeteries located on the immediate horizon around Stonehenge, with others on the ridgelines along the western end of the Greater Cursus, King Barrow Ridge and Normanton Down to the south, and Winterbourne Stoke Down to the west. An outer ring of barrow cemeteries, including those on Durrington Down (AG20) to the north and the Lake (AG16) and Wilsford groups to the south, is located on what would once have been visible as the far horizon from Stonehenge.

Although the barrows assigned to this Asset Group are now screened from the heart of the WHS by the intervening plantation, there was, and still is a strong visual relationship between Stonehenge and the other elements of the inner ring of barrow cemeteries on the near horizon. The barrow groups are located prominently on these ridges and thus appear silhouetted against the horizon when viewed from the henge. Numerous researchers have inferred that importance was invested in the visual relationships between these monuments and that Stonehenge formed the main focal point of this landscape.

Although the siting of the monuments within this Asset Group appears to have deliberately exploited topographical variations, this may have been intended to create lines of sight between features of the cultural landscape, or to elevate the visual prominence of the monuments themselves, or to silhouette them prominently on the horizon, rather than to specifically reference these, or other aspects of the natural landscape.

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

As discussed in relation to Attribute 3, above, it has been widely hypothesised (e.g. Woodward and Woodward 1996, Exon et al. 2000, Lawson 2007) that the barrows and groups of barrows on the near horizon around Stonehenge, including those assigned to this Asset Group, were deliberately sited to reference the monumental henge complex. These interpretations typically indicate that the henge formed the focal point in the ceremonial and funerary landscape of the WHS.

The monuments within the Asset Group were sited with an element of respect for each other. The apparently deliberate clustering of the monuments within the Asset Group, in close proximity to the earlier Greater Cursus (AG23), along with the larger and more conspicuous group at its western end (AG18) demonstrates some continuity between old and new monuments.

Amadio and Bishop (2010, 30) highlight how the prominent cluster of barrows at the western end of the Greater Cursus (AG18) appears to mirror the linear cemetery of barrows which

extends parallel to the northern side of the eastern end of the monument. They suggest that, although there are other linear barrow groups in the WHS, *'the linear arrangement of these barrows almost mimics the linear form of the earlier earthwork, perhaps deliberately making a physical link with what has gone before and in so doing legitimising new belief systems'*. The authors go on to emphasise that the linear arrangement of the barrows mirrors the form of the earlier ceremonial monument, stating that *'this patterning could imply that the Cursus, and particularly either end, was also a major initial monumental focus in placement [sic] of these barrows, not just the often assumed Stonehenge'*.

Similarly, Soutar (2012, 14) has stated that:

*'The linear trend is particularly common in the pattern of barrow cemeteries around Stonehenge. It may imply territoriality, with barrows placed along a boundary on land that is marginal to settlement. Such boundaries may have had a range of physical and spiritual meanings (Field 1998). The presence of the linear barrow group along the northern side of the much earlier Cursus implies that it may have been seen in this way, perhaps acting as some sort of physical boundary and / or as a physical reference to a range of values and associations. The Cursus appears to have provided the monumental focus for activities that culminated in the creation of the round barrows in the Early Bronze Age. Their dispersed pattern may have been an attempt to mimic the length, and perhaps significance, of this earlier earthwork.'*

Geophysical surveys carried out as part of the Hidden Landscapes Project (Gaffney et al 2012) appear to have detected an 'annular feature', possibly representing another round barrow, or similar form of prehistoric monument, at the southern edge of the Greater Cursus, approximately 100m to the west of its eastern terminal.

The apparently deliberate, and meaningful siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other is evidenced by the spatial / contextual and visual relationships between:

- The monuments within the Asset Group;
- The monuments within the Asset Group and Stonehenge (AG22);
- The monuments within the Asset Group and the Greater Cursus (AG23);
- The monuments within the Asset Group and other barrows, and groups of barrows which share inter-visibility with them, particularly those on King Barrow Ridge (AG26), Stonehenge Down (AG21) and Normanton Down (AG19).

## **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 integrity of the individual monuments within the Asset Group is variable; most retain little surface expression, whilst antiquarian and more recent archaeological excavation has resulted in some damage to their physical remains. Nevertheless, the monuments remain

partially intact. The relationships between many of these monuments and other features of the wider cultural and natural landscape of the WHS remain broadly legible, particularly the association with the Greater Cursus and Stonehenge, even if the specific meanings attached to these by prehistoric communities can no longer be fully understood.

**7. The influence of the remains of Neolithic and Bronze Age funerary and ceremonial monuments and their landscape settings on architects, artists, historians, archaeologists and others**

Many of the burial mounds in the WHS, including most of those contained within this Asset Group, were subject to partial excavation in the 19<sup>th</sup> century. This in itself forms a significant part of the history of the site, as the investigations carried out by antiquarians such as Sir Richard Colt Hoare and William Cunnington helped to promote an interest in, and understanding of Stonehenge and its wider landscape, and the development of modern archaeology.

**Contribution to the Integrity of the WHS**

The Asset Group conveys several Attributes of OUV. Although the integrity of the individual monuments within the Asset Group has been diminished, it contains one of several barrow cemeteries prominently located on the near horizon around Stonehenge. It illustrates the importance that seems to have been attached to the relationships between Neolithic and Bronze monuments, particularly the focal position of Stonehenge in the landscape, and the continued influence of the Early Neolithic Greater Cursus.

The presence / survival of the Asset Group therefore contributes to the overall Integrity of the cultural landscape of the WHS.

**Contribution to the Authenticity of the WHS**

Although the integrity of the individual monuments has been impacted by past ploughing, archaeological excavation and military activity, the presence of the Asset Group contributes to the overall cohesiveness and legibility of the cultural landscape of the WHS, and thus also its Authenticity.

**Assessment of significance and value**

The Asset Group’s contribution to OUV is related to the tangible evidence it provides for the following Attributes of OUV:

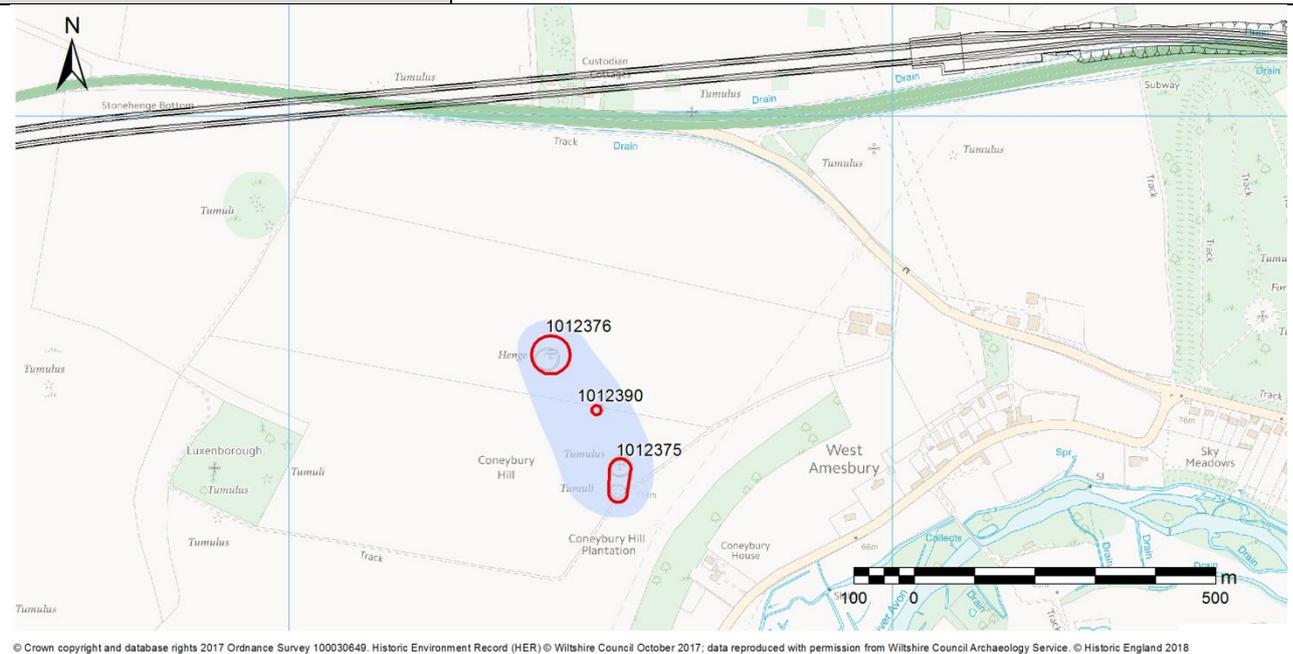
- 2. The physical remains of the Neolithic and Bronze Age funerary and ceremonial monuments and associated sites.
- 3. The siting of Neolithic and Bronze Age funerary and ceremonial sites and

<p>monuments in relation to the landscape.</p> <ul style="list-style-type: none"> <li>– 5. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other.</li> <li>– 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.</li> <li>– 7. The influence of the remains of Neolithic and Bronze Age funerary and ceremonial monuments and their landscape settings on architects, artists, historians, archaeologists and others.</li> </ul> <p>In accordance with Table 3, the Cursus Barrows (East) Asset Group is assessed as Very High value.</p>	
<b>Existing baseline</b>	
<p>The A303 is distant from the group and no traffic noise or other impacts are apparent. The existing A303 is assessed as having <b>No</b> impact on Attributes of OUV of the WHS conveyed by this Asset Group, resulting in a <b>Neutral</b> effect.</p>	
<b>Assessment of impact of Scheme</b>	
<p>The Scheme is distant from the group.</p> <p><b>Impact on fabric</b></p> <p>The Cursus Barrows (East) Asset Group would not be physically impacted by the Scheme. The Scheme would result in <b>No Change</b>.</p> <p><b>Impact on setting</b></p> <p>It is assessed that Asset Group would experience <b>No Change</b>.</p>	
<b>Significance of effect</b>	
<p>Taking account of the Very High value of the asset and in accordance with Table 5, the overall significance of effect of the Scheme on AG28 The Cursus Barrows (East) would be <b>Neutral</b> (derived from <b>No</b> impact on a <b>Very High</b> value asset).</p>	
<b>Proposed mitigation</b>	
<p>No mitigation is proposed, as there are no direct physical impacts.</p>	
<b>Value of Asset Group AG28 (The Cursus Barrows (East))</b>	Very High
Impact of the existing A303 and associated roads and infrastructure on the Attributes of OUV expressed by the Asset Group	None

Significance of effect of existing A303 and associated roads and infrastructure on the Attributes of OUV expressed by the Asset Group		Neutral
<b>Scale and severity of change / impact of Scheme</b>	Fabric	No Change
	Setting	No Change
<b>Significance of effect of Scheme, taking into account embedded mitigation (design)</b>		Neutral
<b>Significance of effect of Scheme, following proposed additional mitigation (residual effect)</b>		Neutral

## AG29 Coneybury Henge and Associated Monuments

<b>Designation:</b>	Scheduled monument
<b>Reference IDs:</b>	1012375, 1012376, 1012390, MWI12498, MWI12645, MWI13053, MWI13054, MWI74677
<b>Location (NGR):</b>	413493 141492



## Constituent elements of Asset Group

The Asset Group includes:

- 1 scheduled henge;
- 3 scheduled bowl barrows; and
- Additional possible unscheduled barrow identified by geophysical survey.

## Description

The group comprises a henge and three bowl barrows forming a small group of monuments on Coneybury Hill. A further possible unscheduled barrow is indicated by a ring ditch identified by geophysical survey and is also included. It is unclear whether a similar anomaly represents a mislocation of one of the scheduled examples or a further additional barrow. Of the barrows within the group, two have been levelled by modern cultivation. The third (King Barrow), is still upstanding.

The group lies on the eastern edge of an area of higher ground forming a continuation of King Barrow Ridge, with the henge monument situated on a slightly south-east facing

slope. The land falls to the east and north-east towards the Avon Valley. To the west, the dry valley known as Stonehenge Bottom is visible. The present setting is at the edge of a pasture field, amidst a broader farming landscape of large pasture and arable fields divided by post and wire fences. A trackway runs to the immediate south of the southernmost barrow in the group, while small areas of plantation stand to the west and north-west. Some 75m to the south-east of the group is a line of electricity pylons on a north-east to south-west alignment.

#### **Condition of the Asset Group**

The 2010-2011 condition survey (Wessex Archaeology 2012) noted that extant monuments were in fair or poor condition, and were stable or deteriorating slowly. Southerly monuments were subject to impacts from mole burrowing and scrub.

#### **Attributes of setting**

The upstanding King Barrow is a prominent feature which is clearly visible from the southern edge of New King Barrows to the north and the Luxenborough barrows to the west. It has intrinsic visual interest and acts as a marker in the landscape for the other elements in the group which lack surface expression. The group setting is preserved archaeologically, but again is not apparent on the ground. In terms of the broader setting, the group is situated on an elevated ridge that offers potential inter-visibility with other monuments. The most readily available views would seem to have been from the north-north-west edge of Coneybury Henge; from here, during the Neolithic and Bronze Age there would have been theoretical views of a number of contemporary and earlier monuments, including several long barrows, Robin Hood's Ball and The Cuckoo Stone, though in reality vegetation may have blocked these views. Due to topography, very limited inter-visibility would have existed between the outer edge of Coneybury Henge and Stonehenge; however, both monuments can be viewed in conjunction from the southern edge of King Barrow Ridge. From the group as a whole, there are views in the direction of the barrow groups at Stonehenge Bottom / Luxenborough (AG24), King Barrow Ridge (AG26) and Normanton Down Barrows (AG19), although in each case inter-visibility is currently partially or completely obscured by woodland. South-easterly views towards the River Avon are also blocked by a large plantation.

Although the compromising effect of modern woodland is noted, the group's visual setting, including inter-visibility with other monuments, contributes to the significance of the group and that of its constituent elements. The key views are as follow:

- From King Barrow Ridge (AG26) adjacent to the A303, from which both Coneybury Henge (AG29) and Stonehenge (AG22) are visible;
- To the north along King Barrow Ridge (AG26);
- To the west towards the Stonehenge Bottom / Luxenborough Barrows (AG24) and

- to the Normanton Down Barrows (AG19) beyond;
- To the north-west towards Stonehenge (AG22).

### **Integrity of the Asset Group**

Although the henge and two of the barrows have been levelled, the King Barrow survives as a prominent earthwork.

#### **Wholeness**

All the components of this Asset Group are located within the WHS.

#### **Intactness**

Although most of the monuments within the group have been levelled, archaeological investigations indicate survival of below ground archaeological remains including associated features. These results demonstrate that the funerary and other archaeological remains survive and thus retain their integrity. However, archaeological excavation is, by nature, a destructive process. Consequently, the integrity of the monuments may have been affected by past excavations, although this has been partially offset by the information gathered by these investigations, and the enhanced understanding of its place within the wider Stonehenge landscape.

#### **Threats**

The surviving King Barrow has been fenced off to protect it from agricultural impacts and has been kept clear from scrub.

### **Authenticity of the Asset Group**

Factors that preserve or enhance the authenticity of the Asset Group include:

- Modern archaeological investigations have provided evidence which has enhanced our understanding of these monuments and provided information and inspiration for future research of other monuments in the Stonehenge landscape; and
- Although the integrity of most of the monuments is reduced above ground, the King Barrow survives as a prominent earthwork.

Factors that reduce or diminish the authenticity of the Asset Group include:

- Possible key views between the Asset Group and Stonehenge have been affected by the position of the A303 and some of the inter-visibility of the Asset Group to other contemporary barrow cemeteries is obscured by woodland, this does diminish the ability of the Asset Group to fully convey the OUV of the WHS, in

particular Attribute 5, '*the siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other*'.

### **Contribution to the Attributes that convey the OUV of the WHS**

The monuments within this Asset Group convey the Attributes of OUV in the following ways:

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

While many of the burial mounds in the WHS have been subject to excavations in the 19th century, this forms a significant part of their history as the interest of early antiquarians such as Richard Colt Hoare and William Cunnington helped shape both modern archaeology and our interest and understanding of Stonehenge and its wider landscape. Even where monuments have no upstanding earthworks surviving, there is still the potential for below ground remains to survive, as well as other possible associated features which may have never had an earthwork component.

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

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

Due to the inter-relationship between the placement of monuments in association with landscape features and their placement in relation to other earlier and contemporary monuments these two Attributes of the OUV will be discussed in tandem.

Coneybury Henge and Associated Monuments lie on an elevated ridge of land on the western edge of the Avon Valley, although today, the barrows are mostly subsumed within mature woodland. The siting of the group on the ridge likely indicates that inter-visibility with Stonehenge Bottom / Luxenborough Barrows (AG24), Normanton Down Barrows (AG19) and New King Barrows (AG26) was deliberate, although currently these associations are now obscured by the woodland.

Within the Asset Group, the Early Neolithic possible feasting pit, the 'Coneybury Anomaly', suggests a potential significance to this location, which may have influenced the placement of the later henge. Here, as elsewhere in the Stonehenge landscape, there appears to be link between these earlier monuments and the later barrows. While the barrows are clearly situated on higher ground, their position on the ridge is likely to have been influenced by the location of the henge.

**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.**

Although only a single barrow is now visible as an upstanding earthwork, this surviving mound forms a prominent feature and a legible reminder of the wider ceremonial landscape. This along with the other barrows, Coneybury Henge and the ‘Coneybury Anomaly’ add to the concentration of important and significant features within the WHS. The ‘Coneybury Anomaly’ is the earliest known feature of the earlier Neolithic within the WHS (Bowden et al. 2015, 16) and gives important context to the society which constructed the earliest phase of Stonehenge.

**7. The influence of the remains of Neolithic and Bronze Age funerary and ceremonial monuments and their landscape settings on architects, artists, historians, archaeologists and others.**

The Asset Group forms part of the wider cultural landscape around Stonehenge, which has provided inspiration to artists and archaeologists from at least the 18<sup>th</sup> century. The King Barrow was noted by Sir Richard Colt Hoare and was partially excavated in the 18<sup>th</sup> century.

**Contribution to the Integrity of the WHS**

The Asset Group contains two barrow cemeteries within which archaeological remains are anticipated to survive; as such it is an important contributor to several of the Attributes of the OUV of the WHS.

**Contribution to the Authenticity of the WHS**

The monuments within this Asset Group include the prominent King Barrow and are therefore a tangible illustration of past prehistoric funerary activity within the WHS. Our understanding of this activity is confirmed and enhanced by modern archaeological investigations.

**Assessment of significance and value**

The Asset Group’s contribution to OUV is related to the tangible evidence it provides for the following Attributes of OUV:

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

monuments in relation to the landscape.

- 5. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other.
- 6. The disposition, physical remains and settings of the key Neolithic and Bronze Age funerary, ceremonial and other monuments and sites of the period, which together form a landscape without parallel.
- 7. The influence of the remains of Neolithic and Bronze Age funerary and ceremonial monuments and their landscape settings on architects, artists, historians, archaeologists and others.

In accordance with Table 3, the Coneybury Henge and Associated Monuments Asset Group is assessed as Very High value.

### Existing baseline

The existing A303 is located c. 325m from the northern limit of the group. Intermittent trees and shrubs border its route, but traffic is visible and also faintly audible. The position of the A303 impinges on the spatial and visual link between the group and Stonehenge, particularly when viewed from the southern end of King Barrow Ridge. Here visual intrusion, and to a lesser extent traffic noise (the level of which varies according to wind direction), are readily experienced, while the road also creates a physical barrier that severs the prehistoric landscape.

The impact of the existing A303 on the Attributes of OUV expressed by the Asset Group is assessed as **Moderate**. Consequently, the significance of effect of the existing A303 on the Attributes of OUV expressed by the Asset Group is assessed as **Large Adverse**.

### Assessment of impact of Scheme

The Scheme would remove the surface road from the landscape north of the group. The eastern portal would lie c. 725m to the north-east – more than doubling the separation between the group and views / sound of moving traffic. The eastern portal is downslope and would not be visible from this group. This would be a marked improvement to the setting, improving the physical and visual linkages between the group and elements to the north and north-west, specifically King Barrow Ridge and Stonehenge.

Coneybury Henge and Coneybury barrow lie to the south of the existing A303 and its relationship with the King Barrows on the ridge is severed by the road. The existing severance would be removed.

The Scheme would not address other existing negative effects upon setting, particularly the presence of modern plantations.

### Impact on fabric

The Asset Group would not be physically impacted by the Scheme. The Scheme would result in **No Change**.

**Impact on setting**

It is assessed that the Asset Group would experience **Moderate Positive Change**.

**Significance of effect**

Taking account of the Very High value of the asset and in accordance with Table 5, the overall significance of effect of the Scheme on AG29 Coneybury Henge and Associated Monuments would be **Large Beneficial** (derived from **Moderate Positive Change** to a **Very High** value asset).

**Proposed mitigation**

No mitigation is proposed, as there are no direct physical impacts.

**Value of Asset Group AG29 (Coneybury Henge and Associated Monuments)**

Very High

Impact of the existing A303 and associated roads and infrastructure on the Attributes of OUV expressed by the Asset Group

Moderate

Significance of effect of existing A303 and associated roads and infrastructure on the Attributes of OUV expressed by the Asset Group

Large Adverse

**Scale and severity of change / impact of Scheme**

Fabric

No Change

Setting

Moderate Positive Change

**Significance of effect of Scheme, taking into account embedded mitigation (design)**

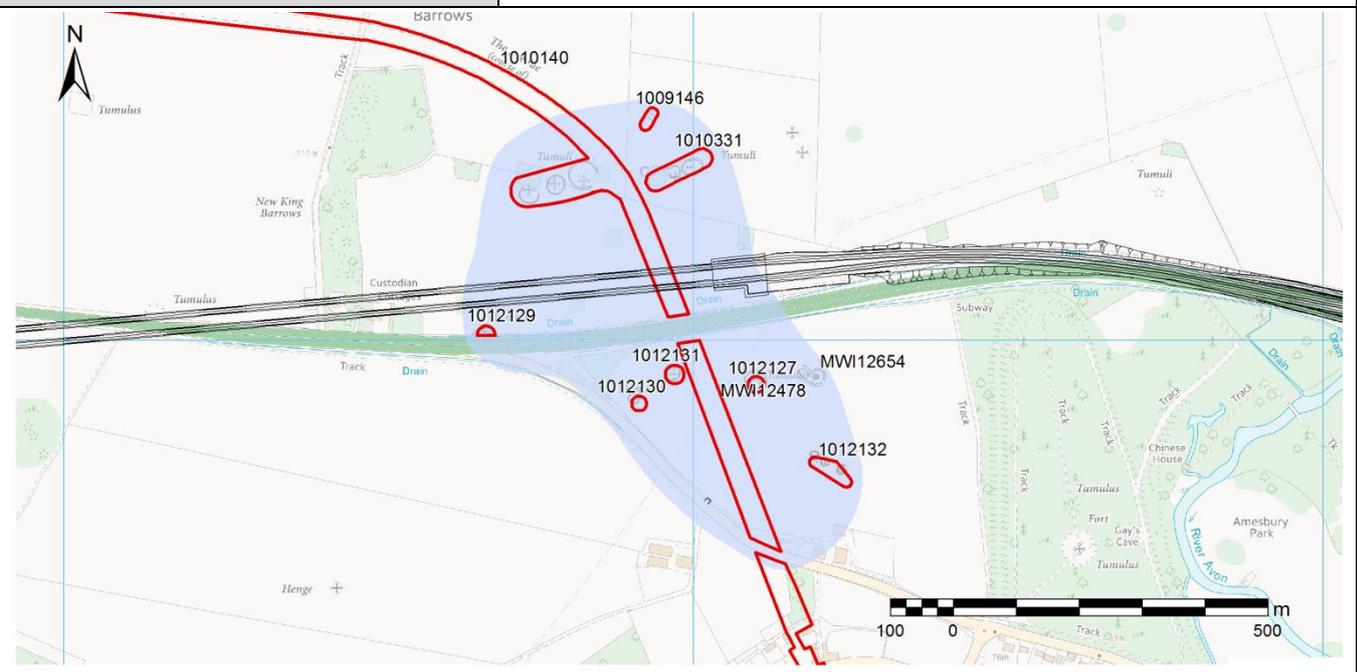
Large Beneficial

**Significance of effect of Scheme, following proposed additional mitigation (residual effect)**

Large Beneficial

### AG30 The Avenue Barrows

<b>Designation:</b>	Scheduled monument
<b>Reference IDs:</b>	1009146, 1010140, 1010331, 1012127, 1012129, 1012130, 1012131, 1012132, MWI12478, MWI12653, MWI12654, MWI12718, MWI12724, MWI12921, MWI12925, MWI12926, MWI12927, MWI12945, MWI12953, MWI12954, MWI13052, MWI13055, MWI13056, MWI13127, MWI13147
<b>Location (NGR):</b>	413952 142027



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### Constituent elements of Asset Group

The Asset Group contains 15 round barrows, which form 8 scheduled monuments:

Three round barrows, which form part of the same scheduling as Stonehenge and the Avenue (NHLE 1010140);

- Two bowl barrows 70m north-east of The Avenue on Countess Farm (NHLE 1009146);
- A bell barrow and two bowl barrows east of The Avenue on Countess Farm: part of a linear round barrow cemetery (NHLE 1010331);
- Bowl barrow 320m west of Vespasian's Camp (NHLE 1012127);
- Bowl barrow 150m east of Stonehenge Cottages on A303 (NHLE 1012129);
- Bowl barrow 70m south of A303 (NHLE 1012130);

- Bowl barrow 50m south of A303 (NHLE 1012131); and
- Three bowl barrows 220m west of Vespasian's Camp (NHLE 1012132).

In addition, the Asset Group contains a non-designated levelled long barrow (MWI12478) and adjoining segmented ring-ditch (MWI12654) initially identified from aerial photographs and subsequently detected by geophysical survey (Wessex Archaeology 2016).

### Description

The Asset Group contains 15 round barrows, incorporated within eight scheduled monuments. In addition, the group contains a non-designated long barrow (MWI12478) and adjoining segmented ring ditch (MWI12654). The earthwork components of most of the monuments within this group have either been levelled, or very substantially reduced in height, such that all lack obvious surface expression. The construction of the A303 led to the partial destruction of the round barrow scheduled as NHLE 1012129.

The monuments assigned to the group are situated on a gentle east and south-east facing slope above the valley of the River Avon, to the east of King Barrow Ridge. They are predominantly located within large, ploughed arable fields on either side of the A303. However, part of the linear barrow group which is bisected by the Avenue (NHLE 1010331, and part of 1010140), and two other round barrows located slightly to the north (NHLE 1009146), are situated within a parcel of land which has been reverted to grass downland. Small stands of trees known as the 'Nile Clumps' are dispersed amongst the barrows on the northern side of the A303.

### Condition of the Asset Group

The 2010-2011 condition survey (Wessex Archaeology 2012) indicated that the few extant monuments in this group were in fair or poor condition. Most of the barrows were subject to slow or moderate deterioration due to cultivation impacts. A few of the barrows were impacted by rabbit and mole burrowing and trees / bushes.

### Attributes of setting

The monuments within the group lack surface expression. This lack of visibility also obscures the group setting, including with the Avenue; while extant archaeologically and appreciable on mapping, this is not particularly legible on the ground. While the group is not particularly prominent, the wider visual connections contribute to its significance. Key views include:

- From the locations of the monuments towards each other;
- Towards the locations of the barrows while travelling along the line of the Avenue;
- Towards the wooded valley of the River Avon; and
- From the locations of the monuments towards the locations of other contemporary

monuments, including the barrows on Countess Farm (AG31) and on King Barrow Ridge (AG26).

Though shrouded by dense tree cover, the conspicuous presence of Vespasian's Camp also provides a sense of time depth, illustrating the continued use of the landscape into late prehistory. The relatively open character of the surrounding landscape to the north of the A303 also aids in the appreciation of the context of the monuments within the wider cultural and natural landscape of the WHS.

There are numerous aspects of the setting of the barrows which currently detract from the quality of setting and the ability to appreciate their original situation within the broader Stonehenge landscape:

- The lack of prominence / limited surface expression of the monuments within the Asset Group. This reduces their legibility as components of the cultural landscape of the WHS, as well as meaningful associations between them and other aspects of the surrounding landscape; this is accentuated by a similar lack of prominence of other monuments in the locality, including the eastern part of the Avenue (AG27) and the other barrows on land to the north-east and east (AG31). Any inter-connections between the group and these other monuments are imperceptible at ground level.
- The woodland on King Barrow Ridge, which obscure views towards the Old and New King Barrows (AG26) and the eastern end of the Greater Cursus (AG23) – though the topography may always have precluded inter-visibility with these barrows. Other plantations and vegetation restrict inter-visibility across the surrounding landscape, including, for example, views towards Coneybury Hill;
- The inclusion of the barrows within a largely arable landscape, which is anomalous to the original setting. Several of the monuments are isolated from each other by intervening land divisions;
- The built-up area of West Amesbury, which blocks potential views towards the valley of the River Avon (a potential factor in the siting of the monuments); and
- Overhead cables and pylons, which are a conspicuous and intrusive modern presence in the immediate vicinity of the barrows on the southern side of the A303, and in longer distance views across the wider landscape from the northern side of the road.

### **Integrity of the Asset Group**

#### **Wholeness**

All the components of this Asset Group are located within the WHS.

#### **Intactness**

None of the monuments assigned to the Asset Group incorporate substantial earthworks. The above ground elements of the barrows may have suffered the damaging effects of cultivation; perhaps since at least the middle of the 18<sup>th</sup> century, when Stukeley (1740, 35) observed that

the surface traces of the eastern part of the Avenue, past King Barrow Ridge, had been obliterated by ploughing.

If the long barrow at West Amesbury mentioned by Lukis (1864, 155) is the example assigned to the Asset Group (Amesbury 140; MWI12478), then this may have been 'destroyed' above ground since at least the middle of the 19<sup>th</sup> century.

One of the scheduled round barrows (NHLE 1012129) is located on the northern edge of the A303 between King Barrow Ridge / Stonehenge Cottages and the Avenue. The southern section of the barrow has been destroyed by the down-cutting of the A303.

Their lack of surface expression may have prevented the barrows from being targeted by antiquarians. However, four of the barrows were partially excavated in the 20<sup>th</sup> century; two in 1924 by Col. Hawley and Passmore (Passmore 1942), and another two were excavated by Major Vatcher in 1959 (Gingell 1988; RCHME 1979). The latter investigations appear to have been carried out for the Ministry of Works in response to the ongoing risk of damage caused by ploughing. Gingell (1988, 36) also suggests that one of the barrows excavated by Vatcher, Amesbury 133 (part of NHLE 1010331), may have been previously explored. The site of the barrow which had previously been partially destroyed by the A303 (NHLE 1012129) has also been subject to some minor archaeological interventions. These took place during the installation of a water main in 1980 and the maintenance of a roadside ditch in 2001 (Wessex Archaeology 2002).

Past investigations have resulted in some impact to the physical integrity of the below ground elements of the monuments, although the losses from previous excavation are offset by the knowledge gathered and its contribution to our wider understanding of the WHS. Moreover, the unexcavated portions of the monuments are likely to be largely intact, as evidenced by recent geophysical survey (Wessex Archaeology 2016), and thus retain potential for future research.

### **Threats**

Continued ploughing of the land containing the Asset Group is perhaps the most notable threat to the physical integrity of the barrows (although some are fenced off and protected), along with any associated buried remains that may lie outside of the constraint areas of the scheduled monuments.

Recent geophysical survey (Wessex Archaeology 2016) has indicated that the buried remains of several of the monuments extend beyond the formal constraint areas of the scheduling applied to them. Although most of the monuments within the Asset Group are scheduled, the long barrow (MWI12478) and segmented ring-ditch (MWI12654) are not subject to statutory protection. Nevertheless, their inclusion within the WHS boundary brings with it a significant degree of protection.

The integrity of the setting of the monuments assigned to the Asset Group, including the legibility of potentially significant associations with the Avenue and other prehistoric monuments, also continue to be adversely affected by several factors (as detailed below).

### Authenticity of the Asset Group

The authenticity of the monuments assigned to the Asset Group remains relatively unaffected. None of the monuments have been subject to any attempt at reconstruction or any other modern interventions, excepting partial excavation in several instances. Partial excavation of several of the monuments in the 20<sup>th</sup> century, along with more recent geophysical survey (Wessex Archaeology 2016) has enabled the monuments to be better understood, enhancing the authenticity of interpretations relating to them, as well as the wider cultural landscape of the WHS.

Ongoing research since the inscription of the WHS has provided new sources of information and opportunities for understanding and interpreting the various barrow groups and their relationships with the wider cultural and natural landscape of the WHS.

Although now lacking surface expression, their buried remains have the potential to provide an 'authentic testimony' to the prehistoric communities that constructed and used the monuments, whilst their spatial and contextual associations remain broadly intact.

However, the scheduled monument boundaries do not appear to precisely reflect, or accurately convey the actual positions (or in some cases, the scale) of the barrows as detected by geophysical survey (Wessex Archaeology 2016). This may, in lieu of any prominent surface expression, foster misunderstandings of the specifics of the monuments' associations and morphology.

### Contribution to the Attributes that convey the OUV of the WHS

The monuments within this Asset Group convey the Attributes of OUV in the following ways:

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

The physical remains, both above and below ground, of the individual monuments within the Asset Group have a high potential to contain important archaeological and palaeoenvironmental evidence pertaining to their construction, relative chronologies, territorial significance, and overall landscape context, in addition to information relating to the funerary and ceremonial practices, beliefs and social organisation of the communities that constructed them. Even those monuments that retain no surface expression retain considerable archaeological interest.

Recent geophysical survey (Wessex Archaeology 2016) appears to have confirmed the earlier, tentative identification of Amesbury 140 (MWI12478) as an Early Neolithic long barrow, provided further information regarding the form of the adjoining segmented ring-ditch (MWI12654) and several of the scheduled round barrows assigned to the Asset Group. The survey results also suggest that the buried remains of the monuments remain partially intact and have the potential to yield archaeologically significant information.

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

The Amesbury 140 long barrow (MWI12478) is aligned against the natural contours of the slope. Whether this, in itself, was invested with meaning by those that constructed and used the monument is uncertain. Similarly, the monument may have been deliberately sited to share inter-visibility with the River Avon, although any specific meaning attached to this during the Early Neolithic is uncertain.

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

Many of the round barrows in the WHS are likely to post-date the Avenue, although some of the earlier examples may have preceded its construction. Although the precise chronological sequence for the construction of the eastern section of the Avenue and the round barrows assigned to the Asset Group is unknown, their proximity suggests that they may have been deliberately sited in relation to each other.

Exon et al. (2000) have explored the possibility that meaning was attached to the inter-visibility between the Avenue and other prehistoric monuments, as well as the changing nature of views available to the observer whilst travelling along its length, and inferred that this may have played a role in determining the route of the Avenue. The GIS-based visibility analysis carried out by Exon et al. (ibid.) highlighted that the Amesbury 140 long barrow (MWI12478), which forms part of the Asset Group, could have been visible while travelling along the Avenue from the River Avon, uphill towards the first bend in its route.

At least some the monuments within the Asset Group were sited with an element of respect for each other. It is possible that the pre-existing long barrow (Amesbury 140; MWI12478) also influenced the siting of the later round barrows assigned to this Asset Group. In the absence of intrusive investigations, the precise nature of the relationship between the Amesbury 140 long barrow and the adjoining segmented ring-ditch (MWI12654) remains unclear.

The monuments within this Asset Group may also have been deliberately sited in relation to other visible Neolithic and Bronze Age monuments in the wider landscape, particularly those clustered along King Barrow Ridge (AG26) to the west and north-west, Countess Farm to the east (AG31), and Coneybury Hill to the south-west (AG29).

The spatial / contextual and visual relationships of the monuments within the Asset Group appear to provide evidence for the deliberate, and meaningful siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other.

**6. The disposition, physical remains and settings of the key Neolithic and Bronze Age funerary, ceremonial and other monuments and sites of the period, which together form a landscape without parallel.**

The integrity of the individual monuments within the Asset Group is variable. Although none retain any prominent surface expression, evidence from geophysical survey (Wessex Archaeology 2016) and previous excavations (Gingell 1988; Passmore 1942; RCHME 1979) indicate that the physical remains of the monuments are partially intact below ground. The relationships between many of these monuments and other features of the wider cultural and natural landscape of the WHS remain broadly legible.

**7. The influence of the remains of Neolithic and Bronze Age funerary and ceremonial monuments and their landscape settings on architects, artists, historians, archaeologists and others.**

Several of the monuments in this Asset Group were originally identified from aerial photography, and some were subject to partial excavation in the 20<sup>th</sup> century. This in itself forms a significant part of the history of the site, as the investigations helped to promote an interest in, and understanding of Stonehenge and its wider landscape, and the development of modern archaeology.

**Contribution to the Integrity of the WHS**

The Asset Group exemplifies several of the Attributes of OUV, and in particular, ‘*The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other*’.

The integrity of the individual monuments within the Asset Group is variable; few retain any surface expression and some have been partially excavated and / or damaged, although their buried remains are presumably largely intact. The group also contains a single long barrow (Amesbury 140; MW112478), representing one of the earliest forms of monumental construction within the WHS.

The presence / survival of the Asset Group therefore contributes to the overall Integrity of the cultural landscape of the WHS.

**Contribution to the Authenticity of the WHS**

Although the integrity of the individual monuments is variable, the presence of the Asset Group contributes to the overall cohesiveness and legibility of the cultural landscape of the WHS, and thus also its Authenticity.

**Assessment of significance and value**

The Asset Group’s contribution to OUV is related to the tangible evidence it provides for the

following Attributes of OUV:

- 2. The physical remains of the Neolithic and Bronze Age funerary and ceremonial monuments and associated sites.
- 3. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape.
- 5. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other.
- 6. The disposition, physical remains and settings of the key Neolithic and Bronze Age funerary, ceremonial and other monuments and sites of the period, which together form a landscape without parallel.
- 7. The influence of the remains of Neolithic and Bronze Age funerary and ceremonial monuments and their landscape settings on architects, artists, historians, archaeologists and others.

In accordance with Table 3, the Avenue Barrows Asset Group is assessed as Very High value.

#### Existing baseline

The A303 is a physical barrier between the northerly and southerly elements of the group, also severing the Avenue around which the barrow cemetery was situated. The road, and the sight and noise of its traffic, and light pollution, are the dominant element in the present setting. Road signage is a further distracting visual element, while roadside vegetation blocks views across the surrounding landscape. As a whole, the presence of the A303 diminishes the ability to appreciate the original setting of the monuments within the group and their close contextual and spatial relationships. The embanked section of the A303 to the north-west of Vespasian's Camp has also altered the natural topography, and reduced opportunities to appreciate any associations between the group and the surrounding landscape.

The existing A303 is assessed as having a **Moderate** impact on Attributes of OUV of the WHS conveyed by this Asset Group, resulting in a **Large Adverse** effect.

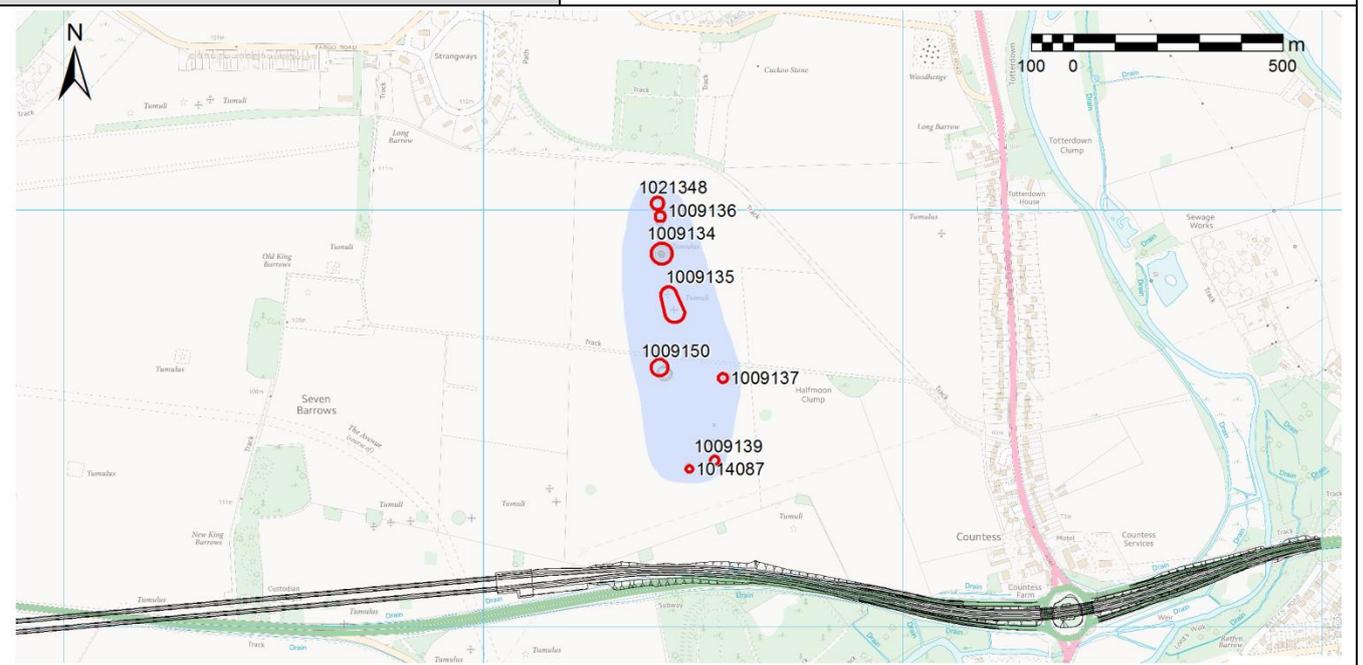
#### Assessment of impact of Scheme

The removal of the A303 would have beneficial impacts on the setting of the group. All of the negative aspects of the A303 listed above would be addressed, either completely or in part. The removal of the present surface A303 physically reunites the monuments, though the eastern portal and its approach road would occupy a small part of the area defined for the group. The visual and aural impact of the road and traffic would be lessened, though not entirely removed. All of these benefits are tempered by the fact that the monument's lack of surface expression reduces the importance of their visual setting. Negative aspects of the current setting not arising from the present A303 would not be addressed by the Scheme.

<b>Impact on fabric</b>		
The Asset Group would not be physically impacted by the Scheme. The Scheme would result in <b>No Change</b> .		
<b>Impact on setting</b>		
It is assessed that the Avenue Barrows Asset Group would experience an impact resulting in <b>Minor Positive Change</b> .		
<b>Significance of effect</b>		
Taking account of the Very High value of the asset and in accordance with Table 5, the overall significance of effect of the Scheme on AG30 The Avenue Barrows would be <b>Moderate Beneficial</b> (derived from a <b>Minor Positive</b> impact on a <b>Very High</b> value asset).		
<b>Proposed mitigation</b>		
<p>The construction of the existing A303 has partially destroyed a scheduled round barrow (NHLE 1012129). This site would be subject to protection measures during the preliminary works and construction. Sensitive mitigation, e.g. archaeological investigation or appropriate landscaping, would be applied to protect the asset and improve its setting in the new context of the restricted byway.</p> <p>Archaeological monitoring would be undertaken on the removal of hardstanding material from course of the A303 to create a restricted byway.</p>		
<b>Value of Asset Group AG30 (The Avenue Barrows)</b>		Very High
Impact of the existing A303 and associated roads and infrastructure on the Attributes of OUV expressed by the Asset Group		Moderate
Significance of effect of existing A303 and associated roads and infrastructure on the Attributes of OUV expressed by the Asset Group		Large Adverse
<b>Scale and severity of change / impact of Scheme</b>	Fabric	No Change
	Setting	Minor Positive Change
<b>Significance of effect of Scheme, taking into account embedded mitigation (design)</b>		Moderate Beneficial
<b>Significance of effect of Scheme, following proposed additional mitigation (residual effect)</b>		Moderate Beneficial

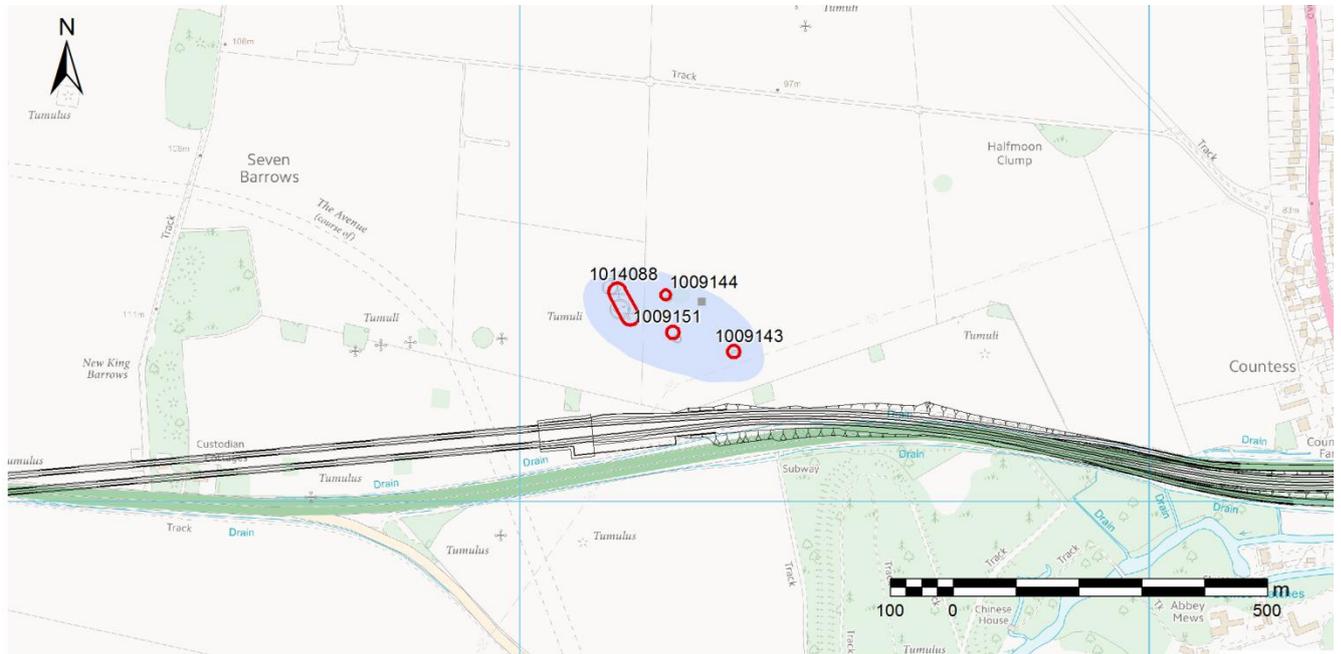
### AG31 Countess Farm Barrows

<b>Designation:</b>	Scheduled monument
<b>Reference IDs:</b>	<p>AG31A Countess Farm barrow group – north 1009135; 1014087; 1009150; 1009139; 1009136; 1021348; 1009137; 1009134; MWI12655; MWI12656; MWI12719; MWI12787; MWI12871; MWI12949; MWI12961; MWI12962; MWI72763</p> <p>AG31B Countess Farm barrow group – south-west 1009144; 1014088; 1009143; 1009151; MWI12659; MWI12743; MWI12950; MWI12951; MWI12952; MWI12958; MWI75709; MWI12743</p> <p>AG31C Countess Farm barrow group – south-east 1009142; 1012128; MWI12948; MWI12947</p>
<b>Location (NGR):</b>	<p>AG31A Countess Farm barrow group – north 414453 142672</p> <p>AG31B Countess Farm barrow group – south-west 414244 142285</p> <p>AG31C Countess Farm barrow group – south-east 414725 142261</p>



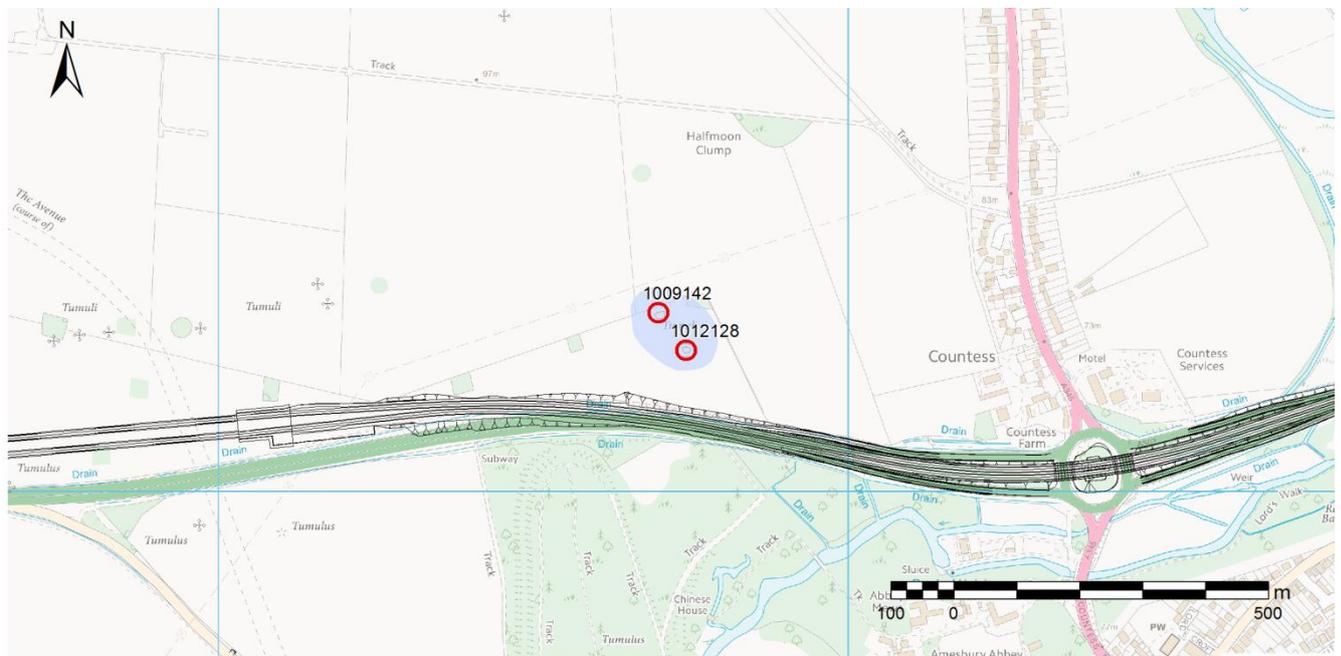
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AG31A Countess Farm barrow group – north



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AG31B Countess Farm barrow group – south-west



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AG31C Countess Farm barrow group – south-east

### Constituent elements of Asset Group

The Asset Group has been divided into three to facilitate assessment:

- AG31A Countess Farm barrow group (north) contains nine scheduled bowl barrows (1009134; 1009135; 1009137; 1009139; 1009150; 1014087; 1021348) and a scheduled pond barrow (1009136). The HER notes possible barrows north-east of the Avenue on Countess Farm (MWI72763), some of which may be cognate with the scheduled barrows.
- AG31B Countess Farm barrow group (south-west) contains five scheduled bowl barrows (1009143; 1009144; 1009151; 1014088) and an undated, non-designated possible barrow (MWI12659).
- AG31C Countess Farm barrow group (south-east) comprises two scheduled bowl barrows (1009142; 1012128).

### Description

This group, occupying land to the west of Countess Farm, includes 17 bowl barrows and a pond barrow, which form a scattered group of round barrows on the western side of the River Avon Valley. All are scheduled monuments which have largely been identified from aerial photographs. Within the HER, a further eight possible barrows or ring ditches have been noted on aerial photographs, although their identification is uncertain, while a further two possible round barrows were recorded by geophysical survey. The barrows have been truncated by ploughing with no visible surface expression, though some appear to be identifiable at ground level by subtle colour changes of the ploughsoil.

The group is dispersed across a slight north-south ridge of higher ground, with outlying barrows both to the west and east of the crest. The monuments are situated within parcels of arable agricultural land which are bisected by a track and PRoW. Within the southern part of the group lie the Nile Clumps, which are relic woodland features associated with the former extent of Amesbury Park. High voltage pylons cross the south of the area occupied by the group and are a prominent feature. Trees and shrubs border the A303. To the east there are views of Beacon Hill, with further pylons in the distance, while to the south-east the Boscombe Down aircraft hangars and development south of Amesbury are apparent.

### Condition of the Asset Group

The 2010-2011 condition survey (Wessex Archaeology 2012) indicated that most of the barrows had been levelled; extant barrows were in poor or fair condition. Several had experienced negative change since they were last surveyed in 2002 and many had undergone cultivation impacts. A number of barrows were affected by mole burrowing.

### Attributes of setting

The group lacks surface expression, greatly reducing the legibility of the monuments. The visitor perceives only arable fields with a backdrop of historic and modern vegetation, electricity pylons, and with both the sight and sound of traffic. Other monument groups are visible, most prominently the wooded King Barrow Ridge. Overall, the visitor gains no sense of place, nor of meaningful visual connections – either intra-group, or more widely within the landscape. The visual aspects of setting therefore do not contribute to the significance of this group, though an archaeological setting – appreciable through aerial photography, mapping and digital survey plots – does exist.

### Integrity of the Asset Group

#### Wholeness

All the components of this Asset Group are located within the WHS.

#### Intactness

The majority of the barrows had been levelled prior to the 1<sup>st</sup> edition OS map (1879-80) and have been only approximately located based on cropmark features visible on aerial photographs. However, there is considered to be good potential for the survival of below ground archaeological and palaeoenvironmental remains. Any modern investigations undertaken would be able to enhance the understanding of their place within the wider Stonehenge landscape.

#### Threats

The barrows within this Asset Group have largely been levelled prior to the 20<sup>th</sup> century and are now situated within mostly arable agricultural land. Continued ploughing of these features, in particular any increase in plough depth, has the potential to further truncate the surviving archaeological remains.

### Authenticity of the Asset Group

Factors that preserve or enhance the authenticity of the Asset Group include:

- The potential for archaeological deposits and features surviving which can enhance and add to our knowledge not just of these kinds of monuments but also of our understanding of the WHS as a whole; and
- A number of inter-visible relationships between this Asset Group and other contemporary monuments.

Factors that reduce or diminish the authenticity of the Asset Group include:

- The levelling of the barrows reduces their legibility within the wider monumental landscape diminishing the ability of the Asset Group to fully convey the OUV of the WHS, in particular Attribute 5, '*the siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other*'.

### **Contribution to the Attributes that convey the OUV of the WHS**

The monuments within this Asset Group convey the Attributes of OUV in the following ways:

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

While many of the burial mounds in the WHS have been subject to excavations in the 19<sup>th</sup> century, this in itself forms a significant part of their history as the interest of early antiquarians such as Richard Colt Hoare and William Cunnington helped shape both modern archaeology and our interest and understanding of Stonehenge and its wider landscape.

Even where monuments have no upstanding earthworks surviving, there is still the potential for below ground remains to survive, as well as other possible associated features which may have never had an earthwork component.

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

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

The more linear elements of the three groups of barrows that form the Asset Group can be seen to occupy the slightly elevated north – south ridgeline, use of which may extend into the land now occupied by Vespasian's Camp (AG32). This echoes the much higher and more defined ridgeline and linear barrow cemetery along King Barrow Ridge (AG26). There are also a number of barrows that form a more scattered group occupying the lower ground to the east and west of the crest. This may reflect differences in tradition and date of the monuments, or may relate to deliberate contemporary placement.

As well as potential associations with barrows in the area of Vespasian's Camp (AG32) and King Barrow Ridge (AG26) elements of the south-western part of the Asset Group could be also be seen as associated with a broad east – west group of barrows leading towards The Avenue (AG27).

#### **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.**

Although no longer visible as above ground earthworks the barrows comprising the Asset Group form part of the wider ceremonial landscape are likely to contain valuable archaeological and palaeoenvironmental information. The concentration of barrows is an important aspect of the WHS and contributes to its OUV.

**7. The influence of the remains of Neolithic and Bronze Age funerary and ceremonial monuments and their landscape settings on architects, artists, historians, archaeologists and others.**

The Asset Group forms part of the wider cultural landscape around Stonehenge which has provided inspiration to artists and archaeologists from at least the 18<sup>th</sup> century.

**Contribution to the Integrity of the WHS**

The Asset Group comprises a scattered group of round barrows within which archaeological remains are anticipated to survive; as such it is an important contributor to several of the Attributes of the OUV of the WHS.

**Contribution to the Authenticity of the WHS**

Although no longer clearly legible within the landscape, the Asset Group has the potential to increase our understanding of past prehistoric funerary activity within the WHS.

**Assessment of significance and value**

The Asset Group's contribution to OUV is related to the tangible evidence it provides for the following Attributes of OUV:

- 2. The physical remains of the Neolithic and Bronze Age funerary and ceremonial monuments and associated sites.
- 3. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape.
- 5. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other.
- 6. The disposition, physical remains and settings of the key Neolithic and Bronze Age funerary, ceremonial and other monuments and sites of the period, which together form a landscape without parallel.
- 7. The influence of the remains of Neolithic and Bronze Age funerary and ceremonial monuments and their landscape settings on architects, artists, historians, archaeologists and others.

In accordance with Table 3, the Countess Farm Barrows Asset Group is assessed as **Very High** value.

### Existing baseline

The southern edge of the group is bordered by the A303, although at this point the carriageway lies in a cutting. The A303 and traffic are visible as the road rises from Countess Roundabout to Stonehenge Cottages. Traffic noise is audible from most locations, being very prominent from those areas immediately adjacent to the road. The existing A303 is already a dual carriageway at this point.

The existing A303 is assessed as having a **Negligible** impact on Attributes of OUV of the WHS conveyed by this Asset Group, resulting in a **Slight Adverse** effect.

### Assessment of impact of Scheme

Placing the A303 in tunnel would re-establish the relationship between the barrows and the Avenue, enhancing the legibility of several Attributes of OUV for AG31B Countess Farm barrow group (south-west). This would result in a **Minor Positive Change**.

The proposed eastern portal is located slightly to the north of the existing course of the dualled A303. The nearest part of the eastern portal would be located c.112m to the south of the group's most southerly barrow. Although the Scheme largely shares its alignment with the existing A303, the approach to the tunnel portal would run slightly to the north of the present A303's alignment, closer than the existing alignment. This is assessed as a **Negligible Negative Change**.

A short length of canopy would be placed over the top of the eastern portal that would assist in concealing the eastern portal from the Asset Group, alongside the positioning of the eastern portal within a concealing dry valley. Lighting would be hooded and directional to minimise light spill from the eastern portal mouth. Traffic would continue to be visible and audible from AG31B (south-west) and AG31C (south-east), with views of the Scheme as it heads towards Countess Roundabout. It is assessed that this would constitute an impact resulting in **Negligible Negative Change**.

It is assessed that AG31C Countess Farm barrow group (north) would experience **No Change**.

The effects of the Scheme on the sub-groups of AG31 vary according to the distance from both the existing A303 and the Scheme, and would be as follows:

#### AG31A Countess Farm barrow group (north)

The monuments associated with sub-group AG31A are considered to be too distant from the Scheme for it to meaningfully alter their setting, and the Scheme would result in **No Change**.

#### AG31B Countess Farm barrow group (south-west) and AG31C Countess Farm barrow group (south-east)

The Scheme would have both positive and negative effects. Placing the A303 in tunnel would re-establish the relationship between the barrows in these sub-groups and the Avenue,

enhancing their physical and archaeological setting. This constitutes a **Minor Positive Change**.

Conversely, the proposed eastern portal would be located slightly to the north of the existing course of the dualled A303. A short length of canopy would be placed over the top of the eastern portal to assist in concealing the eastern portal, alongside the positioning of the portal within a concealing dry valley. Lighting would be hooded and directional to minimise light spill from the portal mouth. Nevertheless, the road would continue to be visible from AG31B (south-west) and AG31C (south-east), with views of the Scheme as it heads towards Countess Roundabout. Traffic would continue to be visible and audible from the location of the monuments within the sub-group, potentially to a slightly greater degree than at present. This is assessed as a **Minor Negative Change**.

AG31C Countess Farm Barrows (south-east)

Traffic would continue to be visible from the location of the monuments within the sub-group, and noise levels would be slightly increased. This is assessed as a **Negligible Negative Impact**.

No key archaeological materials that contribute to the OUV of the Asset Group would be impacted. It is not considered that the Scheme would result in a loss of the Attributes of OUV conveyed by the Asset Group.

**Impact on fabric**

The Asset Group would not be physically impacted by the Scheme. The Scheme would result in **No Change**.

**Impact on setting**

It is assessed that overall, the Countess Farm Barrows Asset Group would experience **Negligible Negative Change**.

**Significance of effect**

It is assessed that removing the A303 from the immediate environs of the group near AG31B Countess Farm barrow group (south-west) and AG31C Countess Farm Barrows (south-east) would have a **Moderate Beneficial** effect (derived from a **Minor Positive** impact on a **Very High** value asset), but the proximity of the eastern portal would affect their setting, which is assessed as a **Moderate Adverse** effect (derived from a **Minor Negative** impact on a **Very High** value asset). AG31C would experience slightly increased noise levels and views of traffic, assessed as a Slight Adverse effect (derived from a **Negligible Negative Impact** on a **Very High** value asset).

Taking account of the Very High value of the Asset Group and in accordance with Table 5,

and considering the **Moderate Beneficial, Moderate Adverse, Slight Adverse** and **Neutral** effects on setting, the overall significance of effect of the Scheme on AG31 Countess Farm barrow Asset Group is assessed overall as **Slight Adverse** (derived from **Minor Negative, Negligible Negative, No Change** and **Minor Positive** impacts on a **Very High** value asset).

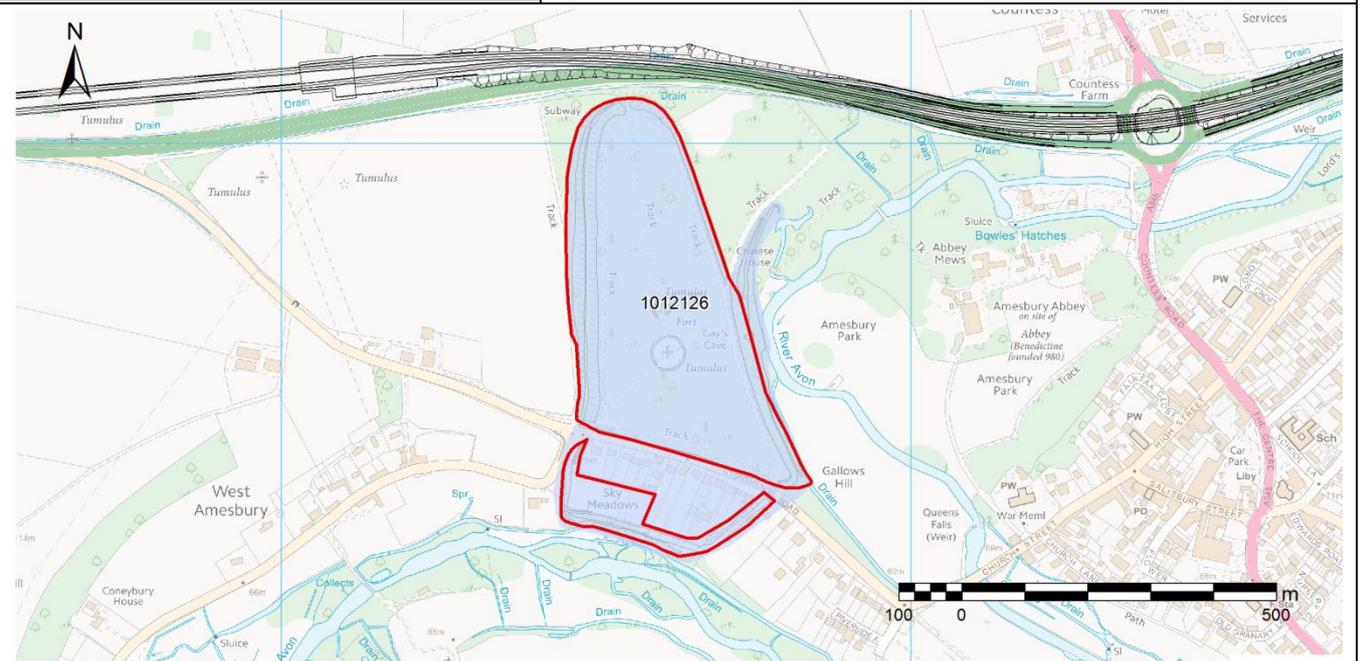
**Proposed mitigation**

No mitigation is proposed, as there are no direct physical impacts.

<b>Value of Asset Group AG31 (Countess Farm Barrows)</b>	Very High	
Impact of the existing A303 and associated roads and infrastructure on the Attributes of OUV expressed by the Asset Group	Negligible	
Significance of effect of existing A303 and associated roads and infrastructure on the Attributes of OUV expressed by the Asset Group	Slight Adverse	
<b>Scale and severity of change / impact of Scheme</b>	Fabric	No Change
	Setting	Negligible Negative, Minor Positive, No Change
<b>Significance of effect of Scheme, taking into account embedded mitigation (design)</b>	Slight Adverse	
<b>Significance of effect of Scheme, following proposed additional mitigation (residual effect)</b>	Slight Adverse	

## AG32 Vespasian's Camp

<b>Designation:</b>	Scheduled monument
<b>Reference IDs:</b>	10102126, MWI12551, MWI12590, MWI13057, MWI13058
<b>Location (NGR):</b>	414510 141666



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## Constituent elements of Asset Group

The scheduled monument area includes:

- A large Iron Age univallate hillfort; and
- 3 round barrows

## Description

The two extant barrows are known to have been investigated in 1770 (RCHME 1979, 20-22). The barrows within Vespasian's Camp may be associated with other examples to the north (AG31 Countess Farm Barrows) and the Avenue Barrows to the west (AG29).

The Iron Age hillfort is c. 730m in long from north to south and c. 374m wide at the southern end, narrowing to around 100m wide at its northern end. The ditch, up to 10m wide, is present on the north and south-east sides and along most of the west side of the enclosure. Outside the ditch, on the west, is a counterscarp bank. The rampart measures up to 40m wide, and on the west side it stands up to 7.5m above the base of the ditch and up to 2.2m high internally.

The summit of the fort contains a number of features including a mound, rising up to 1m and cut in half by a carriage drive. This is believed to be a barrow. Other elements relate to the hillfort's incorporation into Amesbury Abbey Park in the 18<sup>th</sup> century, including terraces and the late 18<sup>th</sup> century grotto known as Gay's Cave with its accompanying 'Diamond' of paths. Most of the site is now subsumed by woodland, probably the result of 19<sup>th</sup>-century planting. Woodland also envelopes it on its north-western side. The interior of the southern part of the hillfort, south of the Stonehenge Road, was developed with housing during the 20<sup>th</sup> century.

### Condition of the Asset Group

The 2010-2011 condition survey (Wessex Archaeology 2012) noted that extant barrows were in fair and poor condition. One was impacted by badger burrowing, and all were impacted by trees and bushes.

### Attributes of setting

The hillfort has intrinsic visual interest, although at ground level the woodland enveloping the monument makes it hard to gain a good sense of its full extent and original form. It is better appreciated in its entirety from the air, while the detail of its earthworks can only be seen in detail at close range within the woodland.

The hillfort occupies a strong defensive and a dominant position at the south end of a prominent spur immediately west of the River Avon at Amesbury. This topographic setting is very much still evident, though compromised by the housing development at its southern end. Again, this is better appreciated from the air and on mapping, than from available viewpoints on the ground.

Group setting is relevant, specifically in terms of the multi-period remains incorporated within the hillfort. Wider relationships would have existed in the past, applying to the prehistoric barrow and contemporary monuments, and between the hillfort and other counterparts in the district (e.g. Yarnbury Camp) and also open settlements such as those on Winterbourne Stoke Down and at Scotland Lodge. Because of the current setting, however, any visual connections between these elements are now impossible to discern. More recent group settings do still exist, namely the relationship of the 18<sup>th</sup> and 19<sup>th</sup>-century elements with others belonging to the former Amesbury Abbey Park.

### Integrity of the Asset Group

#### Wholeness

All of the monuments within the group are within the WHS.

#### Intactness

The hillfort survives as a moderately well preserved earthwork despite the construction of a

road and residential housing within the southern part of the monument and some later landscaping. Two of the barrows still survive as upstanding earthworks, though the third has been levelled above ground. Limited previous archaeological investigations have confirmed that the monuments include surviving archaeological deposits.

### Threats

The majority of the Asset Group lies within the Registered Park and Garden and as such is within a well-manged landscape. The southern part of the hillfort has seen previous impacts and is only partially scheduled. As such it may be vulnerable to future development.

### Authenticity of the Asset Group

Factors that preserve or enhance the authenticity of the Asset Group include:

- The potential for archaeological deposits and features surviving which can enhance and add to our knowledge not just of these kinds of monuments but also of our understanding of the WHS as a whole.

Factors that reduce or diminish the authenticity of the Asset Group include:

- The woodland setting reduces the legibility of the barrows within the wider monumental landscape diminishing the ability of the Asset Group to fully convey the OUV of the WHS, in particular Attribute 5, '*the siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other*'.

### Contribution to the Attributes that convey the OUV of the WHS

The monuments within this Asset Group convey the Attributes of OUV in the following ways:

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

This Asset Group includes three barrows which are likely to have had an association with the wider funerary landscape.

Even where monuments have no upstanding earthworks surviving, there is still the potential for below ground remains to survive, as well as other possible associated features which may have never had an earthwork component.

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

and

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

Due to the inter-relationship between the placement of monuments in association with landscape features and their placement in relation to other earlier and contemporary monuments these two Attributes of the OUV are discussed in tandem.

The barrows within the area of Vespasian's Camp form part of the wider Bronze Age funerary landscape. Analysis suggests that barrows were often preferentially sited within the viewsheds of the pre-Bronze Age monuments and at the edge of these viewsheds (Exon et al. 2000, 26-27). Earlier Beaker barrows seem to have been sited in relation to a number of existing monuments but inter-visibility with Stonehenge may have been less significant at this time, however by the Early Bronze Age, Stonehenge appears to have become the specific focus for a number of the later barrows (ibid. 75-85).

Many barrows seem, as here, to have had a deliberate association with watercourses and valleys (Woodward 2000, 73). Several of the barrow cemeteries lie in elevated positions overlooking the lower ground, the River Avon and dry valleys.

There are potential association with the Countess Farm barrow group to the north (AG31) and the Avenue Barrows (AG30) to the north-west. However, this visual connection is no longer apparent. Given its proximity and relationship with the river, visibility between the barrows and The Avenue (AG27) may also have been of importance.

**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.**

Although partially landscaped and levelled, the barrows form part of the wider ceremonial landscape and will still contain valuable archaeological and palaeoenvironmental information. The concentration of barrows is an important aspect of the WHS and contributes to its OUV.

**7. The influence of the remains of Neolithic and Bronze Age funerary and ceremonial monuments and their landscape settings on architects, artists, historians, archaeologists and others.**

The Asset Group forms part of the wider cultural landscape around Stonehenge which has provided inspiration to artists and archaeologists from at least the 18<sup>th</sup> century. As part of the landscaped garden associated with Amesbury Abbey, it formed part of its formal design. Catherine Douglas, Duchess of Queensberry, was a noted patron of the English literary community and the grotto at the edge of the hillfort is believed to be the location where John Gay wrote *The Beggar's Opera* and *Polly* (NHLE 1131081).

**Contribution to the Integrity of the WHS**

The Asset Group includes three round barrows within which archaeological remains are anticipated to survive; as such it contributes to several of the Attributes of the OUV.

### Contribution to the Authenticity of the WHS

Although no longer fully legible within the landscape the barrows within this Asset Group have the potential to increase our understanding of past prehistoric funerary activity within the WHS.

### Assessment of significance and value

The Asset Group's contribution to OUV is related to the tangible evidence it provides for the following Attributes of OUV:

- 2. The physical remains of the Neolithic and Bronze Age funerary and ceremonial monuments and associated sites.
- 3. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape.
- 5. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other.
- 6. The disposition, physical remains and settings of the key Neolithic and Bronze Age funerary, ceremonial and other monuments and sites of the period, which together form a landscape without parallel.
- 7. The influence of the remains of Neolithic and Bronze Age funerary and ceremonial monuments and their landscape settings on architects, artists, historians, archaeologists and others.

In accordance with Table 3, the Vespasian's Camp Asset Group is assessed as Very High value.

### Existing baseline

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

The existing A303 is assessed as having **No** impact on Attributes of OUV of the WHS conveyed by this Asset Group, resulting in a **Neutral** effect.

### Assessment of impact of Scheme

Where it crosses the northern tip of Vespasian's Camp, the Scheme would adopt a nearly identical surface alignment to the present A303. The woodland to the east of the group would

preclude any views of the Countess flyover. Traffic volume and noise – and its perception from within Vespasian’s Camp – would remain as per the current baseline.

**Impact on fabric**

The Asset Group would not be physically impacted by the Scheme. The Scheme would result in **No Change**.

**Impact on setting**

It is assessed that overall, the Vespasian’s Camp Asset Group would experience **No Change**.

**Significance of effect**

Taking account of the Very High value of the asset and in accordance with Table 5, the overall significance of effect of the Scheme on AG32 Vespasian’s Camp Barrows would be **Neutral** (derived from **No Change** to a **Very High** value asset).

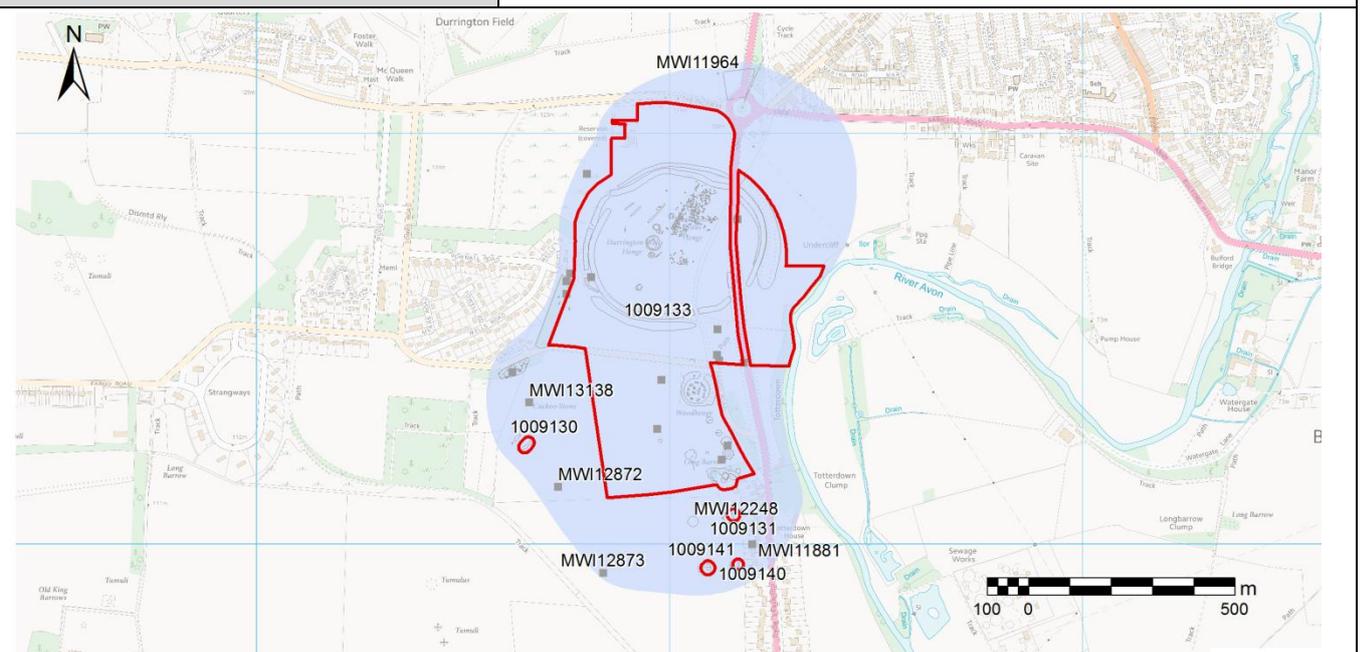
**Proposed mitigation**

No mitigation is proposed, as there are no direct physical impacts.

<b>Value of Asset Group AG32 (Vespasian’s Camp Barrows)</b>	Very High	
Impact of the existing A303 and associated roads and infrastructure on the Attributes of OUV expressed by the Asset Group	None	
Significance of effect of existing A303 and associated roads and infrastructure on the Attributes of OUV expressed by the Asset Group	Neutral	
<b>Scale and severity of change / impact of Scheme</b>	Fabric	No Change
	Setting	No Change
<b>Significance of effect of Scheme, taking into account embedded mitigation (design)</b>	Neutral	
<b>Significance of effect of Scheme, following proposed additional mitigation (residual effect)</b>	Neutral	

## AG33 Durrington Walls, Woodhenge and Associated Sites

<b>Designation:</b>	Scheduled monument
<b>Reference IDs:</b>	1009130, 1009131, 1009133, 1009140, 1009141, MWI11875, MWI11876, MWI11877, MWI11881, MWI11892, MWI11900, MWI11907, MWI11915, MWI11956, MWI11964, MWI12098, MWI12115, MWI12117, MWI12118, MWI12119, MWI12120, MWI12121, MWI12122, MWI12247, MWI12248, MWI12249, MWI12299, MWI12443, MWI12463, MWI12552, MWI12560, MWI12611, MWI12612, MWI12619, MWI12872, MWI12873, MWI12874, MWI12875, MWI13134, MWI13138, MWI73449, MWI73453, MWI73465, MWI12321, MWI74897
<b>Location (NGR):</b>	415023, 143522



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### Constituent elements of Asset Group

This group draws in a complex array of multi-period archaeological features, incorporated into several separate scheduled monuments.

Within the scheduled monument boundary of 1009133 and outlined in the list entry are:

- Two henge monuments (MWI11875, MWI11876);
- At least two timber circles within the interior of Durrington Walls and another south of Woodhenge (MWI11900);

- A linear round barrow cemetery to the south of Durrington Walls (MWI12119, MWI12120, MWI12121, MWI12122), including a triple barrow previously identified as a long barrow (MWI11877, MWI12115). A number of later burials were also located in association with one of these barrows (MWI12098). Although not explicitly mentioned in the listing several other possible barrows are recorded in the HER just to the south of Durrington Walls which may also form part of this barrow cemetery (MWI11892, MWI12118, MWI12874, MWI12875, MWI73449, MWI73453, MWI73465);
- A bowl barrow within the interior of Durrington Walls (MWI13134) and another just south of Woodhenge (MWI12117);
- Neolithic (MWI11907) and Iron Age (MWI11956) settlement has been identified within Durrington Walls as well as further Neolithic (MWI12443), Iron Age (MWI12552) and Roman (MWI12560) occupation immediately to the west extending beyond the scheduled area. Further burials have also been located to the west and north-west of Durrington Walls (MWI12611, MWI12612, MWI12619); and
- South of Durrington Walls lies an ‘egg shaped’ enclosure (MWI11915) along with several rectangular enclosures thought to be an area of Middle Bronze Age settlement.

Additionally:

- Three scheduled bowl barrows are listed as individual scheduled monument within the southern part of the Asset Group which are likely to form further barrows within the southern cemetery (NHLE 1009131, 1009140, 1009141); and
- One scheduled long barrow to the south-west of Durrington Walls (NHLE 1009130).
- Outside the scheduled monument areas, additional monuments within the Asset Group comprise:
  - A recumbent sarsen stone known as The Cuckoo Stone (MWI13138);
  - Three further possible barrows to the south and south-west of Durrington Walls (MWI12872, MWI12873, and MWI12248). A further burial was discovered in the 1930s in this area which may also have been another barrow site (MWI11881); and
  - An Iron Age enclosure to the north of Durrington Walls known as The Packway Enclosure (MWI11964).

**Description**

Durrington Walls is one of the largest known henge monuments and contained at least two timber circles within the interior. Entrances lie to the north-west and south-east, the latter overlooking the River Avon. To the south of the main henge is Woodhenge, while a number of further barrows lie to the north. A long barrow lies to the south-west of the main henge along with a recumbent sarsen stone known as the Cuckoo Stone. Boundary stones within the site mark the former War Department boundary. Just to the north of the scheduled

monument boundary lies an Iron Age enclosure (The Packway Enclosure; MWI11964) and settlement activity from the Neolithic, Bronze Age, Iron Age and Roman periods has been identified in and around the monument. A number of inhumation graves have also been found around the Durrington complex, although these are largely undated. Recent research at Durrington Walls has identified an avenue extending from the southern circle through the entrance to the south-east and across to the River Avon. Another possible associated route has been located during work associated within the residential expansion of Larkhill Camp. Woodhenge is a much smaller henge monument containing six concentric rings of post-holes. The monument was in use c.1800 BC. The post rings found within Woodhenge mirror the structures revealed within the larger monument, implying a ceremonial relationship between the two. A further Neolithic post-hole circle has also been identified to the south of Woodhenge suggesting a series of monuments on an approximate north-south axis and potentially associated with the river. To the south-west of the henge is long barrow included within the same scheduled area, with further round barrows to the south (NHLE 1009131, 1009140, 1009141) and west (NHLE 1009130).

The earthworks of Durrington Walls survive as an upstanding major feature within pasture, albeit reduced by cultivation and bisected by Countess Road; the preceding road is also still present. The road partially occupies the position of the southern and northern circles, while much of the Packway Enclosure lies beneath the modern roundabout. All the barrows have been levelled above ground by ploughing and survive only as below ground features. Woodhenge also has no surface expression, the post positions being indicated by concrete plinths.

The majority of the rest of the group lies within agricultural land, much of it used for arable cultivation. Mature trees line much of the roadside verges and woodland borders the western bank of the River Avon. The monuments occupy higher land overlooking the River Avon to the east. It lies immediately adjacent to the Salisbury Plain Training Area to the north and west, while 20<sup>th</sup> century residential housing lies immediately to the west, with further residential housing along Countess Road at the southern edge of the Asset Group.

#### **Condition of the Asset Group**

The 2010-2011 condition survey (Wessex Archaeology 2012) indicated that extant remains were in fair or poor condition. Most were stable or deteriorating slowly, although some southerly barrows were deteriorating moderately due to cultivation impacts. The earthworks of Durrington Walls and the site of Woodhenge were both subject to extensive rabbit burrowing, as well as badger and mole burrowing. The sites were also impacted by scrub, trees and bushes.

#### **Attributes of setting**

Setting contributes in numerous ways to the significance of the group and its component

elements. Durrington Walls is a very substantial upstanding monument with considerable intrinsic visual interest. Woodhenge, by contrast, has no surface expression except for the modern concrete plinths. Of the other elements in the group, only the Cuckoo Stone has surface expression and visual interest. Across all of the individual elements, whether visible or not, archaeological group setting is clearly significant, as are relationships with monuments in the wider landscape. The topographic setting, in particular the relationship to the River Avon, is also important, as confirmed by the recent discovery of a short section of avenue leading from the eastern entrance of Durrington Walls to the river.

Durrington Walls appears to have been an early focus for Neolithic activity, with settlement activity thought to be contemporary with the main construction phase of Stonehenge. The later henge and timber circles are also thought to coincide with the third phase of the development of Stonehenge. As a focus for Neolithic ceremonial activity, there is the possibility that an association with other contemporary monuments may have been significant. In terms of monument inter-visibility, however, the viewshed of the group is quite limited. Compared to other components of the late prehistoric landscape, relatively few visual connections would have existed, and in the modern day these are largely compromised due to the levelling of monuments and the presence of modern screening elements.

It has been suggested that inter-visibility between some of the long barrows may have been a significant aspect of their placement and setting. Theoretical visibility has been indicated between the long barrow to the south of Woodhenge, the long barrow at the eastern end of the Greater Cursus and a long barrow south of Bulford within Longbarrow Clump. However, due to modern residential settlement and woodland this inter-visibility is no longer readily apparent.

Although no longer legible due to the levelling of most of the features, views between the barrow group at Durrington Walls (AG33) and those around Countess Farm (AG31) may have been significant. However, intervening vegetation and housing, combined with the levelling of most of the barrows, means this connection is no longer apparent. From the northern edge of the Asset Group, inter-visibility is likely to have been possible with barrows on the edge of Durrington and near Larkhill Golf Course, but these monuments no longer have any surviving upstanding earthworks.

The Cuckoo Stone, although now recumbent and slightly moved from its original location, is likely to have been a focal point in the ancient landscape; the inter-relationship between these features is still considered significant.

By comparison to other Attributes of setting, inter-visibility therefore does not contribute so greatly to the group's significance. Key views are confined to the immediate locale and comprise those:

- Between Woodhenge and Durrington Walls.
- Towards the timber circle to the south (no longer clearly legible);
- From the Cuckoo Stone to the east and north-east towards Woodhenge and Durrington Walls;

- From the Cuckoo Stone southwards to the long barrow; and
- To the east between Durrington Walls and the Avon Valley (no longer clearly legible).

Various aspects of its current setting detract from the quality of setting. Vegetation flanking the road, as well as the road itself, increases the sense of severance between the two parts of Durrington Walls and prevents easy access between the two areas of the monument. The road also undermines the visual link and association with the River Avon, while introducing traffic noise and visual intrusion adjacent to the road. And, although no longer used, the old road through Durrington Walls still visually disrupts the monument. Meanwhile, the encroachment of modern development at the western edge of Durrington Walls and within the south-eastern edge of the asset along Countess Road intrudes into its setting. The modern agricultural landscape within the southern part of the group also detracts from the setting, being anomalous to the original environment, as well as being the cause of the levelling of several of the barrows.

The solstitial axes that relate to Durrington Walls and Woodhenge are subject to a separate assessment (see HIA Section 6.15, Archaeoastronomical aspects).

## Integrity of the Asset Group

### Wholeness

All of the monuments within the group with the exception of The Packway Enclosure to the north, are within the WHS.

### Intactness

Earthwork remains at Durrington Walls survive largely intact despite disturbance and truncation by roads through the monument, however earthwork remains associated with other monuments within this Asset Group have largely been levelled. This survival of below ground archaeological remains has been confirmed by excavations both in the 19<sup>th</sup> century and the modern day. The Packway Enclosure to the north has largely been destroyed by the road and roundabout and was partially excavated in 1968.

Archaeological excavation is, by nature, a destructive process, with Woodhenge in particular subject to three series of excavations. These investigations along with limited excavations of the interior of Durrington Walls and some of the barrows would have affected the integrity of the monuments to some degree, although this has been partially offset by the information gathered by these investigations, and the enhanced understanding of its place within the wider Stonehenge landscape.

### Threats

Aspect of the Asset Group and monuments lie within arable agricultural land which has levelled any upstanding earthwork features. Continued ploughing of these features, in particular any increase in plough depth, has the potential to further truncate the surviving

archaeological remains.

The Cuckoo Stone, despite being a significant heritage asset, has no formal designation or protection.

### Authenticity of the Asset Group

Factors that preserve or enhance the authenticity of the Asset Group include:

- The potential for archaeological deposits and features surviving which can enhance and add to our knowledge not just of these kinds of monuments but also of our understanding of the WHS as a whole; and
- A number of inter-visible relationships between this Asset Group and other contemporary monuments.

Factors that reduce or diminish the authenticity of the Asset Group include:

- While an interpretative aid the concrete posts reconstructing Woodhenge only partially convey the character of the monument. Potential associations between this monument and other timber circles to the south and within Durrington Walls are no longer legible in the landscape; and
- The legibility of Durrington Walls is compromised by the two roads bisecting the monument, which in particular compromises its association with the River Avon to the east.

### Contribution to the Attributes that convey the OUV of the WHS

The monuments within this Asset Group convey the Attributes of OUV in the following ways:

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

This Asset Group contains several key features within the WHS in particular Durrington Walls and Woodhenge which are likely to have formed a ceremonial group. Recent excavations have demonstrated survival of important and significant Neolithic and Bronze Age archaeology within both of the monuments as well as within the wider Asset Group.

While many of the barrows in the WHS have been subject to excavations by in the 19<sup>th</sup> century, this in itself forms a significant part of their history as the interest of early antiquarians such as Richard Colt Hoare and William Cunnington helped shape both modern archaeology and our interest and understanding of Stonehenge and its wider landscape.

Even where monuments have no upstanding earthworks surviving, there is still the potential for below ground remains to survive, as well as other possible associated features which may have never had an earthwork component.

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

and

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

Due to the inter-relationship between the placement of monuments in association with landscape features and their placement in relation to other earlier and contemporary monuments these two Attributes of the OUV will be discussed in tandem.

Despite not being inter-visible both Stonehenge and Durrington Walls have a clear association with the River Avon. In an attempt to explore this, Parker Pearson and Ramilisonina (1998) have speculated that there was a dualistic relationship in which Stonehenge was associated with the dead, whilst Durrington Walls was seen as the land of the living, with the Avon forming part of a processional route between the two. While there is limited evidence to prove this hypothesis, the link between Durrington Walls through and the River Avon the avenue at the eastern entrance is clear.

Although situated within a very restricted viewshed, there is clear inter-visibility and association between Durrington Walls and Woodhenge (Exon et al. 2000, 60-61). Earlier occupation and later funerary activity is also found focused within this location, suggesting both a significance to the location and the possibility that early activity attracted and importance for later monuments.

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

Woodhenge has been identified as one of a few key monuments within the WHS which is aligned along the midwinter sunset – midsummer sunrise solstitial axis '*along with the timber circle known as Durrington 68 and possibly the timber Northern Circle at Durrington Walls. The avenue leading from Durrington Walls to the River Avon has also been interpreted as lying along the midsummer sunset, and the Durrington Walls Southern Circle (another timber circle), which is aligned on the midwinter sunrise*' (Chadburn 2010, 36). However, there is no strong evidence that the earthwork enclosures themselves at Woodhenge and Durrington Walls were deliberately aligned (Ruggles 2006, 20).

The astronomical significance and sightlines between the Durrington Walls Avenue and the Durrington Walls Southern Circle have been directly damaged by the modern roads (Chadburn and Ruggles 2017, 50-51).

Of the remaining sightlines, that from Woodhenge looking north-east (midsummer sunrise) is considered relatively well-preserved, despite some modern residential development within the view as well as that from Woodhenge looking south-west (midwinter sunset), which would incorporate King Barrow Ridge (currently obscured by trees) (Chadburn and Ruggles 2017,

53-54).

Due to the significant astronomical associations identified it is considered important to try and preserve the dark sky setting for these monuments, *'as this is how they would have originally been viewed'* (Chadburn and Ruggles 2017, 57).

**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 monuments within this group add to the concentration of important and significant features within the WHS. In particular Durrington Walls and Woodhenge are key ceremonial monuments contributing to the OUV.

**7. The influence of the remains of Neolithic and Bronze Age funerary and ceremonial monuments and their landscape settings on architects, artists, historians, archaeologists and others.**

The Asset Group forms part of the wider cultural landscape around Stonehenge which has provided inspiration to artists and archaeologists from at least the 18<sup>th</sup> century. Although not investigated until the 20<sup>th</sup> century Durrington Walls is described by Richard Colt Hoare and shown on 19<sup>th</sup>-century OS maps labelled as 'site of village'. The interest of antiquarians in the Stonehenge area was key to the development of the modern discipline of archaeology.

**Contribution to the Integrity of the WHS**

The Asset Group contains a number of highly important ceremonial and funerary monuments, along with associated settlement. These have been demonstrated to include surviving archaeological remains and as such it is an important contributor to several of the Attributes of the OUV of the WHS.

**Contribution to the Authenticity of the WHS**

The monuments within this Asset Group include the significant and unique monuments and are a tangible illustration of past prehistoric ceremonial and funerary activity within the WHS. Our understanding of this activity is confirmed and enhanced by modern archaeological investigations, which also contribute to the wider discipline of archaeology.

**Assessment of significance and value**

The Asset Group's contribution to OUV is related to the tangible evidence it provides for the following Attributes of OUV:

- 2. The physical remains of the Neolithic and Bronze Age funerary and ceremonial

monuments and associated sites.

- 3. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape.
- 4. The design of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the skies and astronomy.
- 5. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other.
- 6. The disposition, physical remains and settings of the key Neolithic and Bronze Age funerary, ceremonial and other monuments and sites of the period, which together form a landscape without parallel.
- 7. The influence of the remains of Neolithic and Bronze Age funerary and ceremonial monuments and their landscape settings on architects, artists, historians, archaeologists and others.

In accordance with Table 3, the Durrington Walls, Woodhenge and Associated Sites Asset Group is assessed as **Very High** value.

#### Existing baseline

The present A303 lies c. 1.2km south of Woodhenge, and c. 850m from the most southerly element of the group (barrow NHLE 1009140). From all locations within the group, including the key focal elements of Woodhenge and Durrington Walls, traffic on the A303 is an extremely minor, non-intrusive, aspect of the southward view. The section of road that is visible is that to the west of Countess Roundabout, the junction itself being obscured by the intervening topography and by the housing along Countess Road.

The Durrington Walls group currently experiences setting impacts from the rat-running traffic along the Packway, which runs through the Asset Group. Traffic noise is derived from Countess Road and the Packway rather than the A303. The existing high load route avoids Amesbury Solstice Park junction, and follows the A303 east to Countess Roundabout, travels north up the A345 and goes south-east past Bulford along the A3028 to join the A303, passing east of the group.

The existing A303 is assessed as having **Negligible** impact on Attributes of OUV of the WHS conveyed by this Asset Group, resulting in a **Slight Adverse** effect.

#### Assessment of impact of Scheme

It is anticipated that the new A303 would reduce rat-running and traffic jams.

The proposed A303 tunnel would result in extending the high load route from Longbarrow Junction, heading north up the A360, following the B3086 to the Packway, east along the Packway then following the A3028 south-east past Bulford to re-join the A303. The use of the high load and diversionary route when the tunnel is closed would introduce further potential impacts to setting due to higher volumes of traffic within their setting.

Although there would be a decrease in the rat-running, there would still be traffic on the

Packway and the A345 for the high load route. Impacts from the use of adjacent roads as a proposed diversionary route would be temporary and infrequent.

The Scheme would be visible to the same extent as the present A303, with comparable volumes of traffic.

**Impact on fabric**

The Durrington Walls, Woodhenge and Associated Sites Asset Group would not be physically impacted by the Scheme. The Scheme would result in **No Change**.

**Impact on setting**

It is assessed that the Asset Group would experience **Negligible Positive Change**.

**Significance of effect**

Taking account of the Very High value of the asset and in accordance with Table 5, the overall significance of effect of the Scheme on AG33 Durrington Walls, Woodhenge and Associated Sites would be **Slight Beneficial** (derived from a **Negligible Positive** impact on a **Very High** value asset).

**Proposed mitigation**

Design would include potential new signage at specific junctions within the highway boundary and along existing roads for the high load and diversionary route. If required, archaeological monitoring and recording would be undertaken on signage holes.

<b>Value of Asset Group AG33 (Durrington Walls, Woodhenge and Associated Sites)</b>	Very High	
Impact of the existing A303 and associated roads and infrastructure on the Attributes of OUV expressed by the Asset Group	Negligible	
Significance of effect of existing A303 and associated roads and infrastructure on the Attributes of OUV expressed by the Asset Group	Slight Adverse	
<b>Scale and severity of change / impact of Scheme</b>	Fabric	No Change
	Setting	Negligible Positive
<b>Significance of effect of Scheme, taking into account embedded mitigation (design)</b>	Slight Beneficial	
<b>Significance of effect of Scheme, following proposed additional mitigation</b>	Slight Beneficial	

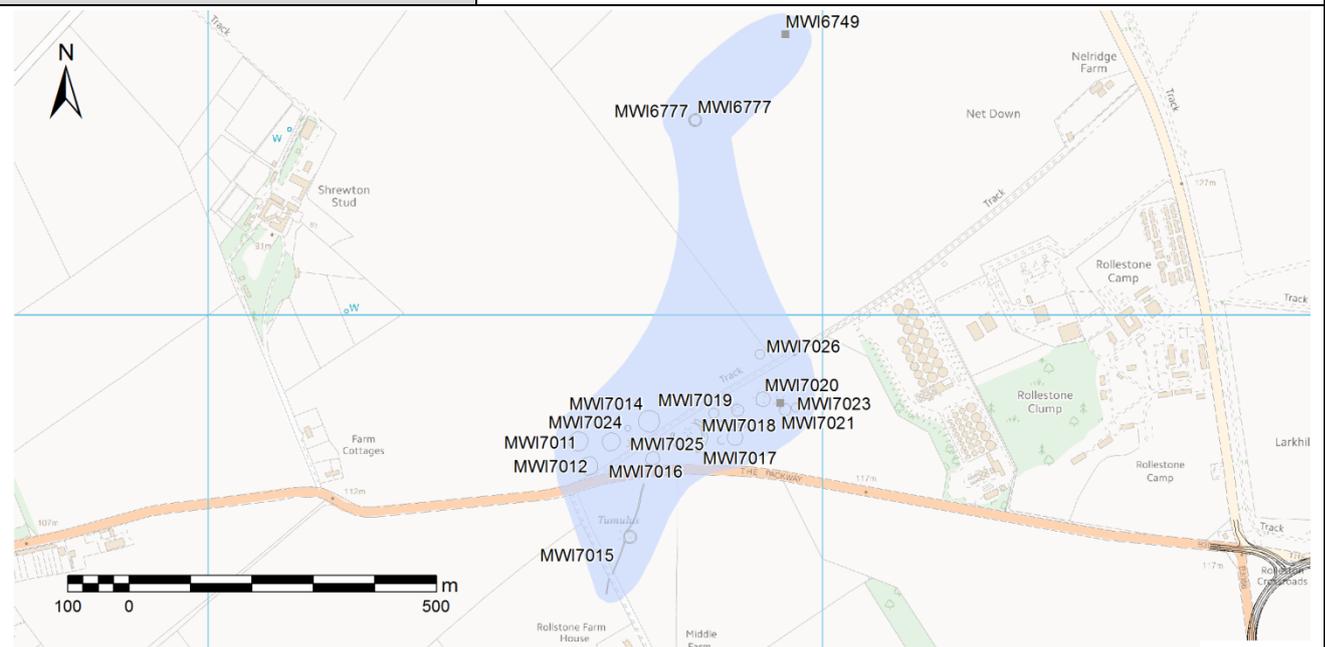
### **Asset Groups outside the boundary of the Stonehenge part of the Stonehenge, Avebury and Associated Sites WHS**

6.9.38 Asset Groups outside the boundary of the Stonehenge part of the Stonehenge, Avebury and Associated Sites WHS comprise:

- AG06 – Net Down Barrow Cemetery
- AG08 – Winterbourne Stoke Down barrows
- AG14 – Robin Hood’s Ball and associated sites
- AG37 – Knighton Long Barrow
- AG38 – Larkhill Camp Long Barrow
- AG39 – Larkhill Causewayed Enclosure

## AG06 Net Down Barrow Cemetery

<b>Designation:</b>	-
<b>Reference IDs:</b>	MWI6777, MWI6749, MWI7011, MWI7012, MWI7013, MWI7014, MWI7015, MWI7016, MWI7017, MWI7018, MWI7019, MWI7020, MWI7021, MWI7022, MWI7023, MWI7024, MWI7025, MWI7026, MWI7189
<b>Location (NGR):</b>	408787 144940



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### Constituent elements of Asset Group

The Asset Group contains a group of non-designated levelled round barrows on Net Down, several of which were excavated under the direction of Charles Green from 1958 to 1960 (Green and Rollo-Smith 1984). These are predominantly clustered together in a roughly linear arrangement or cemetery, which is bisected by Net Down Lane, and located immediately to the north of The Packway and to the west of Rolleston Camp and the Rolleston grain store. From west to east, this group comprises:

- A bowl barrow known as Shrewton 5a (MWI7011) (excavated by Green);
- A possible unexcavated round barrow known as Shrewton 5b (MWI7012);
- A bell barrow known as Shrewton 5c (MWI7013) (excavated by Green);
- A possible unexcavated round barrow (MWI7024);
- A possible unexcavated round barrow (MWI7025);
- A bell barrow known as Shrewton 5d (MWI7014) (excavated by Green);
- A bowl barrow known Shrewton 5f (MWI7016) (excavated by Green);

- A disc barrow known as Shrewton 5g (MWI7017) (excavated by Green);
- A bowl barrow known as Shrewton 5h (MWI7018) (excavated by Green);
- A possible unexcavated round barrow (MWI7189);
- A bowl barrow, probably that known as Shrewton 5l (MWI7022) (excavated by Green);
- A bell barrow known as Shrewton 5i (MWI7019) (excavated by Green);
- A possible unexcavated round barrow, possibly that known as Shrewton 5p (MWI7026);
- A bell barrow known as Shrewton 5j (MWI7020) (excavated by Green);
- A bowl barrow, probably that known as Shrewton 5k (MWI7021) (excavated by Green); and
- A probable unexcavated round barrow, known as Shrewton 5m (MWI7023);

The Asset Group also contains the following outliers to the main linear group:

- A bowl barrow known as Shrewton 5e (MWI7015), located to the south of the main linear group (excavated by Green); and
- Two other possible unexcavated barrows identified from aerial photographs over 400m north of the main linear group (MWI6777 and MWI6749).

### Description

This is a group of non-designated levelled round barrows on Net Down, several of which were excavated from 1958 to 1960. These are mainly clustered together in a roughly linear arrangement, with two further outliers to the north. The barrows are located immediately to the north of The Packway and to the west of Rollestone Camp and the Rollestone grain store; they are bisected by Net Down Lane / B3086. All are ploughed out and none has surface expression.

The barrows are set within agricultural land, largely but completely to the north of the Packway. The main group is bisected by a bridleway. There are multiple modern elements within the immediate environs. The buildings and silos of Rollestone Camp stand c. 200m east of the Asset Group's limit, while Shrewton Stud, Rollstone Farm / Middle Farm and Nelridge Farm are all present to the north-west, south and north-east respectively. The Packway itself is often busy with traffic, with the junction at Rollestone Corner c. 730m to the east.

### Condition of the Asset Group

These monuments retain no surface expression. Many are subject to cultivation.

### Attributes of setting

Given the lack of surface expression, the group has no visual Attributes. When standing at the location, within agricultural land and surrounded by roads and modern development,

there is no sense of place.

Visual connections with contemporary monuments may have existed in the late prehistoric period.

The GIS-based visibility analysis carried out by Exon et al. (Exon et al. 2000, 95-6) indicates that the barrows assigned to this Asset Group would never have shared inter-visibility with the 'Stonehenge basin' to the south-east, or with the other barrow groups on the western side of the River Till, such as Winterbourne Stoke West Barrows and Coniger Enclosure (AG03) and Winterbourne Stoke East Barrows and Enclosure (AG04).

The Asset Group is visually connected to the (now levelled) Rollestone Barrows (AG10). The group may also have related to monuments to the north, including Robin Hood's Ball (AG14). These connections are currently difficult to appreciate, given the lack of surface expression and the imposition of multiple modern elements in the intervening landscape. The group's significance is therefore confined to sub-surface, archaeological Attributes.

Key views include:

- Views between the locations of the monuments within the Asset Group, including views along the length of the main linear barrow group, and views from and towards the main linear group and the detached outliers to the north and south;
- Views to the south, towards the locations of the other linear barrow groups occupying the parallel ridges on the eastern side of the Till valley (Rollestone Barrows (AG10) and Lesser Cursus Barrows and Pit Circle (AG11)) and the prominent barrow group at Winterbourne Stoke Crossroads (AG12) further to the south; and
- Views to the west towards the valley of the River Till.

### **Integrity of the Asset Group**

#### **Wholeness**

All assets are located outside the WHS boundary.

#### **Intactness**

The integrity of the Asset Group is variable. The earthwork components of the monuments have been levelled. Below ground archaeological remains retain potential for future research.

#### **Threats**

The monuments within the Asset Group are not scheduled. The monuments are located within an arable field and subject to ploughing.

### **Authenticity of the Asset Group**

Factors that preserve or enhance the authenticity of the Asset Group include:

- The potential for archaeological deposits and features surviving which can enhance and add to our knowledge not just of these kinds of monuments but also of our

understanding of the WHS as a whole.

Factors that reduce or diminish the authenticity of the Asset Group include:

- The lack of surface expression of the barrows assigned to the Asset Group, as well as those assigned to the Rollestone Barrows (AG10), which greatly diminishes their legibility as important and interrelated features in the fossilised prehistoric landscape on the north-western edge of the WHS;
- The inclusion of the barrows within large, ploughed arable fields – though relatively open, the modern agricultural setting is likely to be far removed from the original landscape context of the monuments. The patchwork of large agricultural fields and occasional plantations results in the fragmentation and degradation of the otherwise open landscape;
- The visually intrusive presence of modern development, particularly the Rollestone grain store, which lies to the east of the main linear group. The grain store and its screening plantation also block, or partially intervene in views towards the sites of other prehistoric funerary and ceremonial monuments located to the east (AG10) and north-east (AG14) of the main linear group;
- The plantation which intervenes in views towards the locations of some of the levelled barrows on Rollestone Field (AG10);
- The division of the main linear group by Net Down Lane, and the visually intrusive presence of the overhead cables which along its southern edge; and
- The Packway, which separates the main linear group from the detached outlier to the south (Shrewton 5e), and imposes a visually and audibly intrusive presence.

### **Contribution to the Attributes that convey the OUV of the WHS**

Although the Asset Group once formed part of a continuous prehistoric landscape, the monuments are currently visually and spatially segregated from the WHS.

The barrows occupy elevated positions; the main linear group of barrows is situated just below and on the southern side of the crest of a broad east – west ridge extending along the eastern flank of the River Till, overlooking land to the south. The Shrewton 5k barrow, at the eastern end of the group, was probably the earliest component of the barrow cemetery and also occupied the highest point of the ridge (Green and Rollo-Smith 1984, 278), which is angled slightly down to the west, providing views towards the river valley.

The Rollestone grain store and plantation also intervenes in, or lies in the periphery of views towards the location of the Robin Hood's Ball Early Neolithic causewayed enclosure and several long barrows and later round barrows surrounding it (AG14), which may once have been visible from some of the barrows within the Net Down Asset Group (Exon et al. 2000, 95-6).

Although no longer conspicuous above ground, the locations of several of the round barrows assigned to the Rollestone Barrows (AG10) share inter-visibility with the Asset

Group. The prominent agricultural silo set amidst the Lesser Cursus Barrows and Pit Circle (AG11) extending to the west of the Lesser Cursus (AG15) is visible from the location of the Asset Group, although the mounds of these barrows themselves are not conspicuous. Exon et al. (2000, 95-6) have indicated that the barrow cemetery at Winterbourne Stoke Crossroads Barrows (AG12), approximately 3km to the south-south-east, may once have been visible from the location of the Asset Group, although it is now difficult to distinguish any of the still prominent earthworks of this group.

The case has been put forward on a number of occasions (e.g. Chris Blandford Associates 2000; English Heritage 2009; Simmonds and Thomas 2015) that the Integrity of the WHS could be enhanced via the revision and extension of its boundary to include some, or all of Robin Hood's Ball and the long barrows in this general area to the north and west of the WHS. The Statement of Integrity attached to the SoOUV (UNESCO 2013) states that '*At Stonehenge the boundary will be reviewed to consider the possible inclusion of related, significant monuments nearby such as Robin Hood's Ball, a Neolithic causewayed enclosure.*'

The Net Down Barrows Asset Group is included in a gazetteer of sites proposed for inclusion within the WHS (Thomas 2012).

#### **Contribution to the Integrity of the WHS**

The Asset Group is located outside the current boundaries of the WHS.

It expresses several of the Attributes of OUV.

However, it has been levelled, although below ground remains survive.

It is assessed that the presence / survival of the Asset Group does not make a strong contribution to the overall Integrity of the cultural landscape of the WHS.

#### **Contribution to the Authenticity of the WHS**

The levelled Asset Group contributes little to the overall cohesiveness and legibility of the cultural landscape of the WHS and its Authenticity.

The surviving below ground archaeology holds considerable potential to increase our understanding of Neolithic and Bronze Age societies.

#### **Assessment of significance and value**

The Asset Group's contribution to OUV is related to the tangible evidence it provides for the following Attributes of OUV:

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

- 5. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other.
- 6. The disposition, physical remains and settings of the key Neolithic and Bronze Age funerary, ceremonial and other monuments and sites of the period, which together form a landscape without parallel.

Although the monuments lie outside the WHS, there is a spatial association with monument groups within the boundary. Asset Group AG06 Net Down Barrows is inter-visible with the location of the levelled AG10 Rollestone Barrows which lie on the western edge of the WHS.

In accordance with Table 3, the Net Down Barrows Asset Group is assessed as **Very High** value.

#### Existing baseline

The A303 lies over 3km to the south of the group and is masked from it by the intervening topography. No traffic noise from the A303 is apparent (though much is derived from the Packway).

The group is currently split by the course of the Packway and the B3086.

The existing A303 is assessed as having **No** impact on Attributes of OUV of the WHS conveyed by this Asset Group, resulting in a **Neutral** effect.

#### Assessment of impact of Scheme

The Scheme mainline would be 3km and greater from the group and would have no impact. The junction alterations at Rollestone Corner would not physically impinge upon any element of the group or its setting.

##### Impact on fabric

The Asset Group would not be physically impacted by the Scheme. The Scheme would result in **No Change**.

##### Impact on setting

It is assessed that the Asset Group would experience **No Change**.

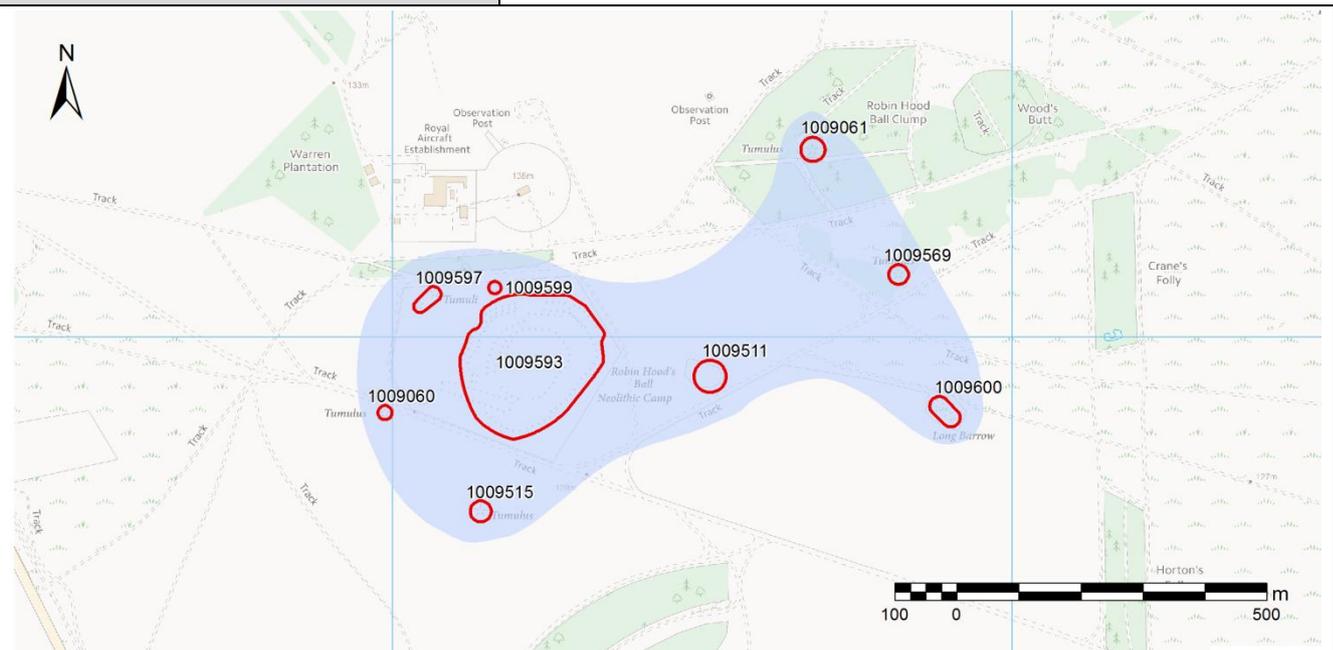
#### Significance of effect

Taking account of the Very High value of the asset and in accordance with Table 5, the overall significance of effect of the Scheme on AG06 Net Down Barrow Cemetery would be **Neutral** (derived from **No** impact on a **Very High** value asset).

<b>Proposed mitigation</b>		
No mitigation is proposed, as there are no direct physical impacts.		
<b>Value of Asset Group AG06 Net Down Barrow Cemetery</b>	Very High	
Impact of the existing A303 and associated roads and infrastructure on the Attributes of OUV expressed by the Asset Group	No Change	
Significance of effect of existing A303 and associated roads and infrastructure on the Attributes of OUV expressed by the Asset Group	Neutral	
<b>Scale and severity of change / impact of Scheme</b>	<b>Fabric</b>	No Change
	<b>Setting</b>	No Change
<b>Significance of effect of Scheme, taking into account embedded mitigation (design)</b>	Neutral	
<b>Significance of effect of Scheme, following proposed additional mitigation (residual effect)</b>	Neutral	

### AG14 Robin Hood's Ball and Associated Sites

<b>Designation:</b>	Scheduled monument
<b>Reference IDs:</b>	1009060, 1009061, 1009511, 1009515, 1009569, 1009593, 1009597, 1009599, 1009600 (1010091)
<b>Location (NGR):</b>	410422 145985



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### Constituent elements of Asset Group

The Asset Group includes nine scheduled monuments:

- The Neolithic causewayed enclosure known as Robin Hood's Ball (NHLE 1009593);
- A Neolithic long barrow some 530m east-south-east of Robin Hood's Ball (NHLE 1009600);
- Seven round barrows, five of which are located around the western side of Robin Hood's Ball and to the south-east of the Warren Plantation (NHLE 1009515, 1009597, 1009599 and 1009060). The remaining two examples are located within, and to the south of the plantation known as Robin Hood's Ball Clump, and over 400m to the east-north-east of Robin Hood's Ball (NHLE 1009061 and 1009569, respectively); and
- An enclosure located approximately 150m east of Robin Hood's Ball (NHLE 1009511).

### Description

The Robin Hood's Ball and Associated Sites Asset Group comprises a group of prehistoric

monuments located outside of the boundary of the WHS, and within the Salisbury Plain Training Area to the north-west of Larkhill Camp. It includes nine scheduled monuments. These comprise: the Early Neolithic causewayed enclosure known as Robin Hood's Ball (NHLE 1009593); an Early Neolithic long barrow (NHLE 1009600); seven later round barrows (NHLE 1009515, 1009569, 1009597, 1009599-61); and, an undated earthwork enclosure (NHLE 1009511).

The Robin Hood's Ball causewayed enclosure is amongst the earliest monumental constructions within the Stonehenge landscape. It is defined by two concentric circuits of banks and segmented or causewayed ditches, enclosing a slightly irregular area of c.3.5ha. The earthwork remains are not especially prominent when viewed from ground level, although they are more conspicuous on aerial photographs. The site has been subject to small-scale excavations on two occasions; in the 1950s (Thomas 1964) and in 1983-4 (Richards 1990). A detailed analytical earthwork survey of the site was conducted in the 1990s (Oswald et al. 2001), and a geophysical survey was undertaken in 2015 (Bayer 2016). Although subject to only limited excavation, the quantities of 'cultural debris' recovered from Robin Hood's Ball has been seen as '*sufficient to imply a significant focus of occupation, whether periodic or on a more permanent basis in the centuries following 3700 BC*' (Darvill 2006 p.79).

Robin Hood's Ball was long thought to be the only causewayed enclosure within the Stonehenge landscape. However, part of a second causewayed enclosure was unexpectedly revealed to the east of Larkhill Camp in early 2017 (Field and McOmish 2017 p. 56).

The long barrow, which is broadly contemporary with the causewayed enclosure, is one of several on Alton Down, to the north of the WHS boundary and east of Robin Hood's Ball. Partial excavation by John Thurnam in the 19<sup>th</sup> century appears to have revealed a secondary inhumation burial associated with Beaker pottery. Several of the round barrows within this group were also partially excavated in the 19<sup>th</sup> century.

The precise date and function of the scheduled earthwork enclosure is uncertain, as the site is not known to have been subject to any intrusive archaeological investigation, though it may be of later prehistoric or Roman date.

### Condition of the Asset Group

Robin Hood's Ball and associated sites are located in the Salisbury Plain Training Area and are subject to ongoing safeguarding measures by the MOD in collaboration with Historic England and WCAS. The condition of upstanding earthworks is generally assessed to be fair and stable.

### Attributes of setting

The monuments assigned to the Asset Group are situated outside and to the north of the

WHS. They are located within the military training grounds to the north-west of Larkhill Camp. As a result, access to the monuments is restricted. With the exception of the round barrow within Robin Hood's Ball Clump (NHLE 1009061), all of the monuments are situated within a largely open expanse of uncultivated grassland.

Most of the monuments are contained within fenced enclosures, intended to demarcate them and prevent accidental encroachment. As many of the components of the Asset Group retain little surface expression, the fencing represents the most conspicuous evidence for the presence of the monuments.

Robin Hood's Ball is currently surrounded by several woodland plantations; Warren Plantation to the north-west, Robin Hood's Ball Clump and Woods Butt to the north-east, Crescent Copse to the south, Crane's Folly and Horton's Folly to the east, and Alanbrooke's Plantations to the south-east.

Numerous access tracks traverse the surrounding landscape, in close proximity to several of the monuments. The majority of the interior of Larkhill Camp, to the east-south-east of Robin Hood's Ball, is not visible from the location of several of the monuments due to topography and the screening effect of intervening plantations. Tree cover also partially screens the Royal Aircraft Establishment / QinetiQ site to the north, although the structures within Rolleston Camp and the Rolleston Grain Store are clearly visible to the south-east. The road junction at Rolleston Corner is difficult to discern from the location of the Asset Group.

Several GIS based visibility analyses (e.g. Exon et al. 2000; Batchelor 1997) have indicated that, when the potential screening effect of tree cover is unaccounted for, the location of the causewayed enclosure would have been widely inter-visible with much of the wider landscape, including the positions of Stonehenge (AG22) to the south of the Asset Group, Knighton Long Barrow (AG37) to the east, and three other long barrows to the north-east (e.g. Netheravon Bake (NHLE 1009520), Netheravon 6 (NHLE 1009516) and Long barrow north of Robin Hood Ball Clump (NHLE 1010091)). It is unclear if the location of the recently discovered causewayed enclosure on the eastern edge of Larkhill Camp (AG39; Field and McOmish 2017, 56) would have once been inter-visible with Robin Hood's Ball.

Views from the location of the causewayed enclosure are currently restricted and / or fragmented by screening plantations. Views towards the three broadly contemporary long barrows to the north-east (NHLE 1009520, 1009516 and 1010091) are obstructed by several woodland blocks. Similarly, the plantations to the south and south-east obscure views from some vantage points towards the heart of the Stonehenge Bowl. Distant and partially interrupted views are also available towards the prominent Knighton Long Barrow (AG37) to the east. Some elements of the built environment within the northern part of Larkhill Camp are also visible in these views to the east and to the south and east of Knighton Long Barrow.

With the principal exception of the round barrow within Robin Hood's Ball Clump (NHLE 1009061), which is entirely screened from the surrounding landscape, there is clear /

uninterrupted inter-visibility between most of the monuments assigned to the Asset Group. Adjacent tree cover also interrupts views from the bowl barrow on the southern edge of the Robin Hood Ball Clump plantation (NHLE 1009569), although it shares inter-visibility with the long barrow assigned to this Asset Group, c.200m to the south, and Knighton Long Barrow to the south-east.

The Rollestone Grain Store, Rollestone Camp and other more peripheral modern development and military facilities (including Larkhill Camp) / infrastructure (such as trackways, observation towers, masts and signs). These elements are a distracting and visually intrusive presence in the views available from and towards several of the monuments assigned to the Asset Group. This diminishes the capacity of the observer to appreciate meaningful spatial and contextual relationships, and the contribution made by the setting of the monuments to their significance.

Key views include:

- Views from Robin Hood’s Ball towards the south and south-east, including the location of Stonehenge (one of the six ‘quality views’ identified by Exon et al. 2000, 105-6);
- Views from the heart of the WHS, including the Stonehenge monument (AG22) towards the Asset Group;
- Views between the Asset Group and the other long barrows further to the east, and to the north of the WHS; and
- Views between the monuments within the Asset Group.

### **Integrity of the Asset Group**

#### **Wholeness**

All assets are located outside the WHS boundary.

#### **Intactness**

The integrity of the Asset Group is variable. Many of the earthwork components of the monuments have been reduced or levelled. Below ground archaeological remains retain potential for future research.

#### **Threats**

The monuments in the Asset Group are scheduled.

### **Authenticity of the Asset Group**

Factors that preserve or enhance the authenticity of the Asset Group include:

- The potential for archaeological deposits and features surviving which can enhance

and add to our knowledge not just of these kinds of monuments but also of our understanding of the WHS as a whole.

- The absence of any attempts to reconstruct the monuments.

Factors that reduce or diminish the authenticity of the Asset Group include:

- The lack of, or limited surface expression of several of the monuments, which diminishes the ability to appreciate their form, and their contextual / spatial associations and relationships with the surrounding landscape;
- The presence of screening plantations. Although these play a beneficial role in screening some intrusive elements, they also intrude in views between the Asset Group and the wider landscape, thus diminishing the number of meaningful visual associations with other prehistoric sites and monuments, and potentially significant aspects of the natural landscape. For example, Crescent Copse and the Alanbrooke's Plantations intervene in views to the south and south-east of Robin Hood's Ball, whilst plantations (e.g. Robin Hood's Ball Clump and Woods Butts) also intrude in views between several long barrows and the causewayed enclosure. The barrow within Robin Hood's Ball Clump (NHLE 1009061) is almost entirely visually segregated from its surroundings, rendering any meaningful relationships with the wider landscape difficult to perceive; and
- The visually intrusive presence of modern development, particularly the Rollestone grain store.

#### **Contribution to the Attributes that convey the OUV of the WHS**

Although the Asset Group once formed part of a continuous prehistoric landscape, the monuments are excluded from the WHS boundary.

The case has been put forward on a number of occasions (e.g. Chris Blandford Associates 2000; English Heritage 2009; Simmonds and Thomas 2015) that the Integrity of the WHS could be enhanced via the revision and extension of its boundary to include some, or all of Robin Hood's Ball and the long barrows in this general area to the north and west of the WHS. The Statement of Integrity attached to the SoOUV (UNESCO 2013) states that '*At Stonehenge the boundary will be reviewed to consider the possible inclusion of related, significant monuments nearby such as Robin Hood's Ball, a Neolithic causewayed enclosure.*'

Robin Hood's Ball and associated sites are included in a gazetteer of sites proposed for inclusion within the WHS (Thomas 2012).

#### **Contribution to the Integrity of the WHS**

The Asset Group is located outside the current boundaries of the WHS.

It expresses several of the Attributes of OUV.

It is assessed that the presence / survival of the Asset Group makes a strong contribution to the overall Integrity of the cultural landscape of the WHS.

### **Contribution to the Authenticity of the WHS**

The monuments within this Asset Group include the significant and unique monuments and are a tangible illustration of past prehistoric ceremonial and funerary activity within the WHS.

Our understanding of this activity is confirmed and enhanced by modern archaeological investigations.

The surviving below ground archaeology holds considerable potential to increase our understanding of Neolithic and Bronze Age societies.

### **Assessment of significance and value**

The Asset Group's contribution to OUV is related to the tangible evidence it provides for the following Attributes of OUV:

- 2. The physical remains of the Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape.
- 3. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape.
- 5. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other.
- 6. The disposition, physical remains and settings of the key Neolithic and Bronze Age funerary, ceremonial and other monuments and sites of the period, which together form a landscape without parallel.
- 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.

Although the monuments lie outside the WHS, there is an association with monument groups within the boundary.

In accordance with Table 3, the Robin Hood's Ball and Associated Sites Asset Group is assessed as Very High value.

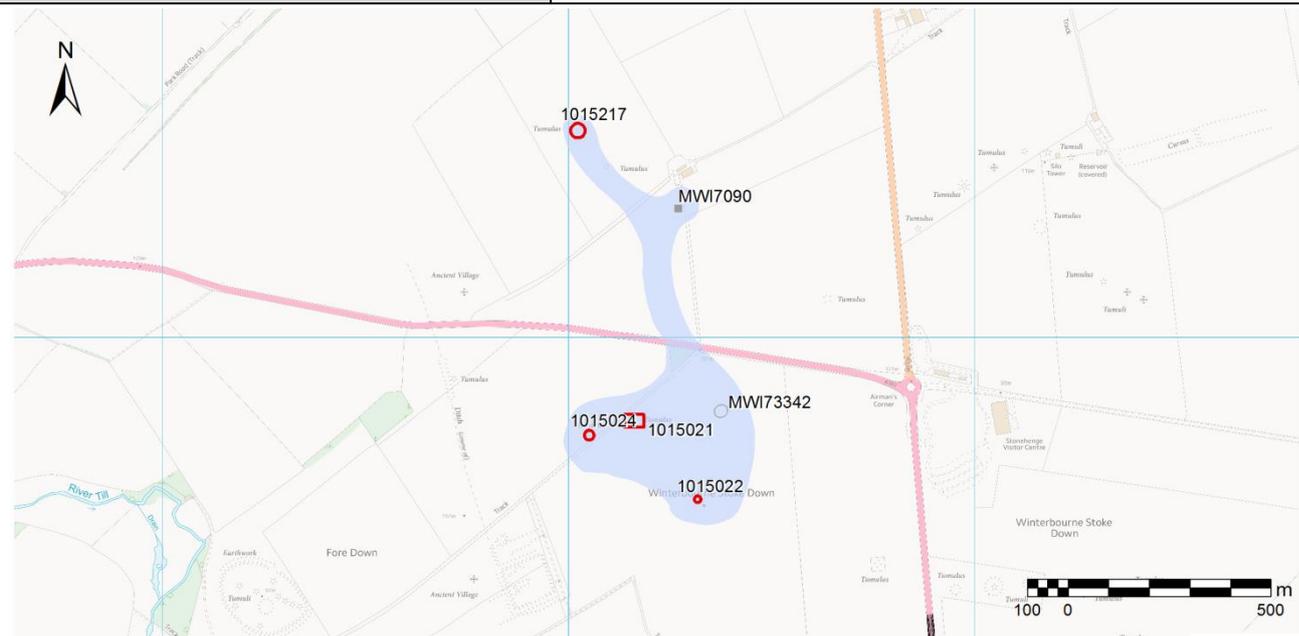
### **Existing baseline**

Due to the distance, topography and intervening plantations, the A303 is largely imperceptible from the location of Robin Hood's Ball and the other monuments assigned to the Asset Group.

The existing A303 is assessed as having <b>No</b> impact on Attributes of OUV of the WHS conveyed by this Asset Group, resulting in a <b>Neutral</b> effect.		
<b>Assessment of impact of Scheme</b>		
The Scheme mainline would be situated at a distance of over 2.6km from the group and would have no impact. The junction alterations at Rollestone Corner extend to within 1.0km of the group, but would not physically impinge upon it due to intervening topography. There would be no impacts arising from the permanent presence of the Scheme.		
<b>Impact on fabric</b>		
The Asset Group would not be physically impacted by the Scheme. The Scheme would result in <b>No Change</b> .		
<b>Impact on setting</b>		
It is assessed that the Asset Group would experience an impact resulting in <b>No Change</b> .		
<b>Significance of effect</b>		
Taking account of the Very High value of the asset and in accordance with Table 5, the overall significance of effect of the Scheme on AG14 Robin Hood's Ball and Associated Sites Asset Group would be <b>Neutral</b> (derived from <b>No</b> impact on a <b>Very High</b> value asset).		
<b>Proposed mitigation</b>		
No mitigation is proposed, as there are no direct physical impacts.		
<b>Value of Asset Group AG14 Robin Hood's Ball and Associated Sites Asset Group</b>	Very High	
Impact of the existing A303 and associated roads and infrastructure on the Attributes of OUV expressed by the Asset Group	No Change	
Significance of effect of existing A303 and associated roads and infrastructure on the Attributes of OUV expressed by the Asset Group	Neutral	
<b>Scale and severity of change / impact of Scheme</b>	Fabric	No Change
	Setting	No Change
<b>Significance of effect of Scheme, taking into account embedded mitigation (design)</b>	Neutral	
<b>Significance of effect of Scheme, following proposed additional mitigation (residual effect)</b>	Neutral	

### AG08 Winterbourne Stoke Down Barrows

<b>Designation:</b>	Scheduled monument
<b>Reference IDs:</b>	1015021, 1015022, 1015024, 1015217, MWI7054, MWI7090, MWI73342
<b>Location (NGR):</b>	409236 142905



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### Constituent elements of Asset Group

The Asset Group includes four scheduled monuments. These are an Early Neolithic long barrow (NHLE 1015021) and three later round barrows (NHLE 1015022, 1015024, 1015217). In addition, the Asset Group contains several known and possible non-designated, levelled round barrows, which have largely been identified from aerial photographs (e.g. MWI7090, MWI73342).

The HER entry (MWI7054) relating to one of the scheduled round barrows (NHLE 1015022) places the position of the monument outside of the scheduled area, possibly due to the lack of precision with which the feature was transcribed from aerial photographs.

The monuments are dispersed across Winterbourne Stoke Down, to the north and south of the A360, west of Airman’s Corner and outside beyond the western boundary of the WHS.

### Description

The Asset Group includes four scheduled monuments. These are an Early Neolithic long barrow (NHLE 1015021) and three later round barrows (NHLE 1015022, 1015024, 1015217). In addition, the group contains several known and possible non-designated,

levelled round barrows, which have largely been identified from aerial photographs (e.g. MWI7090, MWI73342). The earliest component of the group is the scheduled long barrow NHLE 1015021, also known as 'Winterbourne Stoke 53'. The Winterbourne Stoke 53 long barrow is situated within the south-western part of the group, to the south of the A360. It remains conspicuous above ground as an elongated mound, orientated east-west, and measuring some 43m in length and 17m in width. The mound is flanked by largely infilled ditches. The remaining components of the group are all later round barrows. In contrast to the Winterbourne Stoke 53 long barrow, the earthwork elements of these barrows have been either levelled, or substantially reduced in height. The scheduled examples retain some surface expression as very low, spread mounds.

The monuments are dispersed across the gently rolling agricultural landscape of Winterbourne Stoke Down, which is divided into several large fields under a mixture of pasture and arable cultivation. The group is divided by the A360, here running on an east-west alignment from Airman's Corner. This section of road and its traffic are a conspicuous element within the setting. Approximately 500m to the east, the A360 and B3086 run on a north-south alignment. The actual road surfaces of both the A360 and B3086 are partially concealed from view, but traffic along both roads is easily apparent.

Views are relatively unrestricted in all directions from the monuments within the group, due to the predominantly open and undeveloped character of the landscape. Plantations nevertheless intervene in some long distance views. The Fargo plantation, for example, stands c. 1.6km to the east, blocking views in this direction, except for the aperture provided by the Greater Cursus.

The Stonehenge Visitor Centre and its car / coach parks are located within the lower-lying area around Airman's Corner, c. 500m to the east of the group. Although these elements do not interrupt inter-visibility with the landscape beyond, they are conspicuous, for example, in views towards the western terminal of the Greater Cursus. Other conspicuous modern built forms in the surrounding landscape include the prominent agricultural silo which stands amidst the barrows extending from the western end of the Lesser Cursus (AG11).

#### **Condition of the Asset Group**

The Winterbourne Stoke 53 long barrow is assessed to be in fair condition. The extant round barrows are in poor condition. The monuments and sites are vulnerable to cultivation impacts.

#### **Attributes of setting**

The group possesses an archaeological setting, both in terms of intra-group relationships and in a wider landscape context. The Winterbourne Stoke 53 long barrow is an upstanding monument with intrinsic visual interest. Other elements of Asset Group have limited surface expression.

The Asset Group has inter-visibility with a number of elements within the western parts of the WHS. These include the Greater and Lesser Cursus, though in neither case is the monument itself visible, but the attendant barrows. Connections with these barrows, and with the Winterbourne Stoke group are particularly relevant.

Key views include those:

- Between the locations of the individual monuments within the group;
- Towards the Winterbourne Stoke 53 long barrow, which are experienced by visitors travelling along the A360, and from the Stonehenge Visitor Centre;
- Between the group and the western end of the Greater Cursus (AG23);
- Between the group and the Lesser Cursus (AG15), and the linear barrow group extending from its western end (AG11); and
- Between the group and the barrows located north of Winterbourne Stoke Crossroads (AG12); several of the barrows here are prominently visible – either against the horizon or rising against the backdrop of Winterbourne Stoke Clump.

Several aspects detract from the quality of the current setting. The modern agricultural landscape (including the silo to the east), though comparatively tranquil, is anomalous in terms of the original setting. The levelling through ploughing of many of the group's components means that intra-group visual links are often no longer clearly legible. The east-west section of the A360 creates physical severance, while its traffic is a dynamic visual and aural element in the setting. Traffic on the north-south A360 and B3086 is also conspicuous and intervenes in the potentially significant visual / spatial relationship with the Lesser Cursus Barrows. The Stonehenge Visitor Centre and its car / coach parks are a modern element in eastward views, including those of the Greater Cursus, the Lesser Cursus and its barrows, and the Winterbourne Stoke Crossroads Barrows.

### **Integrity of the Asset Group**

#### **Wholeness**

All assets are located outside the WHS boundary.

#### **Intactness**

The integrity of the Asset Group is variable. Although the Winterbourne Stoke 53 long barrow has been partially levelled at one end, the remainder of the mound survives as a prominent earthwork. The other elements of the group have limited surface expression. Below ground archaeological remains retain potential for future research.

#### **Threats**

Although several monuments in the Asset Group are scheduled, they are now situated within mostly arable agricultural land.

### Authenticity of the Asset Group

Factors that preserve or enhance the authenticity of the Asset Group include:

- The potential for archaeological deposits and features surviving which can enhance and add to our knowledge not just of these kinds of monuments but also of our understanding of the WHS as a whole.
- The absence of any attempts to reconstruct the monuments.

Factors that reduce or diminish the authenticity of the Asset Group include:

- The lack of, or limited surface expression of several of the monuments, which diminishes the ability to appreciate their form, and their contextual / spatial associations and relationships with the surrounding landscape;
- The setting of the barrows in large, ploughed arable fields;
- The intra-group visual links are often no longer clearly legible;
- The visually intrusive presence of traffic travelling along the existing A360;
- The severance of the group by the A360.

### Contribution to the Attributes that convey the OUV of the WHS

Although the Asset Group once formed part of a continuous prehistoric landscape, the monuments are excluded from the WHS boundary.

Some parts of the Asset Group share inter-visibility with the locations of other Neolithic and Bronze Age sites and monuments both within, and outside of the WHS.

The case has been put forward on a number of occasions (e.g. Chris Blandford Associates 2000; English Heritage 2009; Simmonds and Thomas 2015) that the Integrity of the WHS could be enhanced via the revision and extension of its boundary to include some, or all of Robin Hood's Ball and the long barrows in this general area to the north and west of the WHS. The Statement of Integrity attached to the SoOUV (UNESCO 2013) states that '*At Stonehenge the boundary will be reviewed to consider the possible inclusion of related, significant monuments nearby such as Robin Hood's Ball, a Neolithic causewayed enclosure.*'

The Winterbourne Stoke Down Barrows are included in a gazetteer of sites proposed for inclusion in the WHS (Thomas 2012).

### Contribution to the Integrity of the WHS

The Asset Group is located outside the current boundaries of the WHS.

The Asset Group comprises a long barrow and a scattered group of round barrows within which archaeological remains are anticipated to survive, as such it is an important

contributor to several of the Attributes of the OUV of the WHS.

### **Contribution to the Authenticity of the WHS**

Although no longer clearly legible within the landscape the Asset Group has the potential to increase our understanding of past prehistoric funerary activity.

### **Assessment of significance and value**

The Asset Group's contribution to OUV is related to the tangible evidence it provides for the following Attributes of OUV:

- 2. The physical remains of the Neolithic and Bronze Age funerary and ceremonial monuments and associated sites.
- 3. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape.
- 5. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other.
- 6. The disposition, physical remains and settings of the key Neolithic and Bronze Age funerary, ceremonial and other monuments and sites of the period, which together form a landscape without parallel.

In accordance with Table 3, the Winterbourne Stoke Down Barrows Asset Group is assessed as Very High value.

### **Existing baseline**

Traffic on the present A303 is visible from the group, but at c. 1.2km and greater from its southernmost monument, is markedly less prominent than on the A360 and B3086.

The existing A303 is assessed as having No impact on Attributes of OUV of the WHS conveyed by this Asset Group, resulting in a Neutral effect.

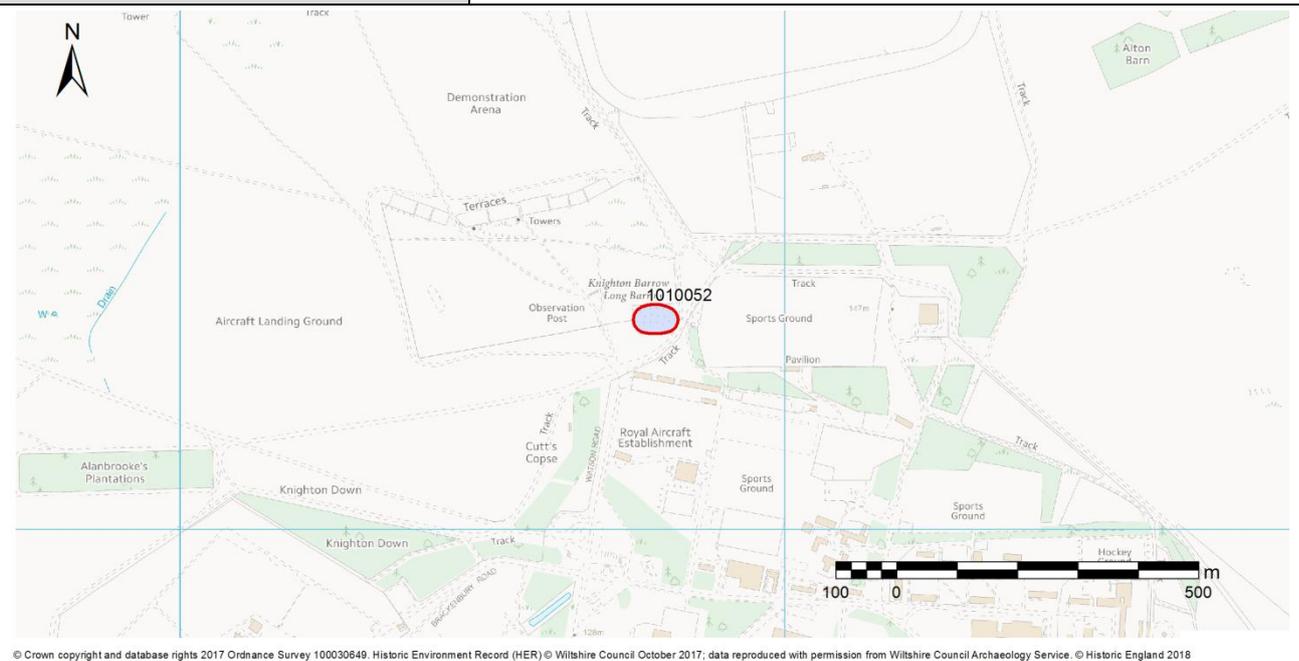
### **Assessment of impact of Scheme**

The Scheme would not have a significant impact on the group. The northern A360 diversion brings traffic somewhat closer to the group on its southern side, but both this and the Longbarrow Junction would be in cutting. These changes would not impact upon the general character of the group's setting, nor on any of the key sightlines. The primary impact of traffic – both visual and aural – would continue to derive from the nearest roads – namely the east-west section of the A360, and the north-south sections of the A360 and B3086 which meet at Airman's Corner.

<b>Impact on fabric</b>		
The Asset Group would not be physically impacted by the Scheme. The Scheme would result in <b>No Change</b> .		
<b>Impact on setting</b>		
It is assessed that the Asset Group would experience <b>No Change</b> .		
<b>Significance of effect</b>		
Taking account of the <b>Very High</b> value of the asset and in accordance with Table 5, the overall significance of effect of the Scheme on AG08 Winterbourne Stoke Down Barrows would be <b>Neutral</b> (derived from <b>No Change</b> to a <b>Very High</b> value asset).		
<b>Proposed mitigation</b>		
No mitigation is proposed, as there are no direct physical impacts.		
<b>Value of Asset Group (AG08 Winterbourne Stoke Down Barrows)</b>	Very High	
Impact of the existing A303 and associated roads and infrastructure on the Attributes of OUV expressed by the Asset Group	No Change	
Significance of effect of existing A303 and associated roads and infrastructure on the Attributes of OUV expressed by the Asset Group	Neutral	
<b>Scale and severity of change / impact of Scheme</b>	Fabric	No Change
	Setting	No Change
<b>Significance of effect of Scheme, taking into account embedded mitigation (design)</b>	Neutral	
<b>Significance of effect of Scheme, following proposed additional mitigation (residual effect)</b>	Neutral	

## AG37 Knighton Long Barrow

<b>Designation:</b>	Scheduled monument
<b>Reference IDs:</b>	1010052
<b>Location (NGR):</b>	412786 145349



### Constituent elements of Asset Group

The Asset Group contains a single scheduled monument, which is located outside of the boundary of the WHS, and within the Salisbury Plain Training Area immediately north-west of Larkhill Camp, Knighton long barrow (NHLE 1010052).

### Description

Knighton long barrow is a large and well preserved example of its type. It is comprised of a substantial upstanding east-west mound, measuring approximately 60m long by 20m wide. The mound is flanked by partially infilled, but nevertheless well-defined ditches. An Ordnance Survey triangulation station surmounts the top of the mound.

The long barrow has not been subject to any intrusive archaeological investigation in modern times, nor is there any known account of earlier excavation by antiquarians. However, Mrs M.E. Cunnington (1914, 390), who listed it as 'Figheldean 27', stated that *'There seems to be no record of this barrow ever having been opened, but it looks as if it had been dug into in more than one place'*.

Knighton long barrow is one of several examples of this form of Early Neolithic monument in the area outside of, and to the north of the WHS boundary. It is situated immediately

outside of the northern perimeter fence of Larkhill Camp, within a large expanse of unimproved grassland forming part of the MOD training estates on Salisbury Plain. It occupies a prominent position at one of the highest points in the surrounding landscape and thus commands panoramic views in all directions, except where these are blocked by plantations and the intervening presence of Larkhill Camp.

Knighton long barrow shares inter-visibility with locations of several other scheduled monuments located to the north-west. These include the Robin Hood's Ball causewayed enclosure (AG14; NHLE 1009593), a long barrow (NHLE 1009600), three round barrows (NHLE 1009569, 1009597 and 1009599) and a later enclosure (NHLE 1009511), all of which are assigned to Asset Group 14. The sites of three other long barrows (NHLE 1009516, 1009520 and 1010091) and a round barrow (NHLE 1009522), all of which are located north-east of Robin Hood's Ball, also share inter-visibility with Knighton long barrow. Although now screened from view by the presence of Larkhill Camp, the Knighton Long Barrow may have had associations with the Larkhill Camp Long Barrow (AG38) and the recently discovered Larkhill Causewayed Enclosure to the east (AG39). Leivers (2017, 40), has tentatively suggested that the Larkhill Causewayed Enclosure may be the 'focal point' for both of these long barrows.

#### **Condition of the Asset Group**

The Knighton Long Barrow is located in the Salisbury Plain Training Area and is subject to ongoing safeguarding measures by the MOD in collaboration with Historic England and WCAS. Upstanding earthworks are assessed to be in a good and stable condition.

#### **Attributes of setting**

Knighton Long Barrow is situated immediately outside of the northern perimeter fence of Larkhill Camp, within a large expanse of unimproved grassland forming part of the MOD training estates on Salisbury Plain. It occupies a prominent position at one of the highest points in the surrounding landscape and thus commands panoramic views in all directions, except where these are blocked by plantations and the intervening presence of Larkhill Camp.

The barrow is surrounded by military access roads, and by the built edge of Larkhill Camp to the south and east. Much of the interior of the military camp and the landscape beyond is screened from the location of the long barrow by tree cover and the structures located closest to it. Several lighting and security camera masts are visible on the skyline, above the roofs of these buildings. The military camp also renders the distant presence of the existing A303 and other roads in the surrounding landscape barely, if at all, perceptible from the location of the monument.

The prominent mound of Knighton Long Barrow is clearly visible against the backdrop of the screening plantations around the northern perimeter of Larkhill Camp, when viewed from the locations of these other monuments. However, several of the monuments cannot be easily identified in the opposing views from Knighton Long Barrow, due to their limited

surface expression.

Key views include:

- Views between Knighton Long Barrow and the locations of the Robin Hood's Ball Causewayed Enclosure (AG14) and the other long barrows and round barrows within the surrounding landscape to the north-west.

### **Integrity of the Asset Group**

#### **Wholeness**

The Asset Group is located outside the WHS boundary.

#### **Intactness**

The long barrow retains prominent surface expression. Although there is no record of any intrusive investigation by antiquarians or in modern times, it has been subject to past interference. An Ordnance Survey triangulation station surmounts the top of the mound. Military water tanks were once installed in the southern ditch.

#### **Threats**

The monument is scheduled.

### **Authenticity of the Asset Group**

Factors that preserve or enhance the authenticity of the Asset Group include:

- The potential for archaeological deposits and features surviving which can enhance and add to our knowledge not just of these kinds of monuments but also of our understanding of the WHS as a whole.
- The absence of any attempts to reconstruct the monuments; and
- The survival of conspicuous earthworks.

Factors that reduce or diminish the authenticity of the Asset Group include:

- The distracting and visually intrusive presence of Larkhill Camp;
- The lack of, or limited surface expression of several of the prehistoric monuments to the north-west, which diminishes the ability to appreciate their form, and their contextual / spatial associations and relationships with the Knighton Long Barrow; and
- The presence of screening plantations. Although these play a beneficial role in screening some intrusive elements, they also intrude in views between the Knighton Long Barrow and the wider landscape, thus diminishing the number of meaningful visual associations with other prehistoric sites and monuments.

### Contribution to the Attributes that convey the OUV of the WHS

The case has been put forward on a number of occasions (e.g. Chris Blandford Associates 2000; English Heritage 2009; Simmonds and Thomas 2015) that the Integrity of the WHS could be enhanced via the revision and extension of its boundary to include some, or all of Robin Hood's Ball and the long barrows in this general area to the north and west of the WHS. The Statement of Integrity in the SoOUV (UNESCO 2013) states that *'At Stonehenge the boundary will be reviewed to consider the possible inclusion of related, significant monuments nearby such as Robin Hood's Ball, a Neolithic causewayed enclosure.'*

Knighton Long Barrow is included in a gazetteer of sites proposed for inclusion (Thomas 2012).

### Contribution to the Integrity of the WHS

The Asset Group is located outside the current boundaries of the WHS.

The Asset Group comprises a long barrow within which archaeological remains are anticipated to survive, as such it is an important contributor to several of the Attributes of the OUV of the WHS.

### Contribution to the Authenticity of the WHS

The Asset Group has the potential to increase our understanding of past prehistoric funerary and ceremonial activity.

### Assessment of significance and value

The Asset Group's contribution to OUV is related to the tangible evidence it provides for the following Attributes of OUV:

- 2. The physical remains of the Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape.
- 3. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape.
- 5. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other.
- 6. The disposition, physical remains and settings of the key Neolithic and Bronze Age funerary, ceremonial and other monuments and sites of the period, which together form a landscape without parallel.

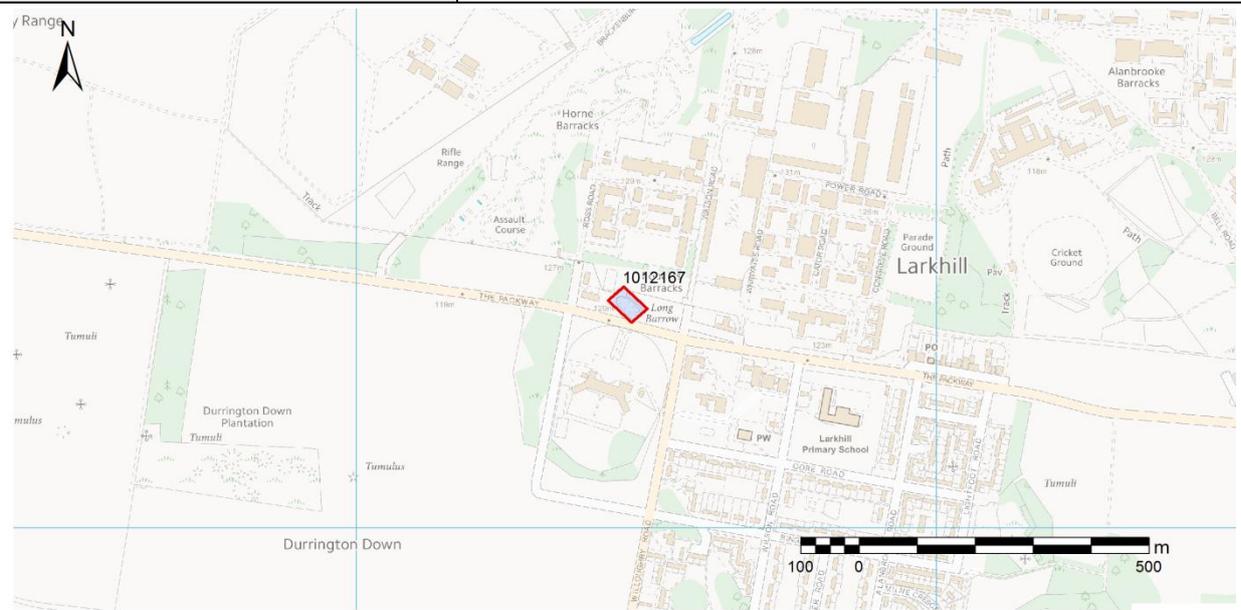
Although the monuments lie outside the WHS, there is an association with monument groups within the boundary.

In accordance with Table 3, the Knighton Long Barrow is assessed as being of **Very High** value.

<b>Existing baseline</b>		
<p>The military camp also renders the distant presence of the A303 and other roads in the surrounding landscape barely, if at all, perceptible from the location of the monument. The existing A303 is assessed as having <b>No</b> impact on Attributes of OUV of the WHS conveyed by the Knighton Long Barrow, resulting in a <b>Neutral</b> effect.</p>		
<b>Assessment of impact of Scheme</b>		
<p><b>Impact on fabric</b> The Asset Group would not be physically impacted by the Scheme. The Scheme would result in <b>No Change</b>.</p>		
<p><b>Impact on setting</b> It is assessed that the Asset Group would experience <b>No Change</b>.</p>		
<b>Significance of effect</b>		
<p>Taking account of the <b>Very High</b> value of the asset and in accordance with Table 5, the overall significance of effect of the Scheme on AG37 Knighton Long Barrow would be <b>Neutral</b> (derived from <b>No Change</b> to a <b>Very High</b> value asset).</p>		
<b>Proposed mitigation</b>		
<p>No mitigation is proposed, as there are no direct physical impacts.</p>		
<b>Value of Asset Group AG37 Knighton Long Barrow</b>	Very High	
Impact of the existing A303 and associated roads and infrastructure on the Attributes of OUV expressed by the Asset Group	No Change	
Significance of effect of existing A303 and associated roads and infrastructure on the Attributes of OUV expressed by the Asset Group	Neutral	
<b>Scale and severity of change / impact of Scheme</b>	Fabric	No Change
	Setting	No Change
<b>Significance of effect of Scheme, taking into account embedded mitigation (design)</b>	Neutral	
<b>Significance of effect of Scheme, following proposed additional mitigation (residual effect)</b>	Neutral	

## AG38 Larkhill Camp Long Barrow

<b>Designation:</b>	Scheduled monument
<b>Reference IDs:</b>	1012167; MWI12435
<b>Location (NGR):</b>	412468 144388



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### Constituent elements of Asset Group

The Asset Group contains a single scheduled monument, the long barrow in Larkhill Camp (NHLE 1012167).

### Description

The Asset Group contains a single scheduled Early Neolithic long barrow. It is located within Larkhill Camp, immediately to the north of The Packway, which marks the northern boundary of the WHS.

The Larkhill Camp Long Barrow appears to have been disturbed, and reduced in height, presumably as a result of historical ploughing and early military activity. Nevertheless, it remains evident above ground as a low, north-west to south-east aligned earthwork mound some 46m in length and 16m in width. The NHLE entry indicates that the mound is up to 1.1m high, although it now appears somewhat less pronounced than this. The entry also states that the mound is flanked along its long axis by the vestiges of now in-filled ditches up to 7m in width, although these are difficult to discern at ground level. The long barrow, which was listed by Mrs M.E. Cunnington (1914, 389) as 'Durrington 24', is not known to have been the subject of any antiquarian or modern archaeological investigation.

Visual and spatial associations may have included those with the Robin Hood's Ball causewayed enclosure (AG14), other visible long barrows including those to the north such as Knighton Long Barrow (AG37) and north-west, and on lower-lying land to the south. Leivers (2017, 40) has tentatively suggested that the recently discovered causewayed enclosure at the eastern edge of Larkhill Camp (AG39) may have formed the 'focal point' for the long barrow, as well as the Knighton Long Barrow (AG37).

#### **Condition of the Asset Group**

The Larkhill Long Barrow is assessed to be in a fair and stable condition.

#### **Attributes of setting**

The monument is located inside the boundary of Larkhill Camp. Its setting is dominated by the surrounding presence of the military facility.

It is situated in the centre of a small rectangular parcel of land, laid to grass, immediately north of the Packway and to the south of Horne Barracks. A recently constructed car park is located immediately to the east of the monument. The grassed area surrounding the long barrow provides a modest degree of separation from the surrounding military facility, and prevents the monument from being subsumed by it.

The turfed area containing the long barrow is bisected from east to west by a security fence. A fenced sports pitch is situated immediately beyond the security fence to the north-west of the monument. Two small brick built structures housing the Pass Office occupy the western edge of the turfed area at the Ross Road entrance to the camp. A parade ground lies immediately north of the turfed area, beyond which is a group of accommodation blocks. A number of technical buildings are located to the north-east. Immediately south of the long barrow is an Officers Mess, which is enclosed and largely screened within its wooded grounds.

Sporadic amenity planting around the periphery of the turfed area provides a very limited degree of screening of the surrounding military camp. Long distance views from the location of the monument across the wider landscape, including into the interior of the WHS to the south, are entirely occluded by the intervening presence of buildings and various plantations.

Key views include:

Views toward the long barrow whilst travelling along the Packway, which enable the form and general position of the monument to be appreciated.

#### **Integrity of the Asset Group**

##### **Wholeness**

The Asset Group is located outside the WHS boundary.

### Intactness

The long barrow retains prominent surface expression. It appears to have been disturbed and reduced in height, presumably as a result of historical ploughing and early military activity. Nevertheless, it remains evident above ground as a low earthwork mound.

### Threats

The monument is scheduled.

### Authenticity of the Asset Group

Factors that preserve or enhance the authenticity of the Asset Group include:

- The potential for archaeological deposits and features surviving which can enhance and add to our knowledge not just of these kinds of monuments but also of our understanding of the WHS as a whole.
- The absence of any attempts to reconstruct the monuments; and
- The survival of conspicuous earthworks.

Factors that reduce or diminish the authenticity of the Asset Group include:

- The distracting and visually intrusive presence of Larkhill Camp;
- The presence of screening plantations.

### Contribution to the Attributes that convey the OUV of the WHS (where applicable)

The case has been put forward on a number of occasions (e.g. Chris Blandford Associates 2000; English Heritage 2009; Simmonds and Thomas 2015) that the Integrity of the WHS could be enhanced via the revision and extension of its boundary to include some, or all of Robin Hood's Ball and the long barrows in this general area to the north and west of the WHS. The Statement of Integrity attached to the SoOUV (UNESCO 2013) states that '*At Stonehenge the boundary will be reviewed to consider the possible inclusion of related, significant monuments nearby such as Robin Hood's Ball, a Neolithic causewayed enclosure.*'

The Larkhill Long Barrow is included in a gazetteer of sites proposed for inclusion (Thomas 2012).

### Contribution to the Integrity of the WHS

The Asset Group is located outside the current boundaries of the WHS.

The Asset Group comprises a long barrow within which archaeological remains are anticipated to survive, and as such it is an important contributor to several of the Attributes of the OUV of the WHS.

### Contribution to the Authenticity of the WHS

The Asset Group has the potential to increase our understanding of past prehistoric funerary and ceremonial activity.

### Assessment of significance and value

The Asset Group's contribution to OUV is related to the tangible evidence it provides for the following Attributes of OUV:

- 2. The physical remains of the Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape.
- 3. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape.
- 5. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other.
- 6. The disposition, physical remains and settings of the key Neolithic and Bronze Age funerary, ceremonial and other monuments and sites of the period, which together form a landscape without parallel.
- Although the monuments lie outside the WHS, there is an association with monument groups within the boundary.

In accordance with Table 3, the Larkhill Camp Long Barrow is assessed as Very High value.

### Existing baseline

The A303 lies c.2.3km to the south of the group and is masked from it by the intervening topography. No traffic noise from the A303 is apparent (though much is derived from the Packway).

The existing A303 is assessed as having No impact on Attributes of OUV of the WHS conveyed by this Asset Group, resulting in a Neutral effect.

### Assessment of impact of Scheme

#### Impact on fabric

The Asset Group would not be physically impacted by the Scheme. The Scheme would result in **No Change**.

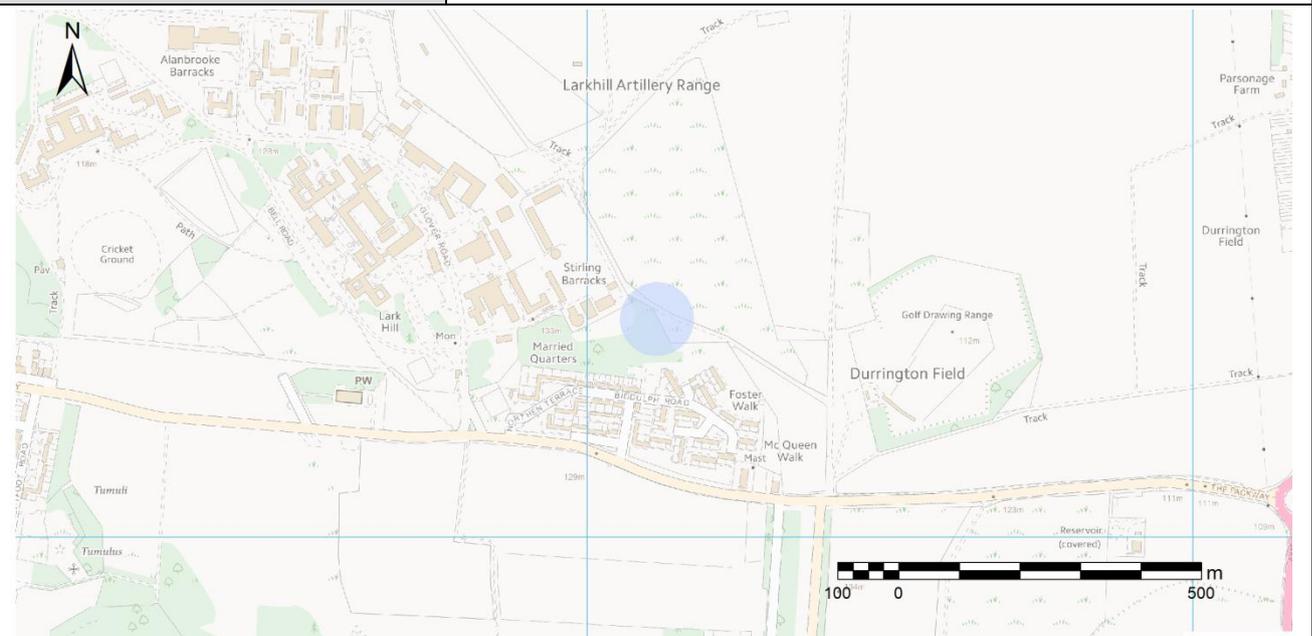
#### Impact on setting

It is assessed that the Asset Group would experience **No Change**.

<b>Significance of effect</b>		
Taking account of the Very High value of the asset and in accordance with Table 5, the overall significance of effect of the Scheme on AG38 Larkhill Camp Long Barrow would be <b>Neutral</b> (derived from <b>No</b> impact on a <b>Very High</b> value asset).		
<b>Proposed mitigation</b>		
No mitigation is proposed, as there are no direct physical impacts.		
<b>Value of Asset Group AG38 Larkhill Camp Long Barrow</b>		Very High
Impact of the existing A303 and associated roads and infrastructure on the Attributes of OUV expressed by the Asset Group		No Change
Significance of effect of existing A303 and associated roads and infrastructure on the Attributes of OUV expressed by the Asset Group		Neutral
<b>Scale and severity of change / impact of Scheme</b>	<b>Fabric</b>	No Change
	<b>Setting</b>	No Change
<b>Significance of effect of Scheme, taking into account embedded mitigation (design)</b>		Neutral
<b>Significance of effect of Scheme, following proposed additional mitigation (residual effect)</b>		Neutral

## AG39 Larkhill Causewayed Enclosure

<b>Designation:</b>	-
<b>Reference IDs:</b>	n / a
<b>Location (NGR):</b>	414115 144362



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### Constituent elements of Asset Group

The Asset Group contains the site of a non-designated Early Neolithic causewayed enclosure which was discovered in early 2017 at the eastern edge of Larkhill Camp, outside of the boundary of the WHS.

### Description

The Asset Group contains the site of a non-designated Early Neolithic causewayed enclosure located outside of the boundary of the WHS, at the eastern edge of Larkhill Camp. The Larkhill Causewayed Enclosure came to light unexpectedly in early 2017, and was subsequently partially excavated during a programme of archaeological investigations carried out for the Defence Infrastructure Organisation ahead of development for the Army Basing Programme. Along with the Robin Hood's Ball Larkhill Causewayed Enclosure (AG14), c. 4km to the west-north-west, it is one of only two examples of this rare class of prehistoric monument known within the Stonehenge landscape.

The results of the excavation have yet to be fully analysed and published, although a brief summary has been presented by Leivers (2017). The excavation uncovered a series of seven ditch segments, of varying length, width and depth, forming 117m of the north-

eastern arc of the enclosure. The remainder of the enclosure, projected to have a diameter of c.210m, extended beyond the edge of the excavation, into the area now occupied by Larkhill Camp. A particularly wide causeway of 13.5m separated the two easternmost ditch segments, and may have formed an entrance to the enclosure.

The fills of the excavated ditch segments yielded a variety of cultural material, including pottery, flint debitage and tools, animal bone (predominantly cattle), fragments of human skull and a saddle quern. The primary fills contained fragments of Decorated Bowl pottery, most of which was of the stylistically local Windmill Hill type. Grooved Ware, Beaker and a complete Collared Urn were recovered from fills higher in the sequence. Cattle bone at the base of one of the ditches yielded a radiocarbon date of 3780-3650 cal BC.

Projections suggest that the entire circuit of the Larkhill Causewayed Enclosure was situated on a north-east-facing slope overlooking the River Avon, just below the brow of the low hill occupied by Larkhill Camp. This is in contrast to the Robin Hood's Ball Larkhill Causewayed Enclosure, which is situated on a south-facing slope, overlooking the area in which Stonehenge was later constructed.

Leivers (2017, 40) has stated that:

*'The Larkhill enclosure adds a very significant architectural element to the Early Neolithic landscape north of the WHS. Known sites of this date are situated on the ridge of high ground running east-south-east from Robin Hood's Ball and the cluster of long and oval barrows to its east and north-east. The ridge takes in the summit occupied by the Knighton Long Barrow and the oval barrow south of it, adjacent to the Packway, and continues on to end at the scarp above Durrington Walls. The Larkhill enclosure sits on a low eminence east of the Packway barrow, and may be the focal point for both it and the Knighton barrow. Geophysical survey has revealed what may be the remains of a further ploughed-down long barrow 600m to the north, suggesting that further elements of the Early Neolithic landscape await discovery.'*

At this stage, it is unclear how the monument may have been linked with other aspects of the Early Neolithic landscape, although it seems that significant spatial, visual and / or contextual associations may have existed with the Robin Hood's Ball Causewayed Enclosure (AG14), the long barrows situated on the higher ground to the north of the WHS boundary (including AG4, AG37 and AG38), the River Avon, and the land overlooked by the enclosure to the north-east. The enclosure may also have had associations with other Early Neolithic monuments such as the long barrows south of Durrington Walls (AG33) and on the eastern side of the Avon (at the western edge of AG34 Bulford Barrows). The preliminary results of the excavation provide evidence of a continued presence in the immediate vicinity of the enclosure during the later Neolithic and Bronze Age, though it is uncertain whether the monument continued to exert an influence on activity in the surrounding landscape, for example at the nearby complex of sites and monuments at Durrington Walls (AG33).

<b>Condition of the Asset Group</b>
The site has been partially excavated. The condition of the remaining buried archaeological remains is not known.
<b>Attributes of setting</b>
<p>The excavated part of the Larkhill Causewayed Enclosure, which has effectively been destroyed in the process of investigation, was located within the development site which will eventually provide a substantial expansion to the accommodation for services personnel stationed at Larkhill. The un-investigated remainder of the enclosure can be projected to extend beneath a block of woodland within the eastern part of Larkhill Camp, to the north of army residences on Biddulph Road and south-east of a group of large buildings forming part of the military facility.</p> <p>Views from the location of the causewayed enclosure across the surrounding landscape are substantially restricted by woodland and intervening development. Once completed, the new development on the eastern edge of Larkhill Camp will further restrict views to the north, north-east and east of the site of the causewayed enclosure.</p> <p>It is likely that the Larkhill Causewayed Enclosure was a major focus of activity in the Early Neolithic landscape, and may have played a role in the subsequent development of the area. However, any meaningful relationships that the enclosure may have had with the surrounding landscape are now difficult to perceive within its current setting, which is dominated by the surrounding presence of Larkhill Camp and the new development site on its eastern edge. No trace of the enclosure remains evident above ground, which further limits the ability to appreciate its form, context and associations. In addition, views from and towards the location of the enclosure are substantially occluded by intervening trees and development.</p>
<b>Integrity of the Asset Group</b>
<p><b>Wholeness</b></p> <p>All assets are located outside the WHS boundary.</p> <p><b>Intactness</b></p> <p>The investigated remainder of the enclosure, assuming that this survives at least partially intact below ground within Larkhill Camp, retains substantial archaeological interest and potential for future research.</p> <p><b>Threats</b></p> <p>The monument is not scheduled and has been partially excavated ahead of the construction of new Army Service Family Accommodation. The majority of the monument</p>

remains undisturbed within the Larkhill Garrison.

### **Authenticity of the Asset Group**

Factors that preserve or enhance the authenticity of the Asset Group include:

- The potential for archaeological deposits and features surviving which can enhance and add to our knowledge of Neolithic enclosures and our understanding of the WHS as a whole.

Factors that reduce or diminish the authenticity of the Asset Group include:

- Key views / relationships between the monuments within this Asset Group and other monuments within the WHS have been obscured by modern development, including agriculture, roads and plantations. This diminishes the ability of the Asset Group to fully convey the OUV of the WHS, in particular Attribute 5, '*the siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other*'.
- The Larkhill Causewayed Enclosure has been partially destroyed by excavation, and it is currently uncertain if the remainder of the monument survives, concealed within Larkhill Camp in the form of buried archaeological remains.

### **Contribution to the Attributes that convey the OUV of the WHS**

Although the Asset Group once formed part of a continuous prehistoric landscape, the monuments are currently visually and spatially segregated from the WHS.

The causewayed enclosure is a major discovery, which will lead to a more refined understanding of the development and wider context of the cultural landscape encapsulated by the WHS boundary.

The case has been put forward on a number of occasions (e.g. Chris Blandford Associates 2000; English Heritage 2009; Simmonds and Thomas 2015) that the Integrity of the WHS could be enhanced via the revision and extension of its boundary to include some, or all of Robin Hood's Ball and the long barrows in this general area to the north and west of the WHS. The Statement of Integrity attached to the SoOUV (UNESCO 2013) states that: '*At Stonehenge the boundary will be reviewed to consider the possible inclusion of related, significant monuments nearby such as Robin Hood's Ball, a Neolithic causewayed enclosure.*'

The Larkhill Causewayed Enclosure is closely linked with, and potentially expressive of the OUV of the WHS.

### **Contribution to the Integrity of the WHS**

The Asset Group is located outside the current boundaries of the WHS. It expresses several of the Attributes of OUV.

### Contribution to the Authenticity of the WHS

The monuments within this Asset Group include the significant and unique monuments and are a tangible illustration of past prehistoric ceremonial and funerary activity within the WHS.

Our understanding of this activity is confirmed and enhanced by modern archaeological investigations.

The surviving below ground archaeology holds considerable potential to increase our understanding of Neolithic and Bronze Age societies.

### Assessment of significance and value

The Asset Group's contribution to OUV is related to the tangible evidence it provides for the following Attributes of OUV:

- 2. The physical remains of the Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape.
- 3. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape.
- 5. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other.
- 6. The disposition, physical remains and settings of the key Neolithic and Bronze Age funerary, ceremonial and other monuments and sites of the period, which together form a landscape without parallel.

Although the monument lies outside the WHS, there is an association with monument groups within the boundary.

In accordance with Table 3, the Larkhill Causewayed Enclosure Asset Group is assessed as Very High value.

### Existing baseline

Due to the distance, topography and intervening built form, the A303 is imperceptible from the location of the Asset Group.

The existing A303 is assessed as having No impact on Attributes of OUV of the WHS conveyed by this Asset Group, resulting in a Neutral effect.

### Assessment of impact of Scheme

The Scheme mainline would be at a distance of 2.3km and greater from the group and would have no impact.

<b>Impact on fabric</b>		
The Asset Group would not be physically impacted by the Scheme. The Scheme would result in <b>No Change</b> .		
<b>Impact on setting</b>		
It is assessed that the Asset Group would experience No impact.		
<b>Significance of effect</b>		
Taking account of the Very High value of the asset and in accordance with Table 5, the overall significance of effect of the Scheme on Larkhill Causewayed Enclosure (AG39) would be <b>Neutral</b> (derived from <b>No</b> impact on a <b>Very High</b> value asset).		
<b>Proposed mitigation</b>		
No mitigation is proposed, as there are no direct physical impacts.		
<b>Value of Asset Group AG39 Larkhill Causewayed Enclosure</b>		High Value
Impact of the existing A303 and associated roads and infrastructure on the Attributes of OUV expressed by the Asset Group		No Change
Significance of effect of existing A303 and associated roads and infrastructure on the Attributes of OUV expressed by the Asset Group		Neutral
<b>Scale and severity of change / impact of Scheme</b>	Fabric	No Change
	Setting	No Change
<b>Significance of effect of Scheme, taking into account embedded mitigation (design)</b>		Neutral
<b>Significance of effect of Scheme, following proposed additional mitigation (residual effect)</b>		Neutral

## Typological groupings in the Stonehenge landscape

- 6.9.39 The Stonehenge landscape contains a sequence of monuments which reflect the changing foci and landscape organisation as the ritual and funerary landscape developed over time. These monuments include causewayed enclosures, long barrows (including short long barrows and oval barrows) and cursuses. This section provides an assessment of the potential impacts and effects of the Scheme on inter-relationships between typological monument groups comprising causewayed enclosures and long barrows. Cursuses – the Lesser Cursus (AG15) and the Greater Cursus (AG23) – are addressed in the Asset Group assessments above.

### *Causewayed enclosures*

- 6.9.40 Two causewayed enclosures are known from the higher land immediately north of the Stonehenge part of the WHS: Robin Hood's Ball causewayed enclosure (AG14) and Larkhill Causewayed Enclosure (AG39). Robin Hood's Ball is specifically noted in the nomination document (HBMCE 1985). These early enclosures may have been focal points in the pre-Stonehenge landscape. A recent paper (Roberts et al. 2018) on the distribution and context of monuments in the Stonehenge landscape, notes that:

*'Robin Hood's Ball occupies sloping ground just below the summit of a low rise, giving the monument a restricted viewshed that takes in a broad arc between north-east and south-west (Oswald et al. 2001). In an unwooded landscape, a number of long barrows [...] would potentially have fallen within this viewshed, including Figheldean 31 [NHLE 1009600], only 0.5km to the east and Netheravon 6 [NHLE 1009516], 1.2km to the north-east, while the summit to the north-west of the enclosure may have afforded more panoramic views.*

*Robin Hood's Ball and Figheldean 31 both seem to be intended to be seen by people emerging from the dry valley that leads up from the River Till, while the two long barrows to the north-east [Netheravon 6 [NHLE 1009516] and Netheravon Bake [NHLE 1009516]] seem to relate similarly to a dry valley that begins at Netheravon.'*

- 6.9.41 The recently discovered single-circuit causewayed enclosure at Larkhill (AG39) is another example of a lowland-orientated monument. This monument is broadly orientated towards the valley of the River Avon, and *'towards the head of a dry valley that seems likely to have offered a relatively gentle path from the valley floor for both livestock and their herders. Long barrows immediately to the west and north-west of Larkhill (Durrington 24 [NHLE 1012167] and Figheldean 27 [NHLE 1010052]) and adjacent to the river near Woodhenge (Durrington 76 [NHLE*

1009130]) were probably not intervisible with the enclosure, and appear to have been sited so as to be perceived from separate parts of the landscape, broadly to the south-west.' (Roberts et al. 2018).

6.9.42 The contribution of the causewayed enclosures to OUV is related to the tangible evidence they provide for the following Attributes of OUV:

*(2) The physical remains of the Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape.*

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

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

*(6) The disposition, physical remains and settings of the key Neolithic and Bronze Age funerary, ceremonial and other monuments and sites of the period, which together form a landscape without parallel.*

6.9.43 The Scheme traverses the landscape c. 4.5km south of the causewayed enclosure at Robin Hood's Ball (AG14) and c. 2.5km south of that at Larkhill (AG39). It is assessed that the Scheme would have no impact on these monuments, or upon their relationships with long barrows in their vicinity, due to distance and intervening topography. Consequently, it is assessed that the effect of the Scheme on these causewayed enclosures would be **Neutral**.

*Long barrows (including short long barrows and oval barrows)*

6.9.44 Many of the long barrows known within and close to the WHS are assessed as part of the Asset Groups described above. This is primarily a function of the direct association of a number of the prominent Bronze Age barrow cemeteries with Neolithic long barrows. However, evolving understanding of the relationships of the long barrows with each other and with the landscape, as described by Roberts et al. (2018), requires additional consideration beyond the confines of the Asset Groups assessed above.

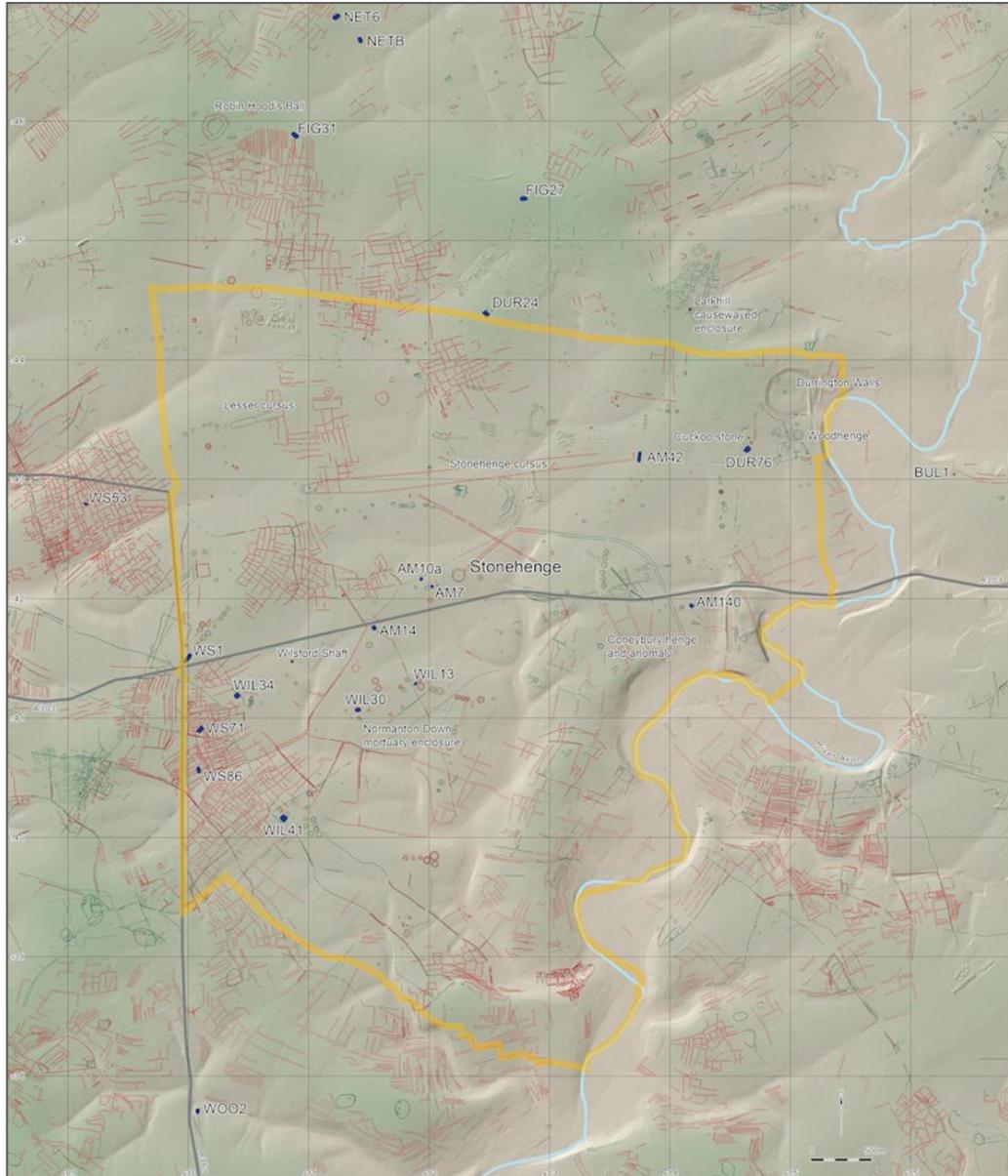
6.9.45 The long barrows, short long barrows and oval barrows in the Stonehenge WHS and environs considered in this assessment are set out in Table 6. Plate 1 indicates their location.

**Table 6: Long barrows, short long barrows and oval barrows in the Stonehenge WHS and environs (after Roberts et al. 2018, table 1). Listed from west to east.**

Asset Group	NHLE or WSHER Number	Site name	NGR		Visible from Stonehenge	Associated with later round barrows
<b>Long barrows, short long barrow and oval barrow sites within the WHS</b>						
AG12 Winterbourne Stoke Crossroads Barrows	1011841	Long barrow north-east of Winterbourne Stoke crossroads Winterbourne Stoke 1 (WS1)	410000	141510	No	Yes
AG13 Diamond Group	Not scheduled (HOUID 1611042)	Winterbourne Stoke 86 (WS86)	410090	140590	No	No
AG13 Diamond Group	Not scheduled	Winterbourne Stoke 71 (WS71)	410100	140910	No	No
AG13 Diamond Group	1010830	Wilsford 34 (WIL34)	410400	141180	No	Yes
AG16 North Kite Enclosure and Lake Barrows	1010863	Wilsford 41 (WIL41) Lake Down Barrows	410790	140190	Yes	Yes
n/a	1009621	Wilsford 30 (WIL30) Long barrow 350m south-west of the Normanton Down round barrow cemetery	411410	141060	No	Uncertain
AG19C Normanton Down barrow group – south-west	1009621	Amesbury 14 (AM14)	411540	141750	Yes	Yes
AG19B Normanton Down barrow group – central	1009614	Wilsford 13 (WIL13)	411880	141290	Yes	Yes

AG21 Stonehenge Down Barrows	1012384	Amesbury 7 (AM7)	411940	142170	Yes	Yes
AG21 Stonehenge Down Barrows	1012383	Amesbury 10a (AM10a)	412010	142090	Yes	Yes
AG23 The Great Cursus	1009132	Amesbury 42 (AM42)	413740	143180	Yes	No
AG30 The Avenue Barrows	Unscheduled MWI12478	Amesbury 140 (AM140)	414180	141940	No	No
AG33 Durrington Walls, Woodhenge and Associated Sites	1009130	Durrington 76 (DUR76)	414640	143240	No	No
<b>Long barrow, short long barrow and oval barrow sites in the landscape beyond the WHS boundary</b>						
AG08 Winterbourne Stoke Down Barrows	1015021	Winterbourne Stoke 53 (WS53)	409160	142790	No	No
n/a	Not scheduled MWI10607	Woodford 2 (WOO2) Longbarrow NW of Camp Plantation	410070	137720	No	No
AG14 Robin Hood's Ball and Associated Sites	1009600	Figeldean 31 (FIG31)	410890	145880	Yes	No
n/a	1009516	Netheravon 6 (NET6)	411230	146870	No	No
n/a	1009516	Netheravon Bake (NETB)	411430	146670	No	No
AG38 Larkhill Camp Long Barrow	1012167	Durrington 24 (DUR24)	412470	144370	Yes	No
AG37 Knighton Long Barrow	1010052	Figeldean 27 (FIG27)	412790	145350	Yes	No
n/a	1015215	Bulford 1 (BUL1)	416360	143043	No	No

**Plate 1: Location of long barrows, short long barrows and oval barrows in the Stonehenge WHS and environs (Roberts et al. 2018, figure 9).**



6.9.46 The contribution of the long barrows to OUV is related to the tangible evidence they provide for the following Attributes of OUV:

*(2) The physical remains of the Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape.*

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

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

*(6) The disposition, physical remains and settings of the key Neolithic and Bronze Age funerary, ceremonial and other monuments and sites of the period, which together form a landscape without parallel.*

6.9.47 The impacts of the Scheme on these long barrows are assessed in the above section, Asset Groups within the Stonehenge part of the Stonehenge, Avebury and Associated Sites WHS. The impacts of the Scheme on the relationships between the long barrows is further considered in HIA section 9.3 below, Potential impacts and effects of Scheme: aspects of OUV.

## **6.10 Discrete and isolated assets: baseline description and assessment of Scheme impacts and effects**

### **Introduction**

6.10.1 This section considers the isolated and discrete heritage assets which convey Attributes of OUV and which the Scheme may affect. It considers:

- a) assets located within the WHS that contribute to OUV; and
- b) assets outside the WHS boundary which have relationships with assets within the WHS that contribute to OUV.

6.10.2 It is divided into two sections for ready reference:

- a) Designated heritage assets (scheduled monuments); and
- b) Non-designated heritage assets (WSHER monument entries and relevant heritage assets revealed in the course of recent fieldwork and fieldwork associated with the Scheme).

6.10.3 Asset descriptions and coordinate data is contained in HIA Annex 2. The assessment of Scheme impacts and effects is summarised in Table 12 and HIA Annex 3.

6.10.4 In accordance with Table 3, discrete and isolated designated heritage assets that contribute to OUV are assessed as Very High value.

### **Isolated and discrete designated heritage assets**

6.10.5 These assets principally comprise discrete scheduled Late Neolithic or Early to Middle Bronze Age barrows, which are topographically isolated from Asset Groups, or appear to be distant outliers which do not readily conform to Asset Groups. These barrows generally contribute to the following Attributes of OUV:

*(2) The physical remains of the Neolithic and Bronze Age funerary*

*and ceremonial sites and monuments in relation to the landscape.*

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

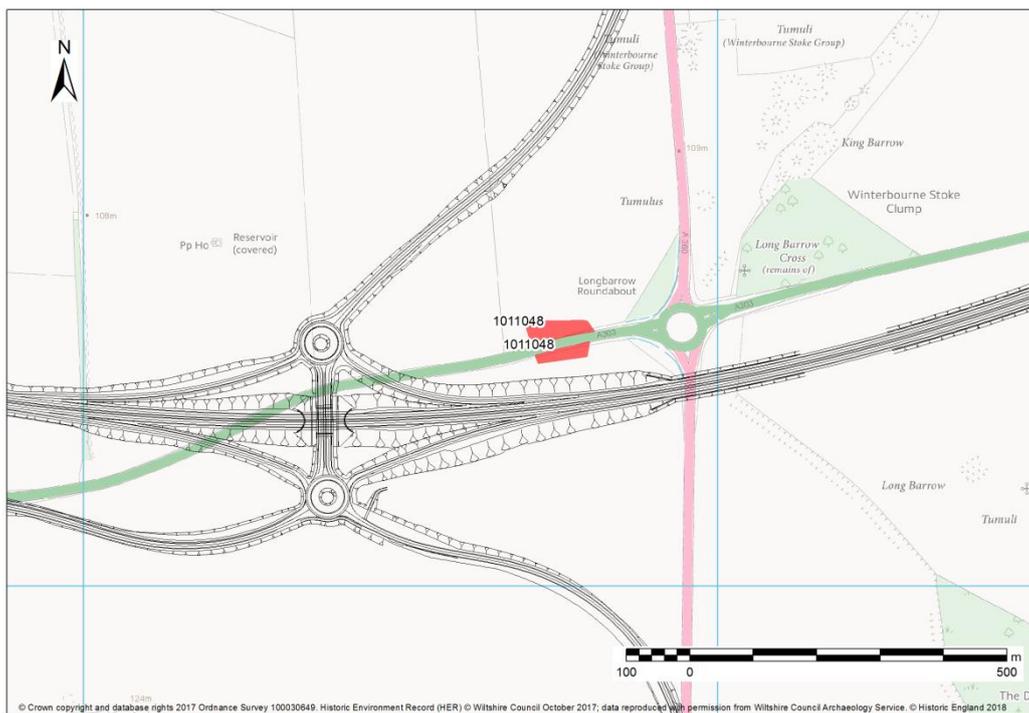
*(5) The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other.*

*(6) The disposition, physical remains and settings of the key Neolithic and Bronze Age funerary, ceremonial and other monuments and sites of the period, which together form a landscape without parallel.*

- 6.10.6 Several discrete designated assets, in particular Wilsford G1 (NHLE 1010832) and the pond barrow containing the 'Wilsford Shaft' (NHLE 1010833) have been excavated, and so reflect Attribute 7, The influence of the remains of the Neolithic and Bronze Age funerary and ceremonial monuments and their landscape setting on architects, artists, historians, archaeologists and others.

### Bronze Age enclosure and bowl barrow 100m west of Longbarrow Cross Roads on Winterbourne Stoke Down (NHLE 1011048)

The scheduled area incorporates an enclosure situated to the south-west of the Winterbourne Stoke Crossroads barrow cemetery and an associated Bronze Age settlement which was removed during construction of the present roundabout in 1967. The excavation revealed four circular features thought to be Late Bronze Age huts in the area of the roundabout and a number of pits south of the A303. An archaeological watching brief along a cable route to the west of the roundabout and south of the A303 identified a number of ditches, a pit, postholes and stake-holes. The enclosure is no longer visible on the ground due to cultivation and works on the A303 and is bisected by the road. A small scatter of burnt flint was recovered from within the enclosure and to the east of it. Also within the north-west part of the enclosure is a levelled bowl barrow which survives as a buried feature of 20m overall diameter. (It is this element of the monument from which it derives its Very High value). The enclosure is visible on aerial photographs and was confirmed by geophysical survey.



Setting makes a low contribution to the significance of the asset. The monument has no surface expression and has partly been destroyed. The setting is currently severely impacted by existing A303, which cuts through the centre of the scheduled area, splitting the asset in two. Its location is inter-visible with Winterbourne Stoke Crossroads Barrows and the Diamond Group, which has relevance in respect of the bowl barrow included within this scheduling. However, while constituting an

archaeological setting, these connections do not greatly add to the understanding or appreciation of this asset.

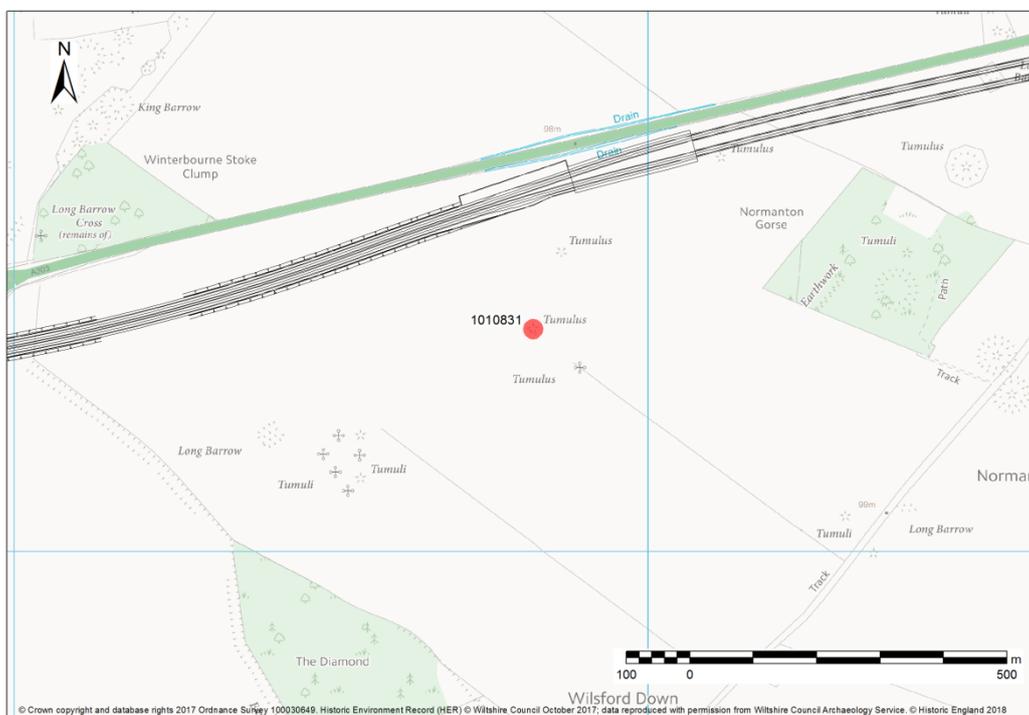
The Scheme would have no physical impact on archaeological remains, and would move the A303 to the south of the asset, reconnecting the southern and northern parts of the scheduled monument. The proposed cutting would be situated immediately south of the asset, creating new severance, but reconnection with the Winterbourne Stoke Crossroads Barrows to the east and the greening decommissioning of the A303 would improve the immediate setting of the monument. Inter-visibility with the Diamond Group to the south-east would continue to exist, across the top of the new cutting. However, given the low contribution of setting, such visual changes do not greatly improve the value of the asset.

It is assessed that the Scheme would have a **Slight Beneficial effect** (derived from a Minor Negative Change and Major Positive Change to a Very High Value asset, resulting in both Moderate Adverse and Very Large Beneficial effects).

### Bowl barrow 400m west of Normanton Gorse (NHLE 1010831)

Bowl barrow west of Normanton Gorse, overlooking a shallow north-south combe. The barrow mound is 22m in diameter and 0.5m high, surrounded by a ditch giving an overall diameter of 26m. The barrow was partially excavated in the 19th century by Richard Colt Hoare and again in 1960, revealing an unaccompanied primary cremation.

This barrow has no surface expression, but its location is inter-visible with Normanton Down (west), Winterbourne Stoke Crossroads and The Diamond Asset Groups, 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.



The Scheme would have no physical impact on archaeological remains, but would bring the course of the A303 slightly closer to the monument: the western end of the canopy is located c.180m to the north-west. The cutting would physically divide this barrow from the Winterbourne Stoke Crossroads Barrows, although physical connectivity would be maintained with this Asset Group by the long Green Bridge Four situated to the north-west. This is assessed as a Large Adverse effect (derived from a Moderate Negative Change to a Very High value asset).

The visual setting would be markedly improved. Views to Winterbourne Stoke Crossroads Barrows and the Diamond Group would be unbroken by the cutting, with resultant improved sightlines. The chalk grassland mitigation to the north and south

of the cutting would ensure that the Scheme is integrated into a landscape in which modern infrastructure is far less apparent. Views of traffic would be removed from the isolated barrow's setting. Light spill is avoided as traffic head- and tail-lights would be in cutting and the Scheme would be unlit within the WHS. Traffic noise would be reduced. These are assessed as Large Beneficial effects (derived from Moderate Positive Change to a Very High value asset).

The overall effect of the Scheme, considering both the positive and negative aspects, is assessed as **Neutral**.

### Bowl barrow 350m south-west of Normanton Gorse (NHLE 1013812)

Levelled bowl barrow south-west of Normanton Gorse (Wilsford 33b). The barrow mound is now difficult to identify on the ground, but is known from aerial photographs and a mid-20th century report to be 11m in diameter, with the surrounding ditch giving an overall diameter of 13m. A possible external ditch of 33m diameter has been identified from aerial photographs.



Setting makes a moderate contribution to the significance of the asset. 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.

The Scheme would have no physical impact on archaeological remains, but would bring the course of the route 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 with this Asset Group by Green Bridge Four situated to the north-west. Views to Winterbourne Stoke Crossroads Barrows and the Diamond Group 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. As a whole, these changes would considerably enhance the visual environment of

this monument, creating a situation in which it can be appreciated in a more seamless setting, and in which its key sightlines are of better quality and more readily understood.

Traffic would be removed from the isolated barrow's setting. Light spill is avoided as traffic head- and tail-lights are in cutting and the Scheme is unlit within the WHS. Traffic noise would be reduced.

It is assessed that the Scheme would have a **Neutral** effect (derived from a Moderate Negative Change and a Major Positive Change to a Very High Value asset, resulting in both Large Adverse and Very Large Beneficial effects).

### **Bowl barrow south of the A303 and north-west of Normanton Gorse (NHLE 1010832)**

Levelled bowl barrow north-west of Normanton Gorse (Wilsford G1). The barrow mound is 16m in diameter surrounded by a ditch giving an overall diameter of 19m. Excavation in the 19th century located a primary inhumation with a bell beaker and antlers while further investigation in 1960 revealed a second primary inhumation and cremation as well as 11 burials on the north side of the barrow, several accompanied by beakers. Evaluation just to the north located two Early Bronze Age burial pits containing the slightly disturbed remains of a mature adult male and a disturbed infant burial, both accompanied by beakers.

The barrow has no surface expression, but its location is inter-visible with Normanton Down (west), Winterbourne Stoke Crossroads and The Diamond Asset Groups, as well as surrounding discrete barrows.

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, and being a highly audible element.



The scheduled area lies within 25m of the new western portal tunnel boring face, but c.225m west of where the western portal approach cutting would emerge into the landscape. The 200m long 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 the landbridge completely. Physical connectivity would be maintained with the landscape to the west of the barrow by the grassed canopy. Views to Winterbourne Stoke Crossroads Barrows and the Diamond Group would be unbroken by the cutting, though long distance views west out of the WHS would include the presence of the cutting and Green Bridge Four. The design of the cutting, landbridge and chalk grassland mitigation would soften this impact. The chalk grassland mitigation would ensure that the new infrastructure integrates quickly in to the landscape. This impact is assessed as a Negligible Negative Change.

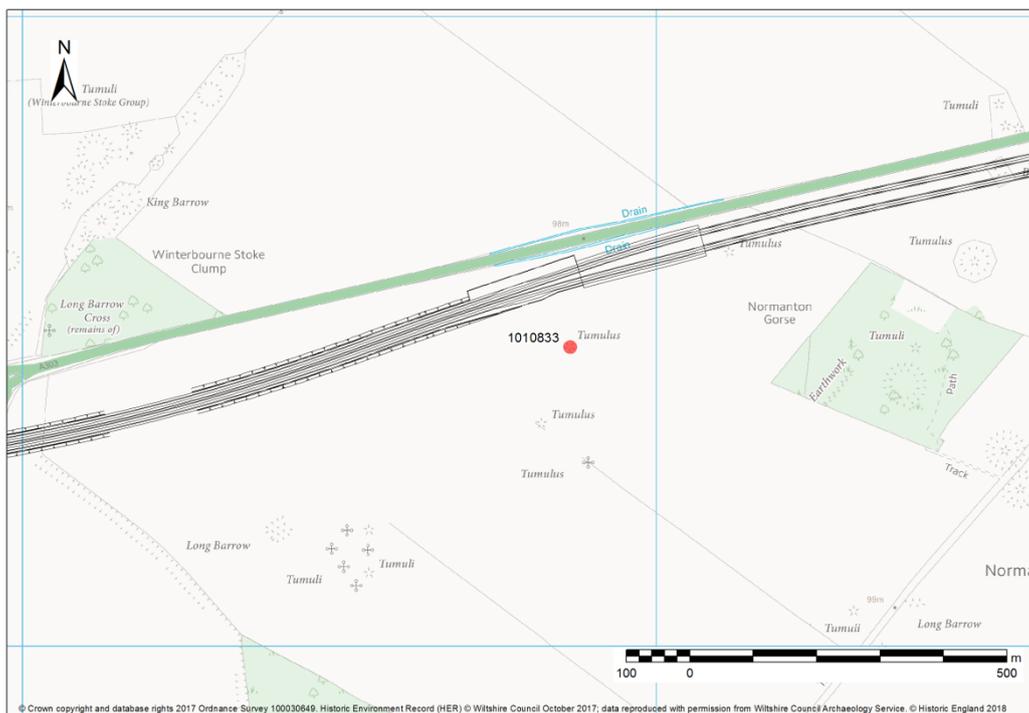
The removal of traffic on the existing A303 immediately to the north would improve the asset's setting. Light spill is avoided as traffic head- and tail-lights are in cutting, or under Green Bridge Four in long views and the Scheme is unlit within the WHS. This is assessed as a Minor Positive Change.

It is assessed that overall, the Scheme would have a **Neutral** effect (derived from a Negligible Negative Change and a Minor Positive Change to a Very High Value asset, resulting in both Slight Adverse and Moderate Beneficial effects).

### Pond barrow south of the A303 and 400m west of Normanton Gorse containing the 'Wilsford Shaft' (NHLE 1010833)

Pond barrow on Normanton Down (Wilsford 33a). Excavation in 1960-62 after the levelling of the upstanding earthworks farmer revealed a central shaft 30m in depth interpreted as a 'ritual shaft' containing votive offerings and significant palaeoenvironmental material. Radiocarbon dates from objects within the primary fill suggest an Early Bronze Age period though one wooden container yielded a Neolithic date. Iron Age and Roman material was recovered from the upper fills within the shaft. This is the only pond barrow currently known to contain a shaft of this type, although few have been excavated.

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.



The monument is inter-visible with Normanton Down Barrows (AG19), Winterbourne Stoke Crossroads Barrows (AG12) and the Diamond Group (AG13).

The site is located c. 90m south-west of the start of the western portal canopy and 70m south of the proposed cutting. The cutting would physically divide this barrow from the Winterbourne Stoke Crossroads Barrows, but physical connectivity would be maintained with this Asset Group by Green Bridge Four situated to the west.

Views to Winterbourne Stoke Crossroads Barrows and the Diamond Group would be unbroken by the cutting. The chalk grassland mitigation to the north and south of the cutting would ensure that the new infrastructure integrates into the landscape, but would be visible from the monument itself. This is assessed as a Negligible Negative Change.

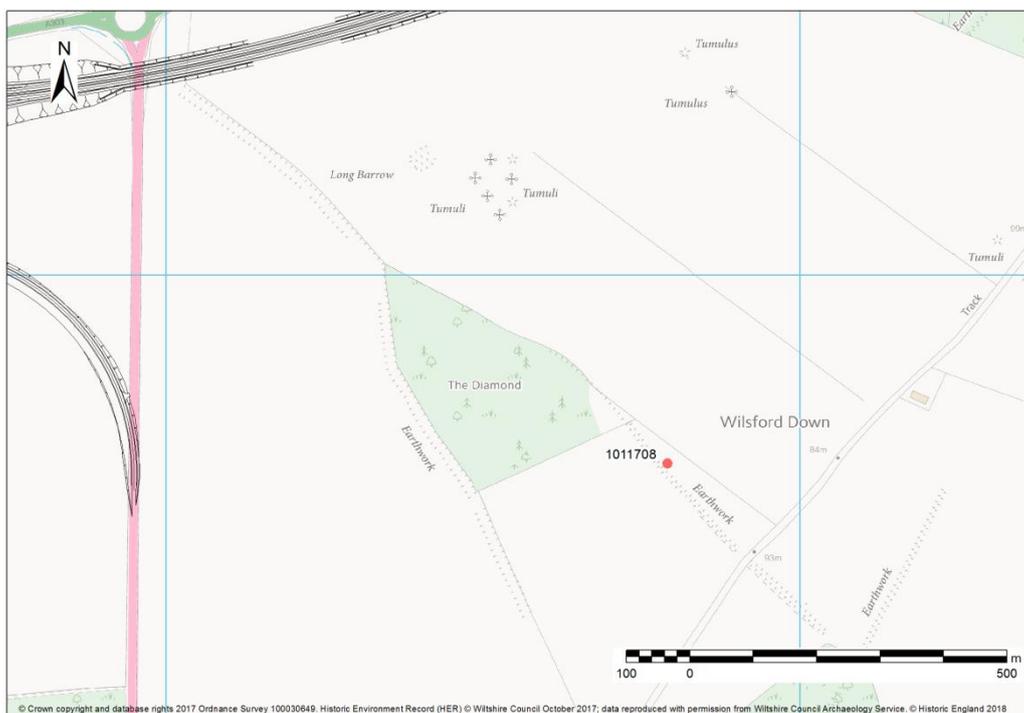
Traffic would be removed from the barrow's setting. Light spill is avoided as traffic head- and tail-lights would be concealed within cutting and the Scheme is unlit within the WHS. This would constitute a Minor Positive Change.

It is assessed that overall, the Scheme would have a **Slight Adverse** effect (derived from a Negligible Negative Change and a Minor Positive Change to a Very High Value asset, resulting in both Slight Adverse and Moderate Beneficial effects).

### **Bowl barrow 100m south-east of the southern edge of The Diamond south of the A303 (NHLE 1011708)**

The monument includes a levelled bowl barrow located 100m south-east of the southern edge of the Diamond plantation and 400m west of the North Kite earthwork, situated on a gentle south-east facing slope on Wilsford Down. The barrow mound is now difficult to identify on the ground but is surrounded by a ditch from which material was quarried during its construction. This has become infilled over the years but survives as a buried feature visible on aerial photographs from which the overall diameter is calculated to be 10m. A linear boundary is located close to the south-west side of the bowl barrow.

Setting makes a moderate contribution to the significance of the asset. The monument lacks surface expression but its location is inter-visible with Normanton Down Barrows (AG19) and the Diamond Group (AG13).



The existing A303 lies c.890m to the north. Views of the highway and associated infrastructure, and the sight and sound of traffic have only a minor impact on the setting of the asset.

The Scheme would be in cutting c. 810m to the north. The Scheme would be closer to the asset but would be in cutting and views are mitigated by the design of the cutting. As such, the current views of the A303 would be removed, improving the northward sightlines from the location of this monument. Both the Normanton Down

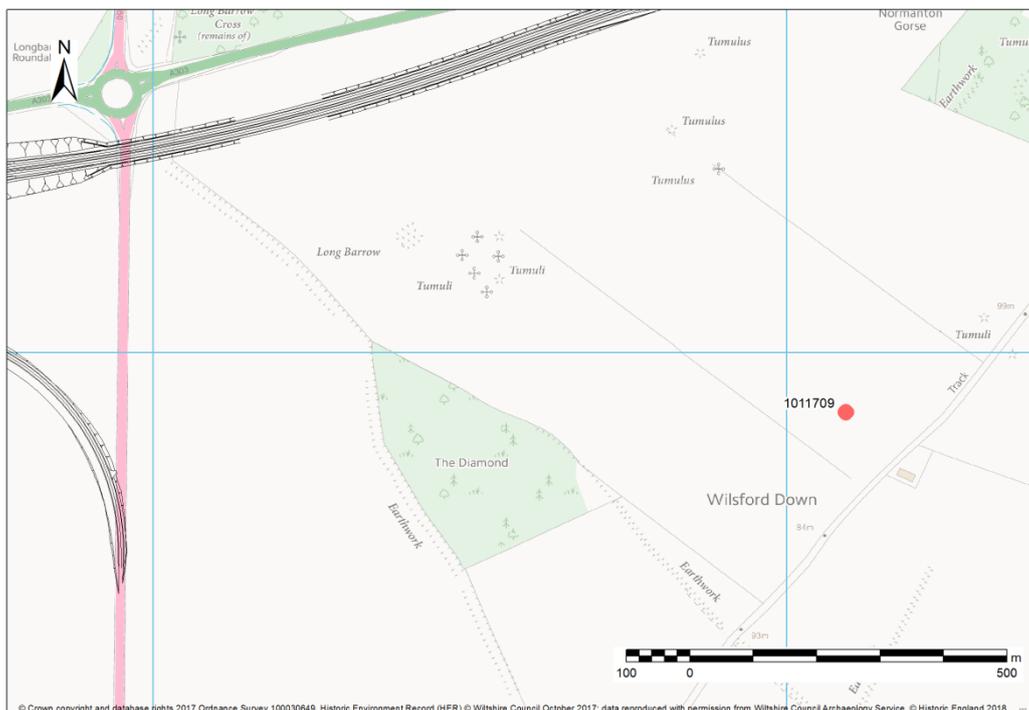
Barrows and the Diamond Group would be seen without the current backdrop of the A303.

Traffic would be removed from the barrow's setting. Light spill is avoided as traffic head- and tail-lights would be concealed within cutting and the Scheme is unlit within the WHS. This would bring improvements to the northward sightlines from the location of this monument, in the same way as for the removal of the existing A303. Its location would also be slightly quieter.

It is assessed that the Scheme would result in a **Moderate Beneficial** effect (derived from Minor Positive Change to a Very High Value asset, resulting in a Moderate Beneficial effect).

### Bowl barrow 450m east of The Diamond south of the A303 (1011709)

The monument includes a levelled bowl barrow located 450m east of the Diamond plantation situated on a gentle slope on Wilsford Down with views north-east towards Normanton Down and south-east towards the North Kite earthwork. The barrow mound is now difficult to identify on the ground but is surrounded by a ditch from which material was quarried during its construction. This has become infilled over the years but survives as a buried feature visible on aerial photographs from which the overall diameter is calculated to be 20m.



Setting makes a moderate contribution to the significance of the asset. The monument lacks surface expression but its location is inter-visible with Normanton Down Barrows and the Diamond Group.

The existing A303 lies c.750m to the north. Views of the highway and associated infrastructure, and the sight and sound of traffic, have a minor impact on the setting of the asset.

The Scheme would be in cutting to the north. The western portal canopy starts c.680m to the north-west and the approach road starts c.710m to the north-west. The Scheme would therefore be closer to the asset but in cutting and views are mitigated by the design of the cutting and the use of chalk grassland mitigation. As such, the current views of the A303 would be removed, improving the northward sightlines from the location of this monument. Both the Normanton Down Barrows and the Diamond Group would be seen without the current backdrop of the road.

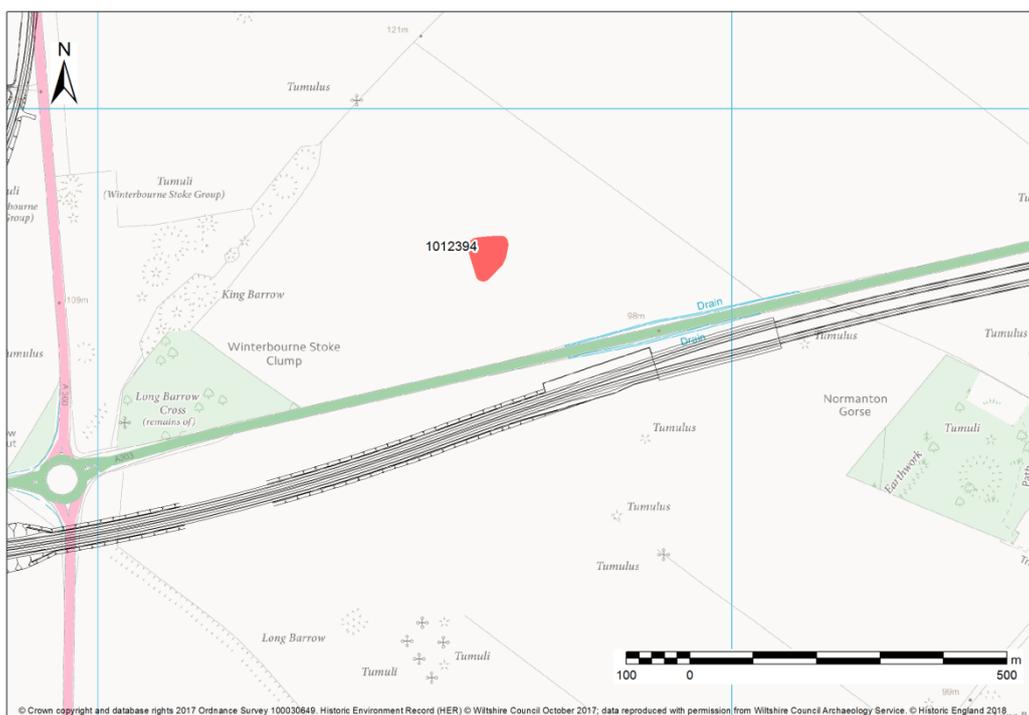
Traffic would be removed from the barrow's setting. Light spill is avoided as traffic head- and tail-lights would be concealed within cutting and the Scheme is unlit within the WHS. This would bring improvements to the northward sightlines from the location of this monument, in the same way as for the removal of the existing A303. Its location would also be slightly quieter.

It is assessed that the Scheme would result in a **Moderate Beneficial** effect (derived from Minor Positive Change to a Very High Value asset, resulting in a Moderate Beneficial effect).

### Four bowl barrows 140m north of the A303 on Stonehenge Down (NHLE 1012394)

Four levelled bowl barrows (Amesbury 11a-11d) to the east of the Winterbourne Stoke Crossroads round barrow cemetery, which may be outliers to this cemetery group. The barrows are recorded on a 19th century plan from which the diameter of the mounds is calculated to range from 15m to 20m and the overall diameters including the surrounding ditches from 19m to 40m. One of the barrows was partially excavated in the 19th century by Richard Colt Hoare who recovered a primary cremation, ashes, a bronze bangle of twisted wire and a 'rude urn'.

Setting makes a moderate contribution to the significance of the assets. 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.

The 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 south. The barrows' key relationship with the Winterbourne Stoke Barrows would remain un-interrupted, and would be improved by the greatly reduced road

infrastructure that would be visible. Southward views towards the Diamond Group and Normanton Down (and the reverse views from these groups) would also be improved. As a whole, these changes would create a situation in which the barrows can be appreciated in a more seamless visual setting.

The western portal approach cutting would physically divide the barrows from the Diamond Group and the western part of the Normanton Down Barrows, and isolated barrows to the south, but connectivity would be maintained by the proposed Green Bridge Four and the canopy.

Traffic would be removed from the barrow's setting. Light spill is avoided as traffic head- and tail-lights would be concealed within cutting and the Scheme is unlit within the WHS. As above, this would improve the visual aspect of the monuments' setting. Traffic noise would also be reduced.

It is assessed that the Scheme would result in a **Moderate Beneficial** effect (derived from Minor Negative Change and Major Positive Change to a Very High Value asset, resulting in both Moderate Adverse and Very Large Beneficial effects).

### Barrows on Winterbourne Stoke Down

A series of barrows are located on Winterbourne Stoke Down, north of Winterbourne Stoke Crossroads Barrows (AG12) and south of Airman's Corner. These barrows straddle the WHS boundary, and comprise:

- Bowl barrow 600m south of A344 on Winterbourne Stoke Down (NHLE 1011044);
- Pond barrow 700m south of A344 on Winterbourne Stoke Down (NHLE 1011041);
- Bell barrow 450m south of A344 on Winterbourne Stoke Down (NHLE 1011039);
- Bowl barrow 550m south of Airman's Corner on Winterbourne Stoke Down (NHLE 1008950);
- Bowl barrow 430m south of A344 on Winterbourne Stoke Down (NHLE 1011043);
- Bowl barrow 400m south of A344 on Winterbourne Stoke Down (NHLE 1011040);
- and
- Bowl barrow 450m SSW of Airman's Corner on Winterbourne Stoke Down (NHLE 1008949; located immediately outside WHS boundary).



The setting of these barrows is currently impacted by visual and noise intrusion from the existing A360 and the Stonehenge Visitor Centre to the north. The A360 currently severs bowl barrow NHLE 1008949 from the others within the WHS to the east. The Scheme places the new realigned A360 north sliproad into cutting and

slightly further to the west of the assets than the existing A360 although the severance experienced by bowl barrow NHLE 1008949 from the existing A360 remains. The relationship of these barrows with the Winterbourne Stoke Crossroads Barrows (AG12) would not be affected. The A303 would be in tunnel to the south-east; the approach road to the south is in cutting, and would be screened by topography. Longbarrow Junction to the south-west would be screened by topography and by false cuttings on its northern side.

It is assessed that the Scheme would result in a **Neutral** effect on these assets (derived from Negligible Negative and Negligible Positive Change to Very High Value assets, resulting in both Slight Adverse and Slight Beneficial effects on setting).

### Pond barrow 50m north of the A344 west of The Cursus (NHLE 1010895)

The monument includes a levelled pond barrow located 50m north of the A344, west of The Cursus on a gentle south facing slope on Winterbourne Stoke Down. The barrow is now difficult to identify on the ground but the surrounding outer bank of the pond is visible as a circular chalk spread on aerial photographs from which the overall diameter is calculated to be 20m. The site of barrow currently stands near the edge of an agricultural field, immediately to the north of the former A344.



It lacks intrinsic visual interest but has an archaeological group setting with surrounding monuments, notably the Lesser Cursus and its attendant barrows, and the barrow cemetery on Winterbourne Stoke Down. Although not upstanding, its location is inter-visible with these other monuments in its locality, notably those to the north associated with the Lesser Cursus.

Although the existing A303 itself is not conspicuous, its traffic can be seen and heard from this asset. The dominant effect of traffic is from the A360/B3086, c. 550m to the west, together with the periodic tourist buses linking the Stonehenge Visitor Centre to the monument itself.

The alterations to Longbarrow Junction would not be apparent, due to the combination of intervening distance and topography, and the fact that it would be in cutting and use false cuttings or its northern side. The Scheme has also been designed to sink the junction into the landscape. The Winterbourne Stoke northern bypass would be screened by intervening topography to the south and south-west.

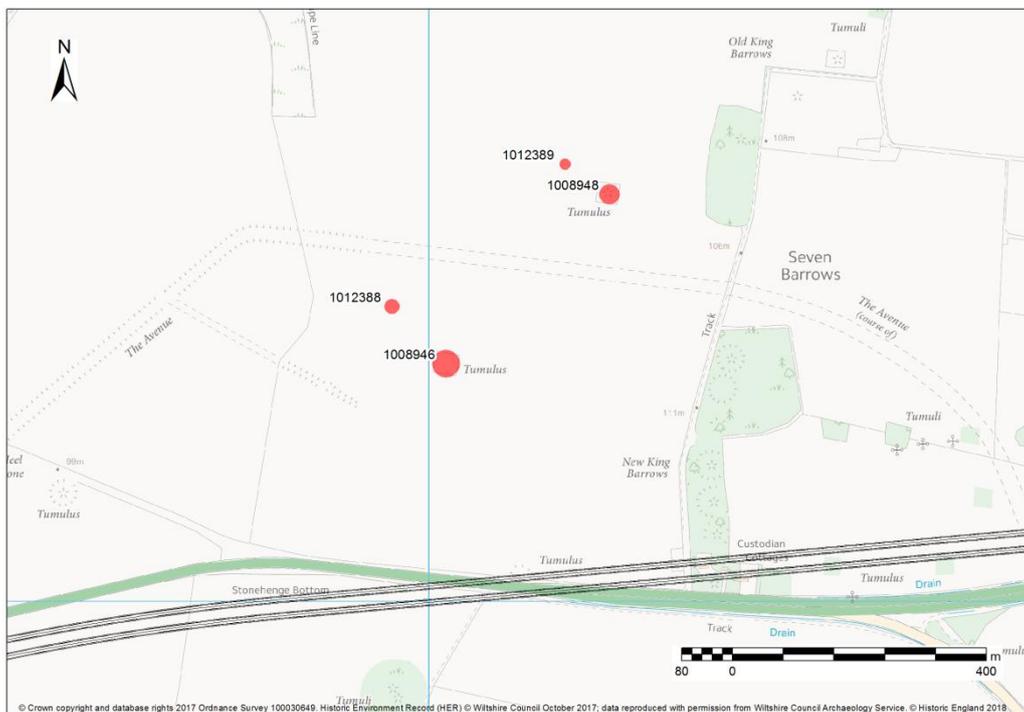
The River Till viaduct and embankment would only be visible to a marginal extent in the long distance.

It is assessed that the Scheme would result in a **Neutral** effect (derived from Negligible Negative and Negligible Positive Change to a Very High Value asset, resulting in Slight Adverse and Slight Beneficial effects).

### Bowl barrows west and north of King Barrow Ridge

A series of barrows are located west and north of King Barrow Ridge. They comprise:

- Bowl barrow 220m west of Old King Barrows north of the A303 (NHLE 1012389);
- Bowl barrow 100m north of The Avenue and west of Old King Barrows (NHLE 1008948);
- Bowl barrow 500m WNW of New King Barrows north of the A303 (NHLE 1012388); and
- Bowl barrow 400m west of New King Barrows (NHLE 1008946).



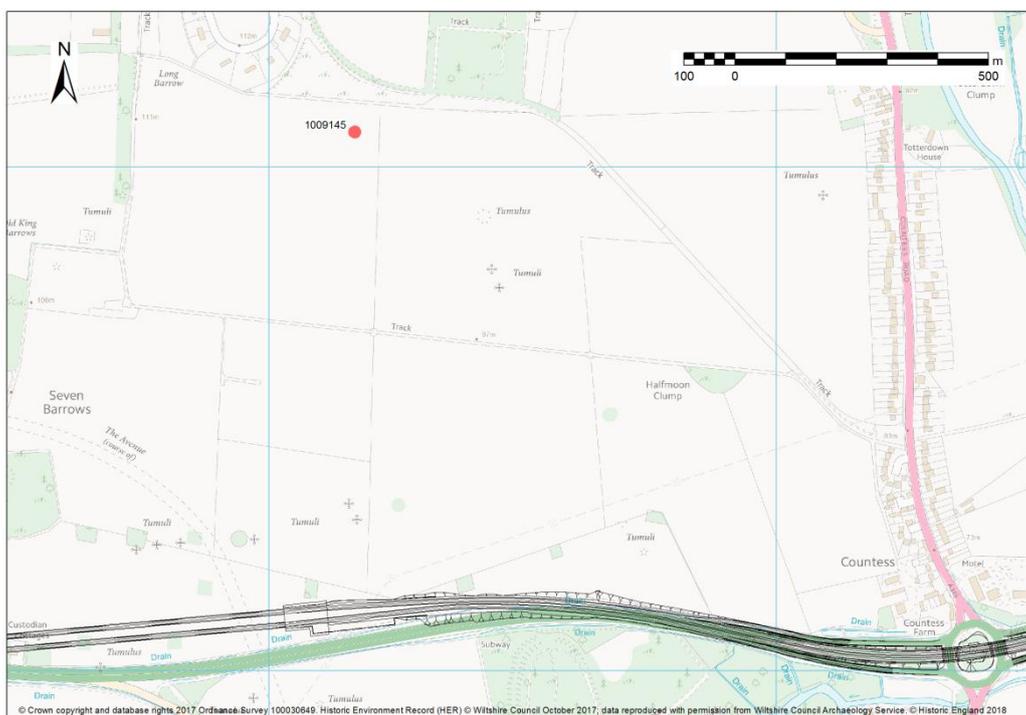
The bowl barrows to the south-west of Old King Barrows (AG26A) are considered as outlying barrows to this group, on the basis that they lie at a similar elevation and alignment along King Barrow Ridge. The two further outlying bowl barrows lie to the south of the Avenue. The existing A303 physically severs the monuments from the wider prehistoric funerary and ceremonial landscape to the south, including Coneybury Hill and associated monuments, and provides a dynamic, distracting backdrop to views. The Scheme removes the existing surface A303 to the south and places traffic in a tunnel, removing it from view and reuniting the barrows with the landscape to the south.

The removal of the A303 from the central part of the WHS would physically reconnect King Barrow Ridge with the landscape to the south. It would radically improve views of, from and including these outlying assets of the main King Barrows group. Both physically and visually, the setting would be markedly improved.

It is assessed that the Scheme would result in a **Large Beneficial** effect (derived from Moderate Positive Change to Very High Value assets, resulting in a Large Beneficial effect).

### Bowl barrow 170m south-east of Strangways on Countess Farm (NHLE 1009145)

The monument includes a levelled bowl barrow located 170m south-east of Strangways, north-west of Countess Farm buildings, situated on a broad plateau which lies between the valley of the River Avon and Stonehenge. The barrow mound is now difficult to identify on the ground. However, the ditch, which surrounds the mound, and from which material was quarried during its construction, survives as a buried feature and is visible on aerial photographs from which the overall diameter of the barrow can be calculated to be 20m.



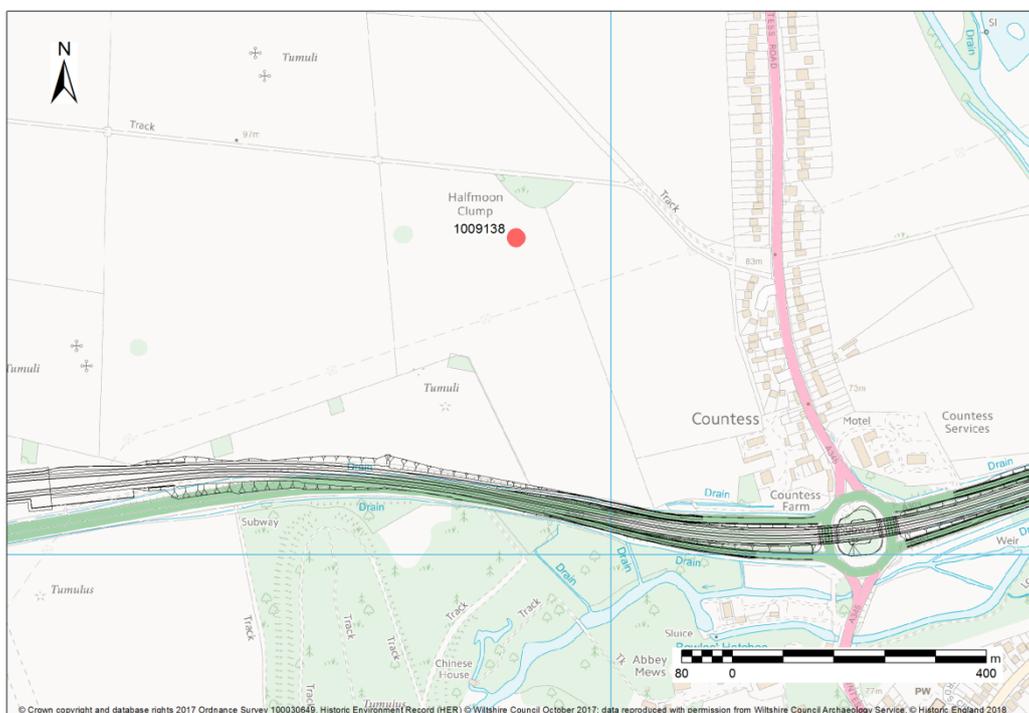
The monument lacks surface expression but its location is partially inter-visible with the location of the barrows assigned to the Old King Barrows (AG26A) and Countess Farm Barrows (AG31) Asset Groups.

This discrete barrow is located 980m north of the existing A303. The Scheme would bring the route slightly closer, with the eastern portal c. 910m to the south and Countess flyover c.1,540m to the east.

It is assessed that the Scheme would result in a **Neutral** effect (derived from No Change to a Very High Value asset).

### **Bowl barrow 400m north of the A303 on Countess Farm (NHLE 1009138)**

The monument includes a levelled bowl barrow located 400m north of the A303, 50m south-west of Halfmoon Clump and is situated on a raised plateau which lies between the River Avon and Stonehenge. The barrow mound is now difficult to identify on the ground. However, it is visible as a circular chalk spread on aerial photographs from which the diameter has been calculated to be c.20m. Surrounding the mound is a ditch from which material was quarried during its construction. This has become infilled over the years but survives as a buried feature c.2m wide, giving the barrow an overall diameter of c.24m. The site of the monument is presently situated within an agricultural field, a little to the south of the stand of trees known as Halfmoon Clump.



The monument lacks surface expression and has no intrinsic visual interest. As for the monuments within the Countess Farm Barrows Asset Group (AG31), the visitor perceives only arable fields against a backdrop of historic and modern vegetation, electricity pylons, and with both the sight and sound of traffic. Nevertheless, the location is partially inter-visible with the location of the other Countess Farm barrows, of which it is an outlier, although this association is better appreciated in terms of an archaeological setting visible on aerial photography and digital survey plots.

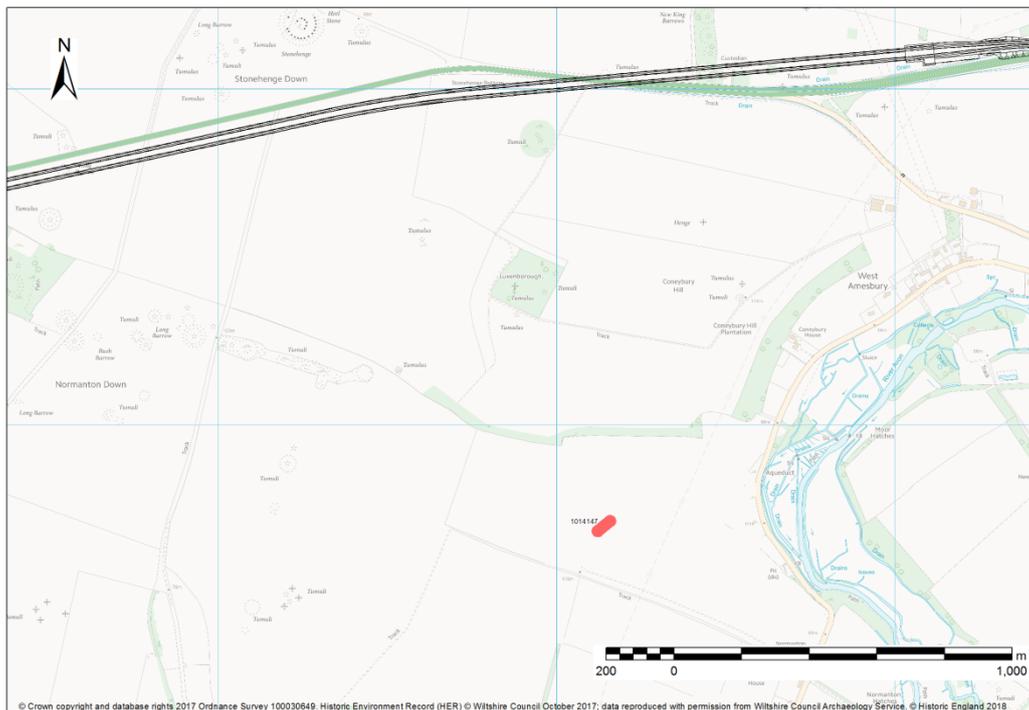
The barrow is located c. 370m north of the existing A303. The proposed eastern portal would be located c. 680m to the south-west, with the Countess flyover c. 660m to the south-east. To the south, the approach road to the eastern portal would follow

the existing A303 dual carriageway. It is assessed that views towards Countess flyover would have a negligible negative impact on the setting of the barrow.

It is assessed that the Scheme would result in a **Slight Adverse** effect (derived from a Negligible Negative impact on a Very High Value asset, resulting in a Slight Adverse effect).

### Two bowl barrows 700m north-west of Normanton Down House (NHLE 1014147)

The monument includes two levelled bowl barrows aligned north-east to south-west located 700m north-west of Normanton Down House and occupying a gentle east-facing slope with views across the Avon valley. The barrows are difficult to identify on the ground. Their quarry ditches have become infilled over the years but survive as buried features and are visible on aerial photographs from which the overall diameters of the barrows are calculated to be 35m in each case.



Setting makes a low contribution to the significance of the assets. The monuments lack surface expression and intrinsic visual interest, and apparently beyond the pairing of the two barrows themselves do not have any obvious group setting. Their location is nevertheless inter-visible with the Normanton Down Barrows, which provides a certain context to their setting. Direct northward views are precluded by an elongated plantation, which interrupts any potential sightlines towards the barrow cemeteries around Luxenborough (AG24) and Coneybury Hill (AG29).

The existing A303 lies over 1300m south of the assets. The road's effect on the setting is minimal.

The Scheme would place the present A303 surface road within tunnel. Views of traffic would be removed, but given the intervening distance, the change would be imperceptible.

It is assessed that the Scheme would result in a **Neutral** effect (derived from No Change to a Very High Value asset).

### **Non-designated isolated and discrete assets**

- 6.10.7 Not everything within a WHS contributes to OUV, but those Attributes that do must be appropriately protected (ICOMOS 2011). Some non-designated heritage assets are relevant to the OUV of the WHS. These assets comprise non-designated archaeological features, sites and monuments which are topographically isolated from Asset Groups, or appear to be distant outliers that do not readily conform to Asset Groups.
- 6.10.8 Non-designated isolated and discrete assets considered in the HIA include isolated possible barrows and burials, settlement and occupation sites, isolated pits and pit groups, and a range of features identified in the course of archaeological evaluation fieldwork for the Scheme, where these are known to be of Early Neolithic to Early Bronze Age in date.
- 6.10.9 Most of these isolated assets are barely perceptible above ground, and their significance is principally derived from the potential evidential value of their buried remains and their broader landscape context and setting. The evidential value of isolated non-designated assets is frequently uncertain and the legibility of meaningful visual, spatial and contextual associations has been diminished by unsympathetic land-use such as large arable fields and other features within the landscape including roads.
- 6.10.10 In this HIA, extant sites or monuments of proven Early Neolithic to Early Bronze Age date, and located within the WHS, is assessed to be of Very High value as these assets convey Attributes of OUV. However, some archaeological evidence of these dates within the WHS may contribute to the understanding of the WHS and its OUV, but in itself is not considered to convey OUV. In this HIA the value of non-designated archaeological evidence is individually assessed on its own merit.
- 6.10.11 It is problematic to assess the value of geophysical anomalies and sites plotted from aerial photographs, such as pits, where the date and character of sites are not proven. Where the date is unknown and the form of monuments is not diagnostic, the value is assessed as unknown.
- 6.10.12 A full inventory of assessed non-designated heritage assets is contained in HIA Annex 2.3 – Inventory with summary descriptions of non-designated discrete assets and Annex 3.3 – Summary of impacts and effects of Scheme on non-designated discrete and isolated assets.

#### *Isolated barrows and burials*

- 6.10.13 A precautionary approach has been taken to valuing ring ditches identified

by geophysical survey and on aerial photographs. Within the WHS, the majority of ring ditches that have been tested by intrusive fieldwork have been dated to the Bronze Age. It is therefore assumed that ring ditches within the WHS date to the Bronze Age. Thus, possible ring ditches are assessed to be of Very High value as they may convey Attributes of OUV.

- 6.10.14 It is assessed that the existing baseline results in a Slight Adverse effect on a series of undated ring ditches north and north-west of Vespasian's Camp (MWI12959; MWI12964; MWI12965; MWI75710; MWI13157) (derived from a Negligible negative impact on assets of Very High value). The Scheme would continue to have a **Slight Adverse** effect on these assets (derived from a Negligible negative impact upon Very High value assets).
- 6.10.15 The Scheme would result in a **Neutral** effect on a ring ditch west of the Cursus (MWI12679), a possible barrow west of Fargo Plantation (MWI12826), a possible barrow on Winterbourne Stoke Down (MWI12879), undated ring ditches North of Winterbourne Stoke Group (AG12; MWI13156) and an undated ring ditch, Winterbourne Stoke Down (MWI6395). The proximity of the Scheme and the A360 northbound sliproad would result in both Negligible negative and Negligible positive change to these Very High value assets.
- 6.10.16 The Scheme would result in a **Neutral** effect on two possible pond barrows north of the Cursus (MWI12827; MWI12831) and a possible barrow north of Halfmoon Clump (MWI12873) (derived from No Change to a Very High value asset).
- 6.10.17 The Scheme would have a **Neutral** effect on the setting of an undated unexcavated burial east of the Cursus, either an *in situ* burial or remains redeposited in a pit or ditch terminus (MWI12631) (derived from No Change to a Very High value asset).
- 6.10.18 The Scheme would result in a **Slight Beneficial** effect on an undated bowl barrow on Durrington Down (MWI12705) (derived from Negligible negative and Negligible positive change to a Very High value asset).
- 6.10.19 The Scheme would result in a **Slight Beneficial** effect on an undated ring ditch north-west of Normanton Gorse (MWI75988) (derived from Minor negative change and major positive change to a Very High Value asset). Its setting is currently impacted by the proximity of the existing A303. The Scheme would have no physical impact on archaeological remains, but would bring the course of the route slightly closer. The cutting would physically divide this barrow from the Winterbourne Stoke Crossroads Barrows and the Diamond Group. The Scheme would place the route in tunnel, hiding it and associated traffic from view.
- 6.10.20 The Scheme would result in a **Moderate Beneficial** effect on a series of

undated levelled barrows west of the Old and New King Barrows (MWI12646; MWI12647; MWI12648; MWI12649; MWI12650) (derived from Minor Negative Change and Major Positive Change upon Very High value assets). The removal of the A303 from much of the WHS would physically reconnect King Barrow Ridge with the landscape to the south, and would improve views of, from and including the monuments. Traffic would no longer be apparent in its immediate environs. Traffic noise would be much reduced. However, the Countess flyover would be visible to a marginal extent in views from the ridge to the south-east.

- 6.10.21 The Scheme would result in a **Moderate Beneficial** effect on undated possible levelled barrows south-west of Fargo Plantation (MWI12680) and north-east of Stonehenge (MWI12918), and a possible ring ditch (MWI12942), due to placing the road in tunnel (derived from Minor Positive Change to Very High value assets).
- 6.10.22 The Scheme would result in a **Large Beneficial** effect on a possible undated bowl barrow west of Old King Barrows (MWI12943), a possible undated ring ditch south-east of New King Barrows (MWI13050) and the site of undated barrow east of Fargo Plantation (MWI13161), due to placing the road in tunnel (derived from Moderate Positive Change to Very High value assets).

#### *Occupation sites of the Early Neolithic to Early Bronze Age*

- 6.10.23 The Scheme would have a **Large Beneficial** effect on the setting of the Neolithic occupation site at King Barrow Ridge (MWI12481), due to placing the road in tunnel to the south and removing the sight and sound of traffic (derived from a Moderate Positive Change to a Very High Value asset).

#### *Isolated pits and pit groups*

- 6.10.24 The Scheme would result in an **Adverse** effect of uncertain significance on the setting of pits on Normanton Down (MWI74642) and north-west of Normanton Gorse (MWI75990) (arising from a Negligible Negative Change to a heritage asset of unknown value).
- 6.10.25 It is assessed that the Scheme would result in a **Neutral** effect on the setting of several pit clusters of unknown date identified by geophysical survey (MWI12794; MWI74620; MWI74695; MWI74695), and a linear feature (MWI13119) (derived from No Change to assets of unknown value, resulting in a Neutral effect).
- 6.10.26 The Scheme would result in an **Effect of Uncertain Significance** to the setting of pits identified east and south Winterbourne Stoke (MWI74878; MWI75708), north of Vespasian's Camp (MWI75709), and west of Countess Farm (MWI75713) (arising from a Negligible Negative and

Negligible Positive Change to a heritage asset of unknown value).

- 6.10.27 The Scheme would have an **Effect of Uncertain Significance** on the setting of a possible pit identified in a borehole survey (MWI75679) (arising from a Negligible Positive Change to a heritage asset of unknown value).
- 6.10.28 The Scheme would have a **Slight Beneficial** effect on the setting of a number of Neolithic pits around Stonehenge identified by geophysical survey (MWI74648) (arising from Negligible Negative and Negligible Positive Change to a Very High value asset).
- 6.10.29 The Scheme would have a **Slight Beneficial** effect on the setting of a possible Early Neolithic pit or pit-like feature identified in a borehole survey (MWI75678) (arising from a Negligible Positive Change to a Very High value asset).

#### *Single findspots*

- 6.10.30 Single, isolated and discrete findspots are excluded from assessment. Although they contribute to understanding and may provide evidence for other prehistoric archaeology nearby, they do not convey OUV. Locational data in the WSHER regarding findspots is not always accurate, and not all findspots have been plotted by WSHER (MWI11889; MWI12438; MWI12451; MWI12461; MWI12483; MWI12494; MWI12496; MWI12516; MWI12524; MWI12534; MWI12535; MWI12539; MWI12849; MWI13154; MWI6920; MWI6925; MWI75753; MWI75753).

#### *Fully excavated remains*

- 6.10.31 The former locations of fully excavated isolated and discrete remains are also excluded from assessment. Although these contribute to understanding and context, they no longer convey OUV. They may, however, reflect Attribute 7, The influence of the remains of the Neolithic and Bronze Age funerary and ceremonial monuments and their landscape setting on architects, artists, historians, archaeologists and others (MWI12462; MWI12466; MWI12477; MWI12479; MWI12501; MWI12502; MWI12517; MWI12523; MWI12540; MWI12548; MWI12609; MWI12614; MWI12769; MWI6403; MWI74896; MWI75995; MWI76197; MWI76197; MWI76197; MWI76197; MWI76197; MWI76197).

#### *Evaluation fieldwork for the Scheme*

- 6.10.32 Archaeological evaluation of the Scheme has identified a number of heritage assets within and adjacent to the WHS. These archaeological remains contribute to the body of evidence for activity in the WHS and may contribute to the understanding of Associated Sites in the context of OUV. These types of features and finds are widespread in the context of

South Wiltshire and do not relate directly to the OUV of the WHS.

- 6.10.33 Impacts on Early Neolithic to Early Bronze Age finds scatters in the landscape are assessed where comprehensive surveys of topsoil indicates concentrations of material. These scatters add to the contextual background and understanding of the WHS and how it was used, but they do not in themselves convey OUV. These are assessed as regionally important, and of Medium (regional) value. Finds scatters with limited concentrations of material, and / or highly fragmented material, are considered to be of Low (local) value.
- 6.10.34 Scheme impacts and effects on sites of possible Early Neolithic to Early Bronze Age date are described below, from west to east.

Western portal

– **Hengiform enclosure [10002]**

Multi-channel GPR survey identified a small possible 'hengiform' monument (GPR Survey, 10002, Highways England 2018) previously identified as an anomaly in Gradiometer Survey (8001; Wessex Archaeology 2017, Phase 3). The anomaly is approximately 4m in diameter, located south of Winterbourne Stoke Copse, north of the proposed western approach cutting. The hengiform enclosure is located on the northern slope of a dry valley c. 38m north of the proposed approach cutting and c. 36m south of the existing course of the A303.

The Hengiform Enclosure may be associated with the broader Winterbourne Stoke Crossroads Barrows (AG12). Given its form, it is likely to be of Neolithic date and is assessed to contribute to the following Attributes of OUV:

- (2) The physical remains of the Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape.
- (3) The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape.
- (5) The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other.
- (6) The disposition, physical remains and settings of the key Neolithic and Bronze Age funerary, ceremonial and other monuments and sites of the period, which together form a landscape without parallel.

Although not currently designated, given its date, character and associations it is considered to be of Very High value.

The site is inter-visible with Normanton Down Barrows (AG19), Winterbourne Stoke Crossroads Barrows (AG12) and the Diamond Group (AG13). It is currently impacted by visual and aural intrusion from the existing A303, which lies to the north on an embankment. This is assessed as a Moderate Negative impact resulting in a Large Adverse effect on setting.

The site lies outside of the footprint of the works for the approach cutting and would not be physically impacted by the Scheme.

The proposed cutting would physically divide this monument from the Diamond Group, but physical connectivity would be maintained with this Asset Group by Green Bridge Four situated to the south-west. Views to Winterbourne Stoke Crossroads Barrows and the Diamond Group would be unbroken by the cutting and the traffic would be removed from the isolated monument's setting. The chalk grassland mitigation to the north and south of the cutting would ensure that the new infrastructure integrates quickly in to the landscape. Light spill is avoided as traffic head- and tail-lights are in cutting and the Scheme is unlit within the WHS.

It is assessed that the Scheme would have a **Slight Adverse** effect on setting (derived from a Moderate Negative Change and a Moderate Positive Change to a Very High Value asset, resulting in both Large Adverse and Large Beneficial effects).

– **Beaker burial**

An Early Bronze Age Beaker grave (26009, Trench 260) was discovered during trial trench evaluation in 2018, north-east of the hengiform enclosure noted above. The crouched burial has been fully excavated. It was associated with a fragmentary Wessex / Middle Rhine Beaker, a copper awl or pin / needle shank fragment and a cylindrical shale object. Its position on the north side of a dry valley may suggest some connection to the Winterbourne Stoke Crossroads Barrows (AG12) to the north-west.

Although it is significant to understanding the distribution and character of burials within the WHS, the burial has been fully excavated.

- **Flint scatters, scattered Early Bronze Age pits and natural features containing flint**

Within the proposed western approach cutting three pits dated to the Early Bronze Age have been identified in the trial trenching. A number of natural features also contained flint, including tree throws and a geological sinkhole.

Test pitting revealed several concentrations of flint scatters in the ploughsoil. Most of the worked flint comprised flake debitage, in both fresh and patinated state (most often found together), and mostly in conditions typical of assemblages from the ploughzone. The material recovered includes a small number of blade and blade-like components, miscellaneous retouch, scrapers, a possible single core and a single fragment of a flaked axe. These clusters appear to coincide with similar patterns in the concentrations of burnt flint. None of the material appears to have been produced *in situ* and although some of the concentrations appear to coincide with possible linear features shown in the NMP mapping, subsequent trial trenching did not identify evidence for any corresponding buried features.

These archaeological remains are assessed as being of Medium value. The Scheme would remove the remains within the construction footprint of the cutting, resulting in a Major Negative Change, leading to a **Moderate Adverse** effect. Mitigation would comprise suitable excavation and recording.

#### Eastern portal

- **Worked and burnt flint**

Fieldwalking and test pitting revealed worked and burnt flint across the area with remains of activity areas now dispersed within the ploughzone. Artefacts consisted primarily of an even background scatter of worked and burnt flint across the area, with a small number of slightly higher concentrations which may be the remains of activity areas now dispersed within the ploughzone. One concentration of worked flint (in a natural hollow (51224) in Trench 512) derived from *in situ* knapping in the later Neolithic period or Early Bronze Age.

The remaining elements of this flint scatter are assessed as being of Medium value. The Scheme would result in the removal of any further ploughzone material and any associated activity areas within its footprint, resulting in a Major Negative Change, leading to a **Moderate Adverse** effect. Mitigation would comprise suitable excavation and recording.

## Rollestone Corner junction

### – **Worked and burnt flint**

At Rollestone Corner fieldwalking and test pitting did not identify any significant concentrations of archaeological material, recording worked flint assemblages typical of collections from the ploughzone in the area. Trial trench evaluation revealed a number of tree throws, two of which contained quantities of burnt and / or worked flint (including broadly Neolithic material) and tiny fragments of prehistoric pottery. Collectively, this kind of evidence contributes to the understanding of activity in this part of the WHS, but is not considered to contribute to OUV.

This site is assessed as being of Low value. The Scheme would result in the removal of any further ploughzone material and any associated activity areas within its footprint, resulting in a Major Negative Change, leading to a **Slight Adverse** effect. Mitigation would comprise suitable excavation and recording.

## Longbarrow Junction north and south

### – **Scatter of worked and burnt flint, ditches, pits and postholes**

North of the new Longbarrow Junction, ploughzone surface artefact collection recorded a scatter of worked and burnt flint of Late Neolithic date. Beneath the scatter, trial trenching revealed ditches and scattered pits and post holes of Late Neolithic, Beaker and Bronze Age date. Considered together, geophysical survey and intrusive fieldwork indicates a lack of evidence for structures and any focus of settlement.

This site is assessed as being of Medium value. The Scheme would result in the removal of the site within the footprint of the Scheme, resulting in a Major Negative Change, leading to a **Moderate Adverse** effect. Mitigation would comprise suitable excavation and recording.

### – **Cremation burial**

A single discrete cremation burial contained within an Early Bronze Age collared urn was recorded and fully excavated during the trial trench evaluation. The burial may have been associated with the Winterbourne Stoke Crossroads Barrows (AG12) to the east and south-east.

Although it is significant to understanding the distribution and character of burials within the WHS, the site has been fully excavated.

– **Early Bronze Age enclosure and scattered pits**

At Longbarrow south, trial trench evaluation recorded a possible enclosure at the southern end of the realigned A360 south, dated by a single sherd of Early Bronze Age grog-tempered ware. Scattered pits dated to the Early Bronze Age (Beaker period) were also identified, both within the northern and south-eastern parts of the evaluation area, and attest to a low level of activity from this period in the evaluation area.

These archaeological remains are assessed as being of Medium value. The Scheme would result in the removal of the site within the footprint of the Scheme, resulting in a Major Negative Change, leading to a **Moderate Adverse** effect. Mitigation would comprise suitable excavation and recording.

## 6.11 Avebury

6.11.1 This section provides a rapid overview of the Avebury element of the WHS, to inform assessment of any direct or indirect impacts and effects upon the OUV expressed by this element of the WHS which arise as a consequence of the Scheme.

6.11.2 Relevant summary information on Avebury is also incorporated into HIA Section 6.12, Tourism and visitor experience and HIA Section 9.3, Potential impacts and effects of Scheme: aspects of the WHS.

### Baseline description

6.11.3 The Avebury element of the WHS, located c.40km to the north, has an exceptional range of surviving prehistoric monuments and sites including settlements, burials and large earthen and stone monuments. These sites provide insights into the mortuary and ceremonial practices of the period, and are evidence of prehistoric technology, architecture and astronomy (Simmonds and Thomas 2015).

6.11.4 The Avebury Henge contains the largest prehistoric stone circle in the world (c.2600–1800 BC); the encircling henge consists of a massive bank and ditch enclosure measuring 1.3km in circumference, within which there are 180 standing stones forming a large outer and two smaller inner circles. Leading from two of the henge's four entrances, are the West Kennet and Beckhampton Avenues of parallel stones, also dating to c.2600–1800 BC (Simmonds and Thomas 2015, 26).

6.11.5 The West Kennet Avenue appears to connect the Henge to the

Sanctuary, located over 2km away, which is a monument of stone and timber concentric circles. The Beckhampton Avenue leads to Longstones Cove and may even have extended to the Fox Covert barrow group (Simmonds and Thomas 2015, 34).

- 6.11.6 To the south-west of Avebury Henge is Silbury Hill, which is the largest prehistoric mound to be found in Europe. It was built in c.2400 BC, and stands to 39.5m in height and comprises half a million tonnes of chalk (Simmonds and Thomas 2015, 26).
- 6.11.7 There are also a number of other important archaeological sites in the Avebury WHS, such as the round barrow groups at Overton Hill, Waden Hill and Folly Hill; Neolithic long barrows at West and East Kennet, Horslip, Beckhampton Road and South Street; the Windmill Hill Causewayed Enclosure; and the West Kennet Palisade Enclosures (Simmonds and Thomas 2015, 16). Altogether there are around 418 recorded archaeological sites in this part of the WHS (exclusive of field surface artefact scatters). There are 74 scheduled monuments which include 200 individual sites or features (Simmonds and Thomas 2015, 18).
- 6.11.8 In the 1930s, Alexander Keiller embarked on a remarkable campaign of 'megalithic landscape gardening', opening up the interior of the Henge, removing buildings and cottages. He also restored and reconstructed substantial parts of Avebury, Windmill Hill and the West Kennet Avenue, making them far more visible features in the landscape than they had been for hundreds if not thousands of years. Keiller's contribution to the Avebury landscape is still evident today and has had a significant influence on modern perceptions of the site. (Pomeroy-Kellinger 2005, 26).
- 6.11.9 Bearing in mind the density of known archaeology, there is great potential for the discovery of further sites within the Avebury part of the WHS. Various archaeological research projects have been carried out at Avebury such as the Between the Monuments Project, a collaborative research project between the Universities of Leicester, Southampton, the National Trust and Allen Environmental Archaeology (Simmonds and Thomas 2015, 43). Another important project was a major conservation effort at Silbury Hill led by English Heritage (2007). This was subsequently followed up by the Later Silbury Project which focused on nearby Romano-British settlement that had been revealed as part of the geophysical investigations undertaken in preparation for the aforementioned conservation programme. There was also a new programme of dating six long barrows in southern Britain in the Histories of the Dead Project which included West Kennet Long Barrow. Extensive geophysical survey in the Avebury landscape by Darvill and Leüth (2012–2014) covered Windmill Hill, Waden Hill, parts of the West Kennet Avenue and the interior of the Avebury Henge. Another research effort was the

Negotiating Avebury Project (1999 –2004), which confirmed the existence of the Beckhampton megalithic avenue, a Cove consisting of a four-stone setting at the terminus of the Beckhampton Avenue and Falkner’s Circle, as well as discovering a new Neolithic enclosure in Longstones Field (Simmonds and Thomas 2015, 50, 54).

### **Attributes of OUV**

6.11.10 The Avebury element of the WHS expresses the following Attributes of OUV:

*(2) The physical remains of the Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape.*

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

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

*(6) The disposition, physical remains and settings of the key Neolithic and Bronze Age funerary, ceremonial and other monuments and sites of the period, which together form a landscape without parallel.*

*(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.*

6.11.11 There is no securely based evidence for the astronomical importance of the Avebury part of the World Heritage Property, other than the general one which is noted in southern Britain, that most of its long barrows are roughly aligned towards the sun-climbing or sun-rising parts of the sky (Ruggles 2012).

## **6.12 Tourism and visitor experience**

### **Introduction**

6.12.1 Some World Heritage properties, such as the Stonehenge, Avebury and Associated Sites WHS, attract significant tourism interest and form important tourist destinations. They may represent key vehicles for economic development and as public goods provide value for everyone.

6.12.2 A review of the tourism and visitor experience has been undertaken to inform this HIA. Further details are contained in HIA Annex 9, Tourism and visitor experience, which addresses aspects including visitor attendance data, visitor characteristics, experience and management; destination marketing; tourism and economic trends; visitor economy and

infrastructure; resident and tourist markets and tourist market projections.

- 6.12.3 This baseline section provides summary information on tourism and visitor experience.

### **Destination review**

#### *Geographical context*

- 6.12.4 Although the Stonehenge Visitor Centre, the Stonehenge monument and the Stonehenge, Avebury and Associated Sites WHS are destinations in themselves, they are located in a wider area. This broader destination includes nearby villages and towns in Wiltshire, such as Winterbourne Stoke, Amesbury, Devizes and Salisbury. The iconic attraction forms a key 'gateway' to the South West, given its location adjacent to the A303, one of the arterial routes to the South West.

#### *Visitor offer*

- 6.12.5 English Heritage provides a formal visitor offer at the Stonehenge Visitor Centre, charging for access to Stonehenge from this entrance point. Accessible National Trust land in the Stonehenge landscape is permissive open access and no entrance charges are made.
- 6.12.6 There are a range of types of domestic and international visitors, from groups on guided coach tours to independent visitors. Generally, groups adhere to fixed itineraries focusing on rapid visits to key locations such as Stonehenge, while independent visitors disperse across the landscape.
- 6.12.7 *'At present visitors are concentrated on the 'honey pot' sites at Stonehenge and Avebury Henge and there is limited understanding by visitors of the extent of the WHS' (Simmonds and Thomas 2015, 118).*
- 6.12.8 The Visitor Centre opened in 2013, part of the Stonehenge Environmental Improvement Project (SEIP).
- 6.12.9 The Stonehenge Visitor Centre has an exhibition explaining the landscape, its history and features, five Neolithic houses furnished with replica Neolithic axes, pottery and other artefacts, an indoor café space and a gift shop. The exhibition contains nearly 300 archaeological objects, finds from Stonehenge and other nearby monuments, now displayed on site for the first time. All the objects are on loan from Salisbury Museum and Wiltshire Museum, Devizes. There is also a special exhibition space with a programme of changing exhibitions.
- 6.12.10 *'The Stonehenge Visitor Centre is one part of the Stonehenge Museums Partnership which also includes new displays at the Wiltshire Museum in Devizes (opened in 2013) and Salisbury Museum (opened in 2014). English Heritage is committed to promoting the two museums to*

*Stonehenge visitors as part of a strategy to bring wider economic benefits to Wiltshire.* (Simmonds and Thomas 2015, 119).

- 6.12.11 *'A shuttle system takes visitors from the Visitor Centre to the Stones, a distance of around 2km. A stop at Fargo Plantation allows visitors easy access into the Stonehenge Landscape managed by the National Trust. An orientation leaflet given to visitors on arrival shows the extent of the landscape, access gates and information points at key locations within the landscape and approximate walking times between key monuments.'* (Simmonds and Thomas 2015, 118–119).
- 6.12.12 The centre of the monument is not available for general visiting, but only for small numbers via the 'Stone Circle Access' scheme which runs before and after the normal visiting hours.
- 6.12.13 Much of the WHS apart from the Stonehenge monument is National Trust land which can be freely accessed from various entrance points. The northern area is currently a popular amenity for joggers based at Larkhill MOD base to the north, and resident dog-walkers. There is greater public access to land in farm business tenancies in the northern area. In the southern area, there are fewer permissive paths and more long-term agricultural holding tenancies. The WHS is in multiple private ownership and there is some intensive land use within or around the heritage assets, which presents challenges.
- 6.12.14 The National Trust runs a series of guided archaeological and wildlife walks through parts of the wider Stonehenge WHS landscape, has also provides downloadable self-guided walks of the Stonehenge landscape.
- 6.12.15 The Avebury part of the WHS, located c.24 miles (c.40km) north of Stonehenge, is managed by the National Trust on behalf of English Heritage. In contrast to the Stonehenge monument, it is relatively less crowded and visitors are able to wander freely through the site via numerous rights of way and permissive paths. Some parts of the henge and stone circle are sometimes temporarily fenced off as part of erosion control.

#### *Entrance fees, car parking and opening times*

- 6.12.16 Entrance fees are charged for the Stonehenge Visitor Centre and Stone Circle Access. English Heritage and National Trust England members visit for free, as do local residents.
- 6.12.17 Pre-booked Stone Circle Access visits take place outside of the normal general admission opening hours, very early in the morning or late in the evening. They provide a unique opportunity to experience the stones up close are subject to very limited availability.

- 6.12.18 Annually, approximately 58,000 school children visit Stonehenge as part of an educational visit. This includes a combination of free education visits as well as enhanced paid 'Discovery Visit' (expert-led sessions with a lecture). Together, these represent around 5% of total visits.
- 6.12.19 The Visitor Centre has a coach park and a car park. Capacity at the Stonehenge Visitor Centre car park is regularly exceeded. There is little alternative formal car parking provision within the Stonehenge part of the WHS. This creates an issue for visitors who do not wish to go the Visitor Centre but would like to explore the wider WHS landscape, and for the National Trust who organise activities such as guided walks, tours and events in the Stonehenge landscape. (Simmonds and Thomas 2015, 180).
- 6.12.20 Admission is free to the stone circles and other prehistoric monuments at Avebury. English Heritage members have free entry to the Alexander Keiller Museum. The car park is pay and display, free to National Trust and English Heritage members. The National Trust charge admission fees for Avebury Manor Garden. A number of self-guided walking tours are available as a booklet from the National Trust. Volunteers from the National Trust provide guided walking tours for a modest fee.

#### *Transport to the destination*

- 6.12.21 The Stonehenge Visitor Centre is principally accessed by road (A303, A360 and A4361), either by tour buses, taxis, hire cars and private vehicles. The nearest train station is at Salisbury.
- 6.12.22 '*Stonehenge is a popular destination for coach tours. Over 60% of paying visitors travel to Stonehenge as part of a group.*' (Simmonds and Thomas 2015, 117). Tour buses run from outside Salisbury Station; however, a large proportion of tour buses start in London, providing day tours to Stonehenge which are often combined with rapid visits to a range of other historic attractions including Windsor, Salisbury, Bath and Oxford.
- 6.12.23 Avebury is readily accessed by car. It can be accessed by public transport, by bus from Swindon / Devizes and Calne / Marlborough. The nearest train stations served by buses are at Swindon and Trowbridge. The Ridgeway National Trail runs from Avebury to Ivinghoe Beacon in the Chilterns.
- 6.12.24 The Wiltshire and Swindon Destination Management and Development Plan 2015–2020 notes that '*Specific issues for the visitor economy needing resolution include congestion, delays and flooding issues on the A303 main cross-county route from London to the South West, and a principal route to Stonehenge; the road also affects the setting of Stonehenge – this Plan supports improvements to the A303 [...]*' (VisitWiltshire 2015, 42).

- 6.12.25 Regarding the WHS, the Destination Management and Development Plan notes that *'The issues of access and connectivity are exemplified by the challenges for the WHS. To develop the growth potential of the WHS and make Stonehenge, Avebury and the WHS more widely accessible to visitors, the WHS has to strike a balance between meeting the needs of visitors, the environment and community interests [...] Visitor-related issues which this Plan supports, include:*
- a) *Plugging of gaps in the off-road network where no paths exist, such as between adjacent villages and Stonehenge and Avebury*
  - b) *Provision of safe road- crossing points for pedestrians and cyclists in the WHS, particularly on the A303 and A4*
  - c) *Waymarking and interpretation further away from the honeypot sites to support dispersal and exploration of satellite sites.'* (VisitWiltshire 2015, 44–5).
- 6.12.26 *'Tourism is an important element of the economy of Wiltshire and the South West and the Stonehenge and Avebury WHS is fundamental to the tourism economy of Wiltshire. The WHS supports jobs, infrastructure and services which in turn benefit the local community [...] The solution to the congestion on the A303 at Stonehenge and beyond will also affect the opportunities or otherwise to build on the economic benefits of the WHS.'* (Simmonds and Thomas 2015, 117–118).

#### *Current access arrangements*

- 6.12.27 The Stonehenge Visitor Centre's orientation leaflet encourages visitors to explore the wider landscape, as does the 10-language audio guide and shuttle bus commentary. There is an audio tour app in English.
- 6.12.28 Proposals to enhance the existing provision of access are in progress at the time of writing, as part of the Stonehenge WHS Interpretation, Learning and Participation Strategy (English Heritage 2011) and the development of the WHS Landscape Access Strategy and Sustainable Transport Strategy. These strategies will include necessary impact monitoring and management regimes:
- a) Increasing way-marked paths in both parts of the WHS to suit different visitor needs and those of local users to provide better access to the WHS as a whole, building on existing walks created by the National Trust on its land and using the established network of PRoWs.
  - b) Linking cycling routes, including links to the Sustrans national cycle network, and providing cycling stands in key locations. The cycling charity Sustrans are unable to complete gaps in the National Cycle Network because of safety concerns for cyclists travelling along and

crossing the A303. A Sustainable Transport Strategy is being developed.

- c) Provision of an 'explore bus' service and a shuttle service between Stonehenge and Avebury to enable exploration of the full extent of the WHS.
- d) Use of digital technology, on hand held devices and from computers at home, to enable access where physical access is limited. Replacement of stiles with gates wherever possible.
- e) Coordinating and providing access from surrounding communities providing accommodation to allow visitors to access the WHS on foot or by bicycle.
- f) Explore the possibility of establishing a walking route between Stonehenge and Avebury.
- g) Reviewing the WHS signage and information at key dispersal points should be undertaken in the light of the recommendations of the Stonehenge WHS Interpretation, Learning and Participation Strategy (English Heritage 2011).

6.12.29 It is understood that the Phase 2 – Partnership Plan for National Trust and English Heritage Trust Land will explore opportunities and implications of improving access.

6.12.30 *'The objective of increased public access will, however, have to be balanced with the need to maintain working agricultural land, to protect archaeological sites and to create nature conservation sites. Increased recognition of the importance of the whole WHS will require an integrated approach that blends sound archaeological and land management with high quality visitor interpretation and access information. Improved access is only possible with the agreement of the landowners.'* (Simmonds and Thomas 2015).

#### *Visitor dwell time*

6.12.31 English Heritage recommend an average visit length to the Visitor Centre and Stonehenge monument of two hours, which provides sufficient time to explore the Visitor Centre and to take the 20-minute round-trip journey to and from the Stone Circle by shuttle bus. Stone Circle Access visits last for one hour, with a maximum of 30 people within the stones per session.

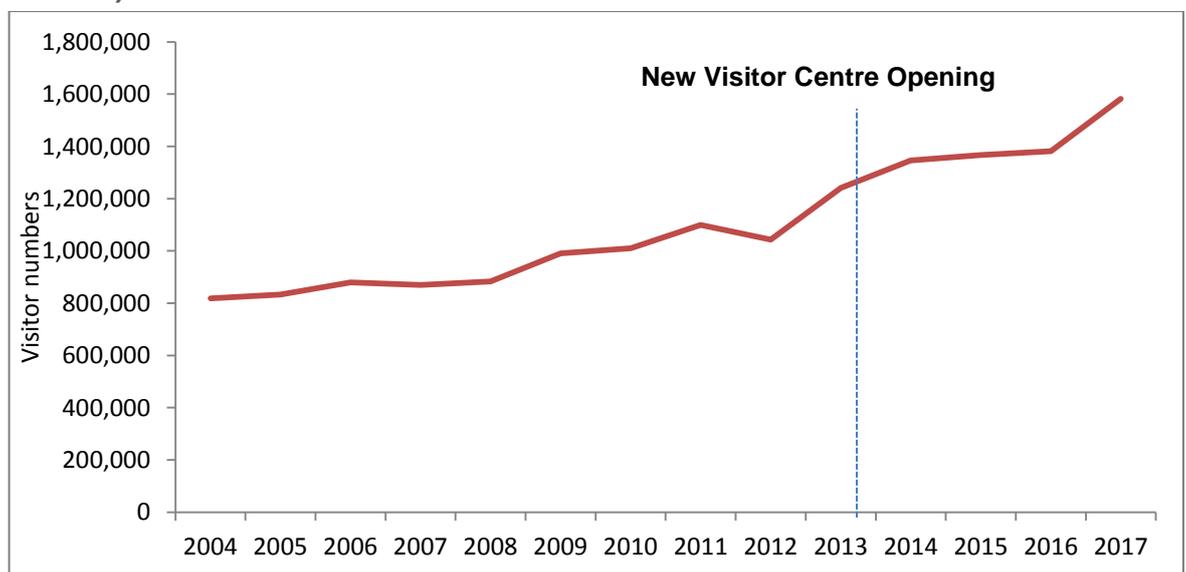
6.12.32 At Avebury, visitor pressure is concentrated on the stone circle and on Avebury village due to the location of the main visitor car park south of Avebury Henge. The National Trust reports a dwell time of between 1 and 2 hours, indicating that visitors are not exploring far beyond Avebury. Those who do, often drive between the monuments using the available

car parking and lay-bys. (Simmonds and Thomas 2015, 181).

### Visitor attendance data

- 6.12.33 Stonehenge is amongst the UK's leading visitor attractions, consistently ranking in the top 25 attractions (free and paid), and in the top 10 paid attractions. Annual visitor numbers have increased substantially over the past decade. The Visitor Centre attracted c. 1.6 million visitors in 2017.
- 6.12.34 The calculation of visitor attendance numbers for the Stonehenge element of the WHS is difficult – although figures are available for the paid element of the attraction, there is limited information on the number of visits to open access areas of the WHS.
- 6.12.35 Between 2004 and 2017 Stonehenge doubled its attendance figures (Chart 1). As reported by Stonehenge management, the post-2013 figures show growth that is attributed to the new Visitor Centre, which opened in 2013. The growth achieved in 2017 is believed to be a reflection of an increase in inbound tourism into the UK. Over the entire period 2004 – 2017 average annual growth in attendance has been 5.4%.

**Chart 1: Stonehenge visitor numbers (Visitor Centre only) (Source: ALVA)**



- 6.12.36 The National Trust estimates the annual number of visitors to the Stonehenge landscape to be around 200,000 based on selective counts carried out at a number of entry points. However, this is likely to underestimate the number of people using the site since there is currently no mechanism for recording all individual users. The National Trust's present gate counter figures indicate that only about 8% of visitors explore the WHS landscape south of the A303.

### Avebury

- 6.12.37 The National Trust estimates that Avebury is visited by over 250,000 visitors each year.

#### Visitor characteristics

- 6.12.38 *'The Stonehenge and Avebury WHS is a major asset to Wiltshire's visitor economy. Stonehenge is the most architecturally sophisticated prehistoric stone circle in the world and the flagship visitor attraction of the WHS [...] Stonehenge brings international and national visitors to Wiltshire. The WHS includes Avebury, the largest stone circle in Europe, and in total the WHS comprises over 5,000 hectares of landscape - but many visitors to Stonehenge are unaware of the extent of the site.'* (Visit Wiltshire 2015, 25).
- 6.12.39 English Heritage provided a range of headline data for this study which add further context and detail to these visitor numbers and the value of tourism to the facility. These are based in part on a visitor survey of 413 visitors carried out in 2016:
- a) Centre visitors are split 52% international and 48% UK based. Based on current (2017) figures, this would equate to c. 0.83 million international visitors and 0.77 UK visitors. This qualitative survey, however, was carried out among English speaking visitors only, therefore is likely to underestimate the proportion of international visitors.
  - b) Day trips account for 24% of visitors, 17% report being on a short break and 58% are holiday visitors.
  - c) A significant number of domestic repeat visits are reported (46% of survey respondents).
  - d) Membership (English Heritage) visits account for around 20% of visits and are largely domestic visitors
  - e) Only 4% of the respondents were from the local area (Amesbury / Salisbury), a much lower share of the visitor mix than many other visitor attractions attract.
  - f) English Heritage reports a younger demographic for Stonehenge visitors than other sites. 30% of visitors are aged 16–35, 36% are 35–54, 16% are 55–64 and 19% are aged 65+.
  - g) Around 24% of Stonehenge visitors participating in the survey were accompanied by children.
  - h) Visitor numbers peak from June to August, with paid entry data

provided by English Heritage suggesting 100,000–115,000 a month in this period. April and May, and late August and September are described as shoulder months when paying visitor numbers fall to c. 65–70,000. November to March see numbers fall to 15,000–20,000.

- i) Educational visits from schools accounted for around 58,000 visits by children to the site (both free and paid for trips)
- j) 71% of visitors drive fewer than 2 hours to the site, 92% fewer than 3 hours, and the remainder more than 3 hours.
- k) Given the Visitor Centre's rural location and lack of public transport options, a high proportion of visitors arrive at the site by car (66%) with 23% arriving by bus, the latter including group tour visits. The visitor survey reported 48% of international visitors arriving by car.
- l) There is a growing number of FIT (Fully Independent Travellers), who do not use the booking / travel agencies and drive to the site by car. This is reflected in an increasing number of arrivals by car (48% of international visitors drove to the site, according to the survey).

6.12.40 English Heritage estimates that more than half of all visitors to Stonehenge visit while on a longer holiday. They also note that over time the proportion of those on day trips and short breaks is increasing.

6.12.41 The National Trust provided basic data from a small sample survey carried out in 2017:

- a) Users accessing the site from northern entry points are a mix of local communities arriving on foot (34%) and visitors arriving by car (64%) from a local area within a 30 minute drive time.
- b) Users arriving close to the monument field arrive by car (87%) with a journey time averaging 90 minutes. These are likely to be day visitors, although it is not clear whether these users have or go on to visit the Visitor Centre.
- c) Reported uses on the northern side of the WHS include 55% walking, running or jogging, 33% dog walking and 31% using the area with family or friends.
- d) Monument field visitors predominantly visit the site to see the stones (89%) but also other monuments in the area (43%) and to experience the landscape (29%).
- e) There are a number of volunteer guided walks and National Trust Ranger-led events each year, although these numbers are small.

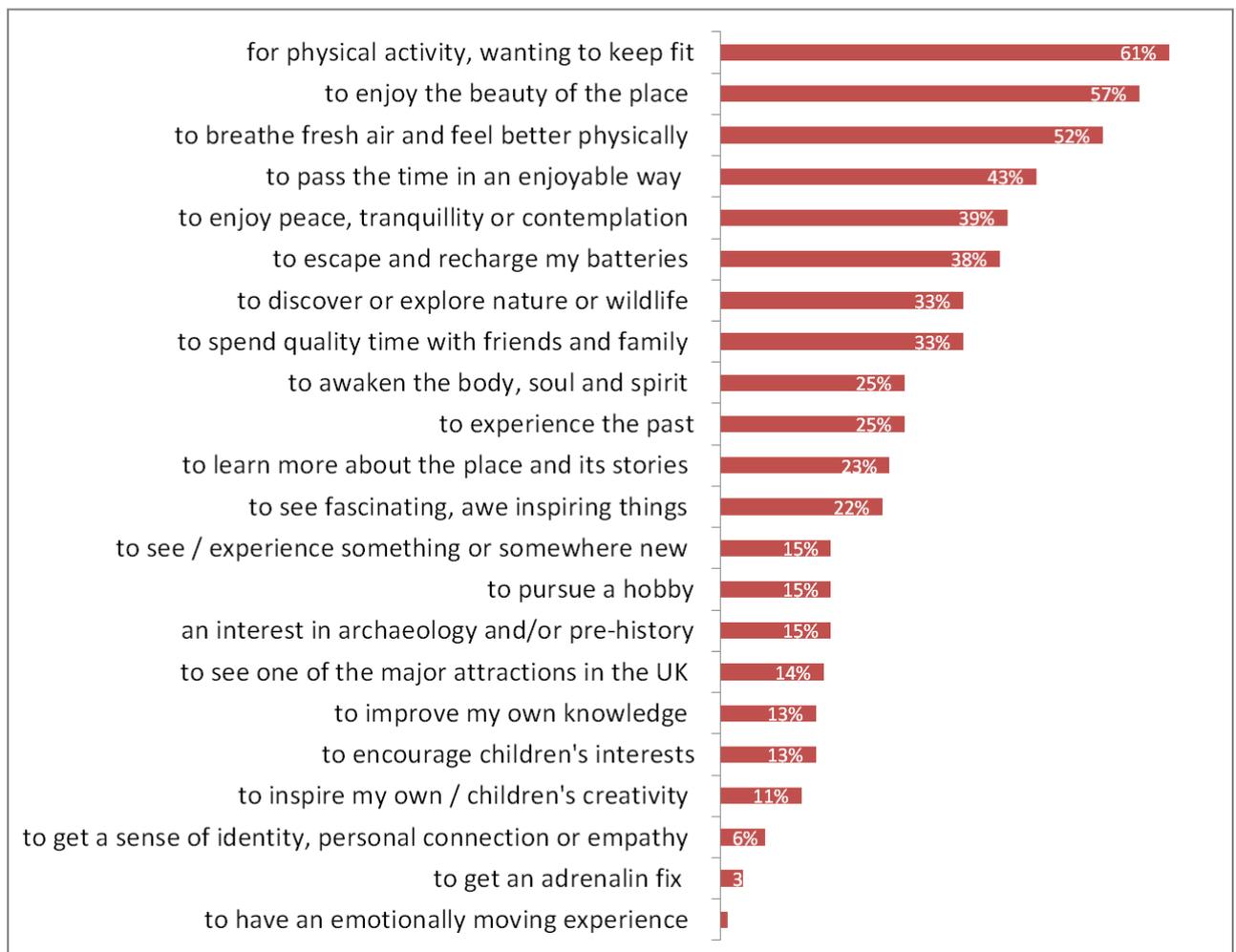
6.12.42 No National Trust visitor facilities are located on the WHS, and the Trust

holds no data about how visitors are using the wider area around the WHS.

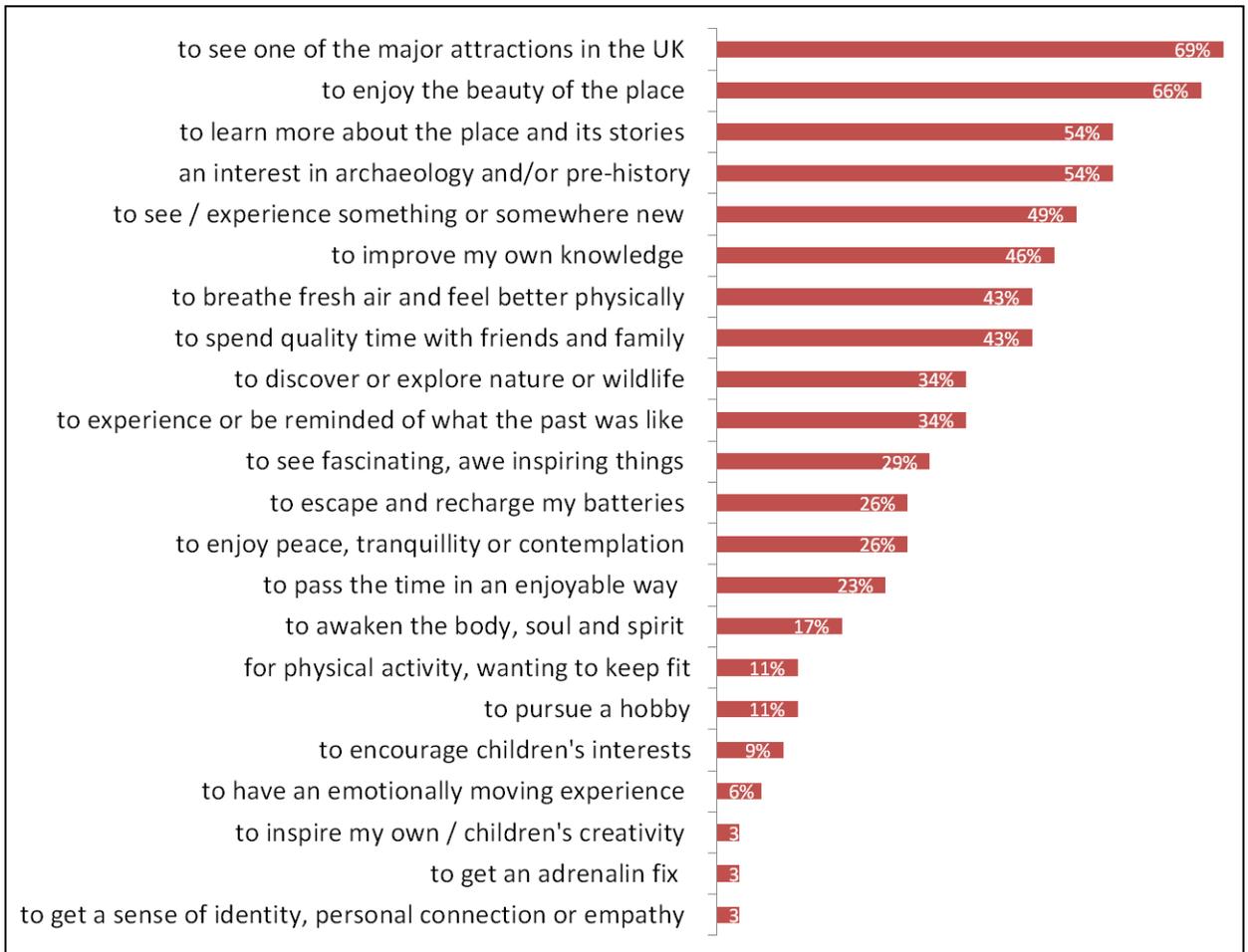
### Visitor experience

- 6.12.43 English Heritage’s Phase 1 Visitor Survey involved 114 interviews with existing users of the Stonehenge Landscape, 121 interviews with residents and 107 interviews with users of the A303. The Phase 1 Visitor Survey aimed to increase understanding of visitor behaviour and motivations.
- 6.12.44 As indicated in Chart 2 and Chart 3 below, there were differences between the principal motivations of those visiting the Stonehenge monument and those visiting the wider landscape.

**Chart 2: Visit motivations in the Stonehenge landscape (Source: Historic England and National Trust)**



**Chart 3: Visit motivations near the Stonehenge monument (Source: Historic England and National Trust)**



6.12.45 Visitor responses reflect the World Heritage Resource Manual’s ambition that ‘*The increasing emphasis on quality of life and well-being as the ultimate goals of development in global and national development agendas suggests that aspects such as creativity, spiritual fulfilment, knowledge and beauty might find their way into official statistics on social sustainability by making ‘culture’ and heritage legitimate and significant constituents of sustainable development*’ (UNESCO / ICCROM / ICOMOS / IUCN 2013).

### Visitor management

6.12.46 Visitor management and sustainable tourism challenges and opportunities are addressed by specific objectives in the 2015 WHS Management Plan.

6.12.47 A Limits of Acceptable Change model and Sustainable Tourism Strategy are currently in development by English Heritage and the National Trust which will address the question of how many people the Stonehenge

element of the WHS can cope with and manage sustainably. Damage caused by footfall is being monitored by English Heritage and the National Trust and action taken as appropriate.

- 6.12.48 Visitor congestion can have a negative impact on the visitor experience. Pre-booking visits results in less congestion but limits spontaneous visits when travelling through the area. Too many visitors on earthworks and unmetalled paths can have a negative impact on the integrity of the physical fabric and setting of monuments. Damage can be exacerbated by poor weather conditions. (Simmonds and Thomas 2015, 119; 133).
- 6.12.49 The development of new interpretation facilities at the Stonehenge Visitor Centre, which visitors are encouraged to explore prior to visiting the Stone Circle, aimed to improve the management of visitor flows, minimise dwell time and crowding at the most vulnerable points. The introduction of timed advance tickets has improved congestion. However, the increase in admission prices does not appear to have reduced visitor demand.

### Future growth

- 6.12.50 The total Stonehenge available tourist market has increased slightly since 2010, and is projected to increase year on year. There is a very modest growth in the domestic tourist market to the area, and a higher growth rate in the international tourist market.
- 6.12.51 The future operational growth potential of the attraction is limited by the environmental sensitivity of the WHS as well as the capacity of the existing amenities, including parking, public transport and accommodation. Any increases in visitor numbers for Stonehenge are only possible within the shoulder and low seasons.
- 6.12.52 Visitor numbers may see an increase during or following the development of the Scheme and in response to The Great West Way initiative to develop a tourist route along the A4 from London to Bristol (VisitWiltshire 2017).

## 6.13 Public understanding of OUV

- 6.13.1 The 2015 WHS Management Plan notes that *'Current public awareness of and access to heritage assets in the wider WHS landscape is generally low, particularly at Stonehenge in the south of the Site and the Avon Valley and at Avebury beyond the Henge and West Kennet Avenue. Attention is focused on the key sites, with little appreciation of the surrounding archaeological landscape. This concentration is due to a number of factors including:*

- a) *The direct vehicular access to Stonehenge and Avebury provided by the A303 and A4361*

- b) *The location of the car park and visitor facilities*
- c) *The restraints on physical access imposed by fast moving traffic on the A4 and A303, where there are no pedestrian or cycle crossing points*
- d) *The seemingly less significant and less dramatic nature of other archaeological components at Stonehenge*
- e) *The constraints imposed by the current pattern of land ownership and public access opportunities on foot, particularly to the south of the Site at Stonehenge and outside the village of Avebury*
- f) *Lack of adequate clearly marked WHS routes and circular walks.*  
(Simmonds and Thomas 2015, 133).

6.13.2 Ongoing visitor surveys are investigating how the knowledge and attitudes of visitors have changed due to new visitor itineraries and interpretation, and assessing whether this has led to the WHS's heritage values being better recognised and attracting support for its care.

## **6.14 Public visibility of monuments**

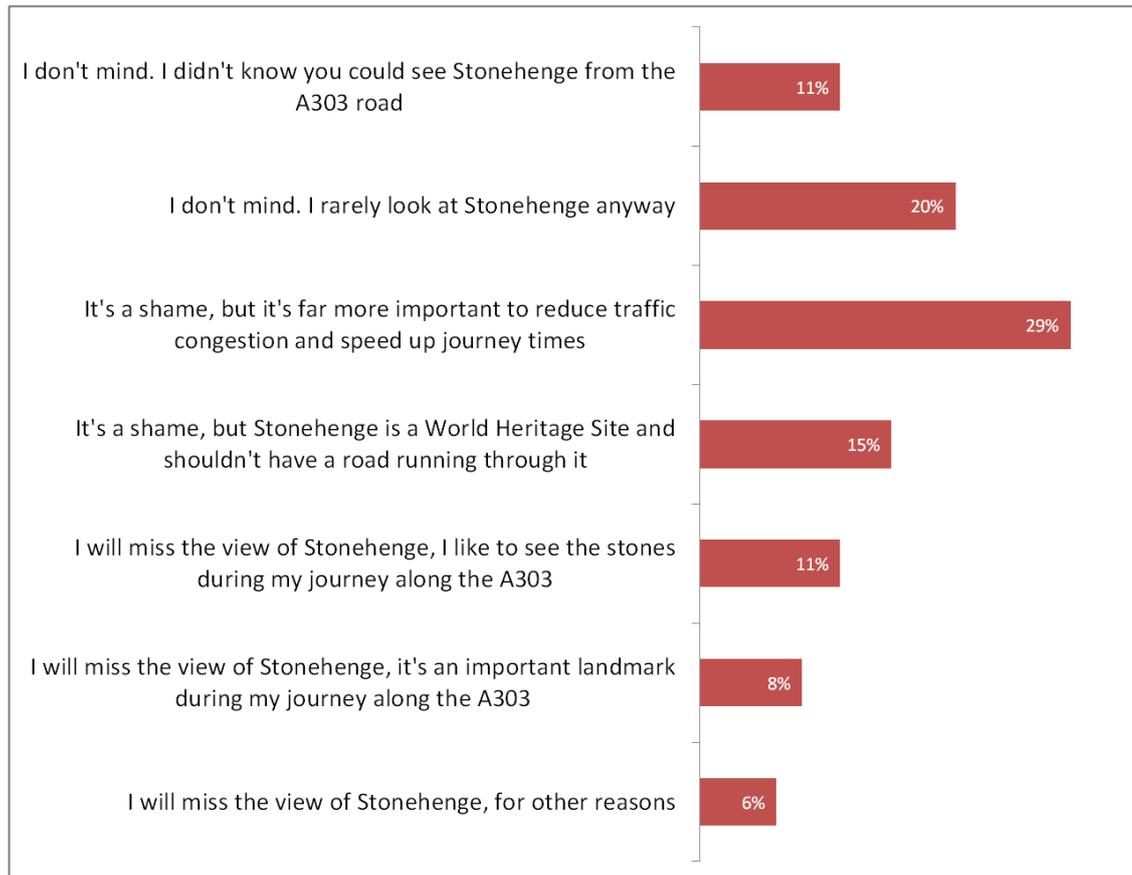
- 6.14.1 Parts of the Stonehenge, Avebury and Associated Sites WHS are currently visible from the A303, the A360, the B3086, the Packway, Countess Road / A345, Stonehenge Road, various minor roads and PRoWs and permissive open access land.
- 6.14.2 From within the central part of the WHS, the Stonehenge monument (AG22) is visible from the A303, Byways AMES 11 and AMES 12 (RV 18, RV 19, RV 20) and permissive open access land. There are glimpses from the Packway. These views are always seen in the context of vehicles on the existing A303 and other roads. Views of vehicles are considered to substantially detract from the scenic quality of the view and the perception of the Stones within an open landscape.
- 6.14.3 From further to the south of the existing A303, the undulating landform within the WHS and woodland clumps screen views of the Stones from parts of Byway WCLA1 (RV 15). From elevated parts of the WHS, such as King Barrow Ridge (RV 23, ES Figure 7.36), the Stones are seen as part of a wider agricultural landscape following the reversion of the former A344.
- 6.14.4 Although the motorist's view of the Stonehenge monument from the A303 is particularly notable, its setting and relationships can also be appreciated by looking at other monuments. Other prominent upstanding monuments are also readily visible from the existing A303, including:
  - Winterbourne Stoke Crossroads Barrows long barrow (AG12);

- Two round barrows north of the A303 in the Normanton Down Asset Group (AG19A) and the Sun Barrow (AG19A), south of the A303;
- Other barrows in the Normanton Down Asset Group, particularly those in the central part of the group (AG19B), which are particularly conspicuous when travelling from east to west;
- Barrows in the Stonehenge triangle including the Stonehenge Down Barrows (AG21);
- The Cursus Barrows (West) (AG18), particularly evident when travelling from east to west; and
- The King Barrows – the New King Barrows (AG26B) are particularly striking in views travelling from west to east.

### **Attitudes reported in English Heritage's Phase 1 Visitor Survey**

- 6.14.5 English Heritage's Phase 1 Visitor Survey indicated that 75% of A303 travellers don't mind losing the view of Stonehenge or believed that the loss of the view was less important than reducing traffic or protecting the WHS. The results of this survey are provided in Chart 4. The survey also found that people were willing to walk up to 10 minutes for a view of Stonehenge. However, if they have to walk any further, then the number of people happy to do so decreases.

**Chart 4: English Heritage Phase 1 Visitor Survey of A303 users on the loss of the view**



### Public visibility of heritage attractions

- 6.14.6 Free views of other heritage attractions have been considered in order to inform assessment of the loss of the free view of the Stonehenge monument from people in vehicles travelling along the A303. It considers World Heritage properties in the UK and British Overseas Territories, the most visited Historic England and National Trust sites in England, and the most visited paid and free non-Historic England and non-National Trust attractions. Sites have been selected based on data from ALVA's Visits Made in 2017 to Visitor Attractions in Membership with ALVA; VisitEngland's 2016 Attractions Survey: Annual Survey of Visits to Visitor Attractions and the National Trust Annual Report 2016 / 17.
- 6.14.7 There are 31 WHSs in the United Kingdom and the British Overseas Territories. The majority are visible from the public highway. However, some sites set in parkland or walled estates can only be seen from roads in glimpsed views (e.g. Studley Royal Park (WHS Ref. 372bis); Royal Botanic Gardens, Kew (WHS Ref. 1084); Blenheim Palace (Ref. 425)). Most sites, however, can be viewed from public paths and PRow. Although many sites are visible without payment of an admission fee, the

free view will frequently comprise only the external parts of the attraction, e.g. gardens, parkland; with a separate charge being levied for entry to particular elements. Most of the WHSs contain elements which charge an admission fee; some religious sites suggest a donation (e.g. Bath Abbey (part of City of Bath WHS Ref. 428); Durham Cathedral (part of WHS Ref. 370bis)).

- 6.14.8 Of the top 10 most visited paid non-Historic England and non-National Trust sites in the UK, three are zoos (Chester Zoo, Flamingo Land, ZSL London Zoo), two are gardens (Royal Botanic Gardens, Kew (WHS Ref. 1084); RHS Garden Wisley) and two are major London cathedrals (St Paul's Cathedral; Westminster Abbey, WHS Ref. 426bis). Although the Tower of London (WHS Ref. 488) is visible from nearby streets, only the exterior is visible without payment of an admission fee.
- 6.14.9 The top 10 most visited National Trust sites in England include six country houses, three former abbeys and the castle and chapel at St Michael's Mount. Relatively few of these are readily visible from the public highway, as many of the sites are surrounded by former private parkland estates. Only four sites are visible from PRowS. Admission fees are payable at all the attractions.
- 6.14.10 Of the top 10 most visited free non-Historic England and non-National Trust sites in the UK, eight are museums or galleries (British Museum; National Gallery; Tate Modern; Natural History Museum; Somerset House; Science Museum; Victoria and Albert Museum; National Portrait Gallery); the other two are Brighton Pier and the British Library. All of these free attractions are visible from the public highway.
- 6.14.11 Although many heritage attractions are not readily visible from the public highway, elements of most can be viewed from PRowS. Although 'free' views of heritage attractions may only mean viewing the outside of a particular element of the attraction from a distance, 'free' views of iconic sites can be important to local people and visitors alike.

## **6.15 Archaeoastronomical aspects**

### **Nomination and inscription criteria**

- 6.15.1 According to the original nomination document, the astronomical alignment of Stonehenge towards the rising sun at summer solstice was important from the second phase of construction during the later Neolithic. The Sarsen circle of the third phase is the most developed example of henge architecture in prehistoric Europe, and has been subject to numerous astronomical and calendrical studies, indicating the detailed astronomical knowledge of Neolithic communities in Wessex (HBMCE 1985, 4). This was accepted by ICOMOS which recognised that although the ritual function of the monument was not known in detail, the cosmic

references of its structure were essential, the apparent point of sunrise at the winter and summer solstices providing obvious reference marks (ICOMOS 1986, 1). The advisory body for UNESCO also noted that while the old theory that the site was a sanctuary for the worship of the sun was not the subject of unanimous agreement among prehistorians, the site was host to an annual midsummer ceremony during which there was a folkloric procession of bards and druids (ICOMOS 1986, 2).

6.15.2 The third inscription criterion states the following:

- ‘[...] *The design, position and inter-relationship of the monuments and sites are evidence of a wealthy and highly organised prehistoric society able to impose its concepts on the environment. An outstanding example is the alignment of the Stonehenge Avenue (probably a processional route) and Stonehenge stone circle on the axis of the midsummer sunrise and midwinter sunset, indicating their ceremonial and astronomical character [...]*’ (HMBCE 1985).

### Adopted Statement of OUV

6.15.3 Chadburn and Ruggles (2017, 56) additionally consider that Stonehenge might meet two more criteria with respect to its astronomical importance, the fourth and sixth criteria of SoOUV.

- The fourth criterion states that a site must ‘*be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage (s) in human history*’; and
- The sixth criterion states that the site ‘*be directly or tangibly associated with events or living traditions, or with beliefs, with artistic and literary works of outstanding universal significance*’.

### Attributes of Outstanding Universal Value

6.15.4 The fourth Attribute of OUV, ‘The design of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the skies and astronomy’, relates directly to astronomical aspects. Astronomical studies of the WHS have identified the monuments that convey the fourth Attribute of OUV (Ruggles 1997; Ruggles and Cotte 2010; Chadburn 2010; Chadburn and Ruggles 2015; Chadburn and Ruggles 2017).

*‘One of the most important features of Stonehenge – one that has been recognised since the 18<sup>th</sup> century when it was noted by the antiquarian William Stukeley – is that its principal axis of symmetry is aligned upon winter solstice (“midwinter”) sunset in one direction and summer solstice (“midsummer”) sunrise in the other. We now know that a number of other prehistoric sites in the Stonehenge WHP also*

*have astronomical significance, with some monuments oriented towards midwinter sunset and / or midsummer sunrise and others towards midsummer sunset or midwinter sunrise (Ruggles 2006; 2014).’ (Chadburn and Ruggles 2015).*

*‘Although the summer solstice is the main focus for modern celebrations, most scholars consider it much more likely that the stones were originally used mainly at midwinter (Ferne 1994, 155–156). This approach has been given further credence by the results of a laser scan at Stonehenge commissioned by English Heritage in 2011 which revealed that much more care was taken in dressing the stones that would be visible when approaching the monument from its Avenue: the stones in the Sarsen Circle from this vantage were all completely pick-dressed to remove any uneven surface. By contrast, the stones at the very ‘back of the monument were not dressed or shaped with the same care and attention (Abbott and Anderson-Whymark 2012).’ (Chadburn and Ruggles 2017, 44–5).*

*‘The north-west to south-east axis of the station-stone rectangle at Stonehenge – the latter arrangement remains the most plausible example of a possible alignment upon the moon when close to its most southerly rising or most northerly setting points’ (Simmonds and Thomas 2015, 33).*

*‘Part of the Stonehenge Avenue (c.2,300BC) is itself aligned along the main ‘solstitial axis’ of Stonehenge, and this part is still visible as an earthwork. Excavations and geophysical surveys have revealed buried linear geological features known as periglacial stripes, which might have been visible above ground during prehistory, for example, through differential vegetation growth. In places, some of these stripes appear to be aligned on the solstitial axis, and the Avenue may have been built to formalise this natural phenomenon.*

*Also built around 2,500 to 2,300BC were a number of other monuments, including Durrington Walls henge and Woodhenge, which also appear to contain solstitial alignments. At Woodhenge, the solstitial alignment is manifested in the oval shape of its concentric timber rings, rather than the position of the earthwork henge entrance’ (Chadburn and Ruggles 2017, 45).*

*‘In addition, the solstitial sightline extending south-eastwards from the Southern Circle at Durrington Walls is also of importance. The entrance of the Southern Circle, a set of six concentric timber rings that stood within Durrington Walls, was aligned south-eastwards towards midwinter sunrise, whereas the short Avenue – the Southern Circle Avenue – was approximately aligned upon the mid-summer sunset towards the north-west’ (Chadburn and Ruggles 2017, 48).*

## ICOMOS-International Astronomical Union studies

- 6.15.5 The ICOMOS-International Astronomical Union thematic study on astronomical heritage identifies significant astronomical alignments in the Stonehenge WHS, with reference to the sites and components that might carry the OUV of the WHS in relation to astronomy (Chadburn and Ruggles 2017, table 4.1). Significant astronomical alignments are summarised in Table 7. The full report is contained in HIA Annex 5.

**Table 7: Significant astronomical alignments in the Stonehenge WHP, with reference to the sites and components that might carry the OUV of the WHS in relation to astronomy (Chadburn and Ruggles 2017, table 4.1)**

Attribute of OUV	Component	Likely alignment and date of construction
4. The design of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the skies and astronomy	Stone settings at Stonehenge (Bluestone and Trilithon horseshoes, Bluestone Circle, Sarsen Circle, Slaughter Stone and its companion, Heel Stone and its companion), and the relevant sightlines and horizons	Midwinter sunset (but could also be midsummer sunrise) c. 2,500 BC
	Stonehenge Avenue (straight segment closest to Stonehenge) and the relevant sightlines and horizons	Midwinter sunset (but could also be midsummer sunrise) c. 2,300 BC
	Woodhenge and the relevant sightlines and horizons	Midwinter sunset (but could also be midsummer sunrise) c. 2,500 BC
	Southern Circle, Durrington Walls and the relevant sightline and horizon	Midwinter sunrise c. 2,500 BC
	Southern Circle Avenue, Durrington Walls and the relevant sightline and horizon	Midsummer sunset c. 2,500 BC
	Stonehenge Station-Stone rectangle and the relevant sightlines and horizons	Most southerly moonrise / most northerly moonset and Midsummer sunrise / midwinter sunset c. 2,500 BC

### *Identification of astronomical alignments and sightlines*

- 6.15.6 There is much debate about the way in which the design and siting of Neolithic and Bronze Age funerary and ceremonial monuments relate to the sky and astronomy. It is generally agreed that the solstitial alignments of Stonehenge itself are a key element in its design – important

astronomical alignments are apparent through key sight-lines in the WHS landscape and its setting. These have not been impaired by intrusive structures since the site was inscribed in 1986 (Young *et al.* 2009, 33).

- 6.15.7 *'Other sites for which solstitial alignments have been claimed include [AG29] Coneybury henge (SU 1344 4160) and a "new henge" discovered in 2010 by the University of Birmingham. However, the possible alignments at both of these sites are very broad and it is difficult to be sure that they were intentional; Coneybury has recently been discounted in any case (Ruggles, 2006, 17). Nor is there strong evidence that the earthwork enclosures themselves (e.g. at Woodhenge and Durrington Walls) were deliberately aligned (ibid, 20). It has also been suggested that the Northern Circle at Durrington Walls (SU 1518 4379) may have solstitial alignments, but there is not enough evidence to consider them further. A setting of six timber postholes known as Durrington 68 (SU 1513 4325) has also been claimed to face midwinter sunrise, but this has recently been discounted (Ruggles 2014, 1233). Other monuments such as the [AG23] Greater Cursus have recently been claimed to have alignments: Gaffney *et al.* (2012, 154) consider that there are two large pits that line up with the Heel Stone to form solstitial alignments. However, as it is also clear that there are other pits within the Cursus, and as the relevant fieldwork has not yet been fully published, it is not easy to assess these claims. None of these alignments will be considered further here, although it is possible—perhaps even likely—that other astronomical alignments and sites existed within the WHP and are waiting to be discovered.'* (Chadburn and Ruggles 2015).
- 6.15.8 The ICOMOS-International Astronomical Union thematic study (Chadburn and Ruggles 2017) notes that six monuments in the Stonehenge WHS are considered to have significant astronomical alignments:
- a) AG33 – Durrington Walls, Woodhenge and Associated Sites.  
Durrington Walls – Southern Circle, Durrington Walls and the relevant sightlines and horizon;
  - b) AG33 – Durrington Walls, Woodhenge and Associated Sites.  
Durrington Walls – Southern Circle Avenue, Durrington Walls and the relevant sightlines and horizon);
  - c) AG33 – Durrington Walls, Woodhenge and Associated Sites.  
Woodhenge and Associated Sites – timber circles rings C–F and grave and the relevant sightlines and horizons);
  - d) AG27 – The Avenue – Stonehenge Avenue (straight segment closest to Stonehenge) and the relevant sightlines and horizons;
  - e) AG22 Stonehenge – Stone settings at Stonehenge: Bluestone horseshoe, Trilithon horseshoe, Bluestone Circle, Sarsen Circle,

Slaughter Stone and its companion, Heel Stone and its companion, and the relevant sightlines and horizons; and

- f) AG22 Stonehenge – Stonehenge Station-Stone rectangle, and the relevant sightlines and horizons.

6.15.9 This HIA assesses Scheme impacts upon these six monuments and their astronomical alignments (HIA Section 6.9, Asset Groups and HIA Section 6.10, Discrete and isolated assets).

*Integrity and authenticity of astronomical alignments and sightlines*

6.15.10 The ICOMOS-International Astronomical Union thematic study considers in detail the integrity and authenticity of astronomical alignments and sightlines, with reference to the sites and components that might carry the OUV of the WHS in relation to astronomy (Chadburn and Ruggles 2017). The study notes:

*[...] It is generally agreed that the solstitial alignments that form such a key element of the design at Stonehenge itself have not been impaired by intrusive modern structures, although the companions to the Heel Stone and Slaughter Stone are missing, as are some stones in the Sarsen Circle.*

*However, three monuments with astronomical significance have been directly damaged, all by roads. These are the Durrington Walls Avenue, the Durrington Walls Southern Circle, to which it leads, and the Stonehenge Avenue. The 200-year-old A344 road, which cut off the Stonehenge Avenue from Stonehenge itself (see Fig. 4.3), was of concern to UNESCO at the time of inscription in 1986, and the British Government promised to close the road. Happily, this took place in 2013 as part of the Stonehenge Environmental Improvements Project, and Stonehenge is once again connected with its Avenue for the first time since at least the 18<sup>th</sup> century, when the turnpike road that became the A344 was first constructed. A modern embanked road (the A345) cuts across the Durrington Walls Avenue, and also buries part of the Southern Circle. The integrity of these important monuments is badly compromised by the presence of this road.*

*[...] In prehistory, one or more observers would probably have stood at an appropriate point and viewed the sun or moon appearing or disappearing behind a distant horizon at specific times of the year. Thus, clear and unobstructed sightlines and horizons are important to aid our understanding of how these monuments functioned. Although the sightlines [...] are generally understood, it has not always been a straightforward matter to identify the ridge-line or horizon that would have originally been used, especially where*

*intervening woods, road embankments and / or buildings currently block the view.'*

- 6.15.11 The astronomical sightlines identified in this study are illustrated in HIA Figure 19.
- 6.15.12 The IAU study assesses the integrity of the astronomical components of the WHS, with the proviso that the relevant horizons are not yet fully understood. This detailed work needs to be done as part of the setting study and boundary review, which are currently in progress. The study notes that the stone settings at Stonehenge, Woodhenge and the Stonehenge station-stone rectangle and their relevant sightlines and horizons generally have good integrity. The Stonehenge Avenue (straight segment closest to Stonehenge) and the relevant sightlines and horizons) was bisected for 200 years by the A344; this road was removed in 2013. The Southern Circle and the Southern Circle Avenue at Durrington Walls, and the relevant sightline and horizon, are partly under the large A345 road embankment. (Chadburn and Ruggles 2017, table 4.2).
- 6.15.13 Although the sightlines are generally understood, it has not always been a straightforward matter to identify the ridge-line or horizon that would have originally been used, especially when intervening woods, road embankments and buildings currently block the view (Chadburn and Ruggles 2017, 50). The study assumes *'that they were largely kept clear in the Neolithic and Bronze Age, so that the monuments could be used in the way in which we presume they were used, with the sun or moon rising or setting behind distant horizons visible from the monuments themselves'* (Chadburn and Ruggles 2017, 51).
- 6.15.14 The sightline from Stonehenge and the Stonehenge Avenue looking south-west (midwinter sunset), which shares the same alignment, is marred by *'the A303 (0.5km), which runs relatively close to the monument, and presents a considerable visual and noise intrusion to this alignment.'* The sightline to the Sun Barrow is intact (0.9km), but,  
  
*'the sightline then quickly runs into the plantation known as Normanton Gorse (1.1km), which obscures it. Still further south-west is another plantation known as The Diamond (2.2km), before the alignment continues towards the place that would form the visible horizon from Stonehenge in the absence of intervening vegetation, a hill WNW of Druid's Lodge to the west of the A360 road (and outside the WHP) (4.4km). This horizon is also obscured by yet another plantation, at The Park.'* (Chadburn and Ruggles 2017, 51).
- 6.15.15 The integrity of the sightline from Stonehenge and the Stonehenge Avenue looking north-east (midsummer sunrise), which shares the same alignment,

*'[...] is good for 1.7km until it hits the line of trees to the immediate north of the Cursus which obscure it (these were planted to screen the view of the Steel Houses from Stonehenge). Further to the north-east, by good fortune it avoids buildings within the Larkhill Garrison (although not some garrison roads), and its final horizon is probably the ridge along which the Packway road runs (3.0km). Alternately, it may continue into the Salisbury Plain Training Area, with the visible horizon formed by a ridge just to the south of Sidbury Hill hillfort, some 12km from Stonehenge. It is difficult to check which ridge forms the final horizon because of the Cursus Northern Plantation, which compromises all views further to the north-east [...]' (Chadburn and Ruggles 2017, 52).*

- 6.15.16 The integrity of sightlines from the Stonehenge Station-Stone rectangle looking south-east (southernmost moonrise) is marred by,

*'[...] the A303 (0.2km), which runs relatively close to the monument, and presents a considerable visual and noise intrusion to this alignment. Further south-east, it is obscured by the Luxenborough Plantation (1.0km), which obscures the first ridge line it hits at Coneybury Hill. The alignment continues over the Avon Valley and outside the WHP boundary. It just misses the Field Barn Buildings (4km) on the east side of the Avon, but is further obscured by the Cocked Hat plantation (5km), which lies near another ridge line on which the A345 runs. After crossing the A345 (where there is some new planting which will also grow and obscure the line more in future), the alignment runs as far as the chalk ridge on which the hillfort of Figsbury Ring sits (10.5km), where its original horizon was probably located (but passing just north of Figsbury Ring itself, and to the south of the highest point of the ridge).' (Chadburn and Ruggles 2017, 53).*

- 6.15.17 Sightlines from the Stonehenge Station-Stone rectangle looking north-west (northernmost moonset),

*[have] relatively good integrity for some distance. The A344 has been closed, and from Stonehenge the alignment runs north-west through the WHP to the Lesser Cursus ridge-line, then runs outside the WHP into the Salisbury Plain Training Area with few interruptions. It is obscured by the caravan park at the Bustard Inn (5km), and its final horizon may have been the ridge at Westdown Artillery Range (12km), subject to confirmation by computer modelling.' (Chadburn and Ruggles 2017, 53).*

- 6.15.18 The sightline from Woodhenge looking north-east (midsummer sunrise),

*'[...] is a relatively well preserved alignment. Although it runs through groups of buildings in the village of Durrington, these are*

*relatively low-lying and do not obscure it. The final horizon appears to be outside the WHP at Silk Hill in the Salisbury Plain Training Area (5.3km).’ (Chadburn and Ruggles 2017, 53).*

6.15.19 The sightline from Woodhenge looking south-west (midwinter sunset),

*‘[...] is a relatively well-preserved sightline as far as its horizon, which is probably at King Barrow Ridge (2.0km), which sits slightly higher than Woodhenge. It is difficult to be precise about this because today there are numerous trees on the ridge that forms the horizon, together with the Stonehenge Cottages and also the New King Barrows themselves, although the sightline is well preserved up until this point. If the alignment continued, it would eventually hit the Lake Barrow Group (5km).’ (Chadburn and Ruggles 2017, 54).*

6.15.20 The sightline from the Southern Circle, Durrington Walls, looking south-east (midwinter sunrise),

*‘[...] is wholly destroyed by the embankment of the A345, which sits over half the monument. If it were not destroyed, the alignment would swiftly run south-east outside the WHP over the Avon Valley and into the modern industrial development of Solstice Park (whose name is coincidental). The horizon for this alignment is the Earl’s Farm Down ridge (4.2km), near to Stonehenge World Heritage Property 55 round barrow group SM 28925 and Bowl Barrow SM 28946. Despite much development in this area, this horizon appears to be intact, with large modern buildings currently sitting below it.’ (Chadburn and Ruggles 2017, 54–55).*

6.15.21 The sightline from the Southern Circle Avenue, Durrington Walls, looking north-west (midsummer sunset),

*‘[...] is wholly destroyed by the embankment of the A345, which sits over part of the Avenue, severing the Avenue from the Southern Circle. If the road were not there, the horizon for this sightline would be the north-westerly banks of Durrington Walls henge (0.7km).’ (Chadburn and Ruggles 2017, 55).*

**Table 8: Summary of the integrity of astronomical sightlines within the Stonehenge WHS (Chadburn and Ruggles 2017, 54); see also HIA Figure 19.**

	Sightline	Integrity	Horizon
1	Stonehenge looking south-west (midwinter sunset)	Line obscured by A303 and several plantations.	Probably hill 1km to WNW of Druid's Lodge (4.4km).
2	Stonehenge looking north-east (midsummer sunrise)	A344 now closed, but line obscured by a plantation and the Packway Road.	Packway ridge (3.0km) or Sidbury Hill, south of hillfort (12km). The latter intact, the former obscured.
3	Stonehenge Avenue looking south-west (midwinter sunset)	Line obscured by A303 and several plantations.	Probably hill 1km to WNW of Druid's Lodge (4.4km).
4	Stonehenge Avenue looking north-east (midsummer sunrise)	A344 now closed, but line obscured by a plantation and the Packway Road.	Packway ridge (3.0km) or Sidbury Hill, south of hillfort (12km). The latter intact, the former obscured.
5	Stonehenge Station-Stone Rectangle looking south-east (southernmost moonrise)	(This is assessed as a single line in the landscape, not two parallel lines). Line obscured by A303 and several plantations.	Probably the ridge line on which Figsbury Ring hillfort sits (10.5km). Intact.
6	Stonehenge Station-Stone Rectangle looking north-west (northernmost moonset)	(This is assessed as a single line in the landscape, not two parallel lines). Relatively good for several km.	Probably Westdown Artillery range (12km). Intact.
7	Woodhenge looking north-east (midsummer sunrise)	Relatively good for several kilometres.	Silk Hill (5.3km). Intact.
8	Woodhenge looking south-west (midwinter sunset)	Good.	Probably King Barrow Ridge (2.0km) Exact point obscured by trees.
9	Southern Circle, Durrington Walls, looking south-east (midwinter sunrise)	Destroyed by A345 embankment.	Earl's Farm Down Ridge (4.2km). Intact.
10	Southern Circle Avenue, Durrington Walls, looking north-west (midsummer sunset)	Destroyed by A345 embankment.	Durrington Walls henge banks (0.7km). Intact.

## Planning policy and archaeoastronomy

- 6.15.22 Within the Stonehenge and Avebury Management Plan (2015), it is stated that it is policy to maintain and enhance the setting of monuments and sites in the landscape and their inter-relationships and astronomical alignments with particular attention given to achieving an appropriate landscape setting for the monuments and the WHS itself (Policy 3c). A series of actions are recommended including the identification of key views between the Attributes of OUV and both into and out of the WHS. Key astronomical alignments are to be identified as part of this process (Simmonds and Thomas 2015, 105, 193 and 209). It is also recognised that the WHS landscape can be improved by the removal, redesign or screening of existing intrusive structures such as power lines, fences and unsightly buildings where opportunities arise (policy 3d) (Simmonds and Thomas 2015, 193).
- 6.15.23 In the Wiltshire Core Strategy, it is also recognised that development should be supported that reduces the negative impact of roads, traffic and visitor pressure in the WHS. The policy includes requirements that light pollution and sky glow could adversely affect the Attributes of the OUV of the Stonehenge WHS (Simmonds and Thomas 2015, 158).

## 6.16 Intangible cultural heritage

### Spiritual aspects

- 6.16.1 Spiritual aspects of the WHS are outlined in the Stonehenge WHS Strategy for Interpretation, Learning and Participation 2010–15 (English Heritage 2011). It notes that:

*‘Stonehenge continues to have a role as a sacred place of special religious and cultural significance in the minds of some people. Despite the proximity of roads and the large numbers of visitors, Stonehenge can still inspire a strong sense of awe and humility and is widely viewed as an ancient and mystical place.*

*The Druids have become associated with Stonehenge perhaps more than any other group. Modern Druids are a diverse body of sacred and secular worshippers, each group having their own particular tenets and beliefs. Ancient Druids are described in classical sources as members of a priestly and learned class active in Gaul and Britain during the final centuries BC.*

*The history of the Druids first became entwined with Stonehenge through the theories of early antiquarians, particularly William Stukeley. As they were the only influential pre-Roman people of Britain to be described in written records, they were presumed to have been the builders of such megalithic ‘temples’. However, there*

*is no direct connection between these Iron Age Druids and the modern Druids who celebrate the solstice and other festivals at Stonehenge and Avebury every year, even though some do claim ancestry back into prehistory.*

*Recent solstice celebrations began with modern Druid gatherings in the early 20<sup>th</sup> century. By the 1960s the Druids were joined by members of various counterculture groups and pagans who were reviving pre-Christian religions. This grew to become the Stonehenge Free Festival, held on National Trust land close to Stonehenge from 1972 to 1984, centred on the summer solstice. The festival was a celebration of alternative culture and included live music and drug use. By the 1980s the festival had grown to be a major event attracting up to 65,000 people by 1984.*

*More than a decade of conflict and tension between the authorities and revellers culminated in the infamous Battle of the Beanfield in 1985. For many years Stonehenge was closed to the general public at the solstice. In 2000, English Heritage was able to reintroduce access to Stonehenge during the summer solstice, and this popular event continues; some 20,000 people visited the site during the evening of 20 / 21 June 2010.'*

- 6.16.2 In 2017 around 13,000 people attended Stonehenge for the summer solstice. In 2018, up to 25,000 people were expected to attend the overnight celebration of the longest day of the year (The Independent, 21 June 2018).
- 6.16.3 A significant aspect of visitor motivations at Stonehenge is religious tourism, which has been described as '*comprising the visiting of a variety of spiritual sites and their related services, which are visited for [both] nonspiritual and religious reasons*' (Raj, Griffin and Blackwell 2015, 105).
- 6.16.4 Spirituality can be experienced by adherents of formal religions, agnostics and atheists alike. It is also experienced by neo-Pagan adherents. This spiritual value is reflected in the motivations for visiting reported in English Heritage's Phase 1 Visitor Survey, with respondents noting that, *among other reasons, they come 'to enjoy the beauty of the place', 'to enjoy peace, tranquillity or contemplation', 'to awaken the body, soul and spirit', 'to see fascinating, awe-inspiring things', 'to get a sense of identity, personal connection or empathy' and 'to have an emotionally moving experience'*. These spiritual aspects were more significant in visitors to the wider Stonehenge landscape, although they did motivate some visitors to Stonehenge itself (see HIA Section 6.12 Tourism and visitor experience: Visitor experience; Chart 2 and Chart 3).
- 6.16.5 Those visiting Stonehenge with primarily spiritual motivations include both local residents and people from further afield.

- 6.16.6 Stonehenge and the surrounding landscapes are sacred to some neo-Pagan groups, where the spirit of place inspires meditation, celebration, and communication with deceased ancestors and other spirits (Powell 2003, 36). Stonehenge is important to some individuals and groups who view *'prehistoric monuments as living places imbued with sacred energy and not as relics from a completed past'* (English 2002, 8). Journeys range from highly individual pilgrimages to organised group travel.
- 6.16.7 *'As part of their sun veneration, Druids, Wiccans, and other neo-pagans began to worship the solstice at Stonehenge in the late nineteenth century. Druids in particular see Stonehenge and Avebury as the center of the ancient Druidic tradition and an important part of their identity, and many believe the mysterious henges scattered throughout Britain were original Druidic temples and played an important astronomical role in the lives of their builders (Almond 2000; Bender 1999; Darvill 1997). While this is only one view of their origins, pagans, and by extension New Agers, see these sites as their spiritual heritage and expect to have free access to them. Nonetheless, English Heritage, the public body that controls Stonehenge and several other neolithic henges, began curtailing access to Stonehenge in the late 1970s as a result of wear and tear on the physical structure. This led to major confrontations between pagan worshippers and government officials / police in 1984. As a result, the UK government restricted access to the site, not allowing believers to celebrate the solstice as they had done since the 1800s. Following years of dispute and negotiations, the monument was re-opened in 1998 for limited use on summer solstice, but in 2000 open worship by Druids, Wiccans and New Agers was allowed, albeit with highly restricted hours and strict behavioral guidelines (Almond 2000; English 2002; Roberts and Everton 2002). In 2000, thousands of solstice pilgrims flocked to Stonehenge. Since then the number has nearly doubled each year, with 30,148 pagans and New Agers reported worshipping the sun at the monument in 2003 (Powell 2003).'* (Timothy and Conover 2006, 148–149).
- 6.16.8 Access for Druid, Wiccan, Heathen, Pagan and New Age observances such as at the Summer and Winter Solstices and the Spring and Autumn Equinoxes continues to be managed through the Sacred Sites Forum led by the National Trust, and the Solstice Operational Planning meetings include representatives from the relevant WHS partner organisations and the local community (Simmonds and Thomas 2015, 49; Young et al. 2009, 109).
- 6.16.9 Druid, Wiccan, Heathen, Pagan and New Age knowledge regarding sacred sites can contrast with normative, mainstream and recent academic interpretations of sites. The mystical significance ascribed to sacred sites may not align with the significance ascribed to sites through formal heritage assessment and the planning system. There is a great plurality and complexity in interpretations, due to the diverse and

subjective nature of the beliefs of individuals and groups. New folklore and narratives are continually developing, drawing on sources ranging from new archaeological discoveries to historical folklore, personal spiritual insights and observations, and events, such as clashes with authority (Wallis and Blain 2003).

*'Although the solstitial alignment of Stonehenge and its avenue has been long known, it was only in the 1960s that claims were widely accepted for Stonehenge's role as an astronomical observatory or computational calendar. From Alexander Thom's astronomical investigations (1967; 1971; Thom and Thom, 1974) to Gerald Hawkins' proposition amongst other things that the circle of 56 Aubrey Holes within the circuit of Stonehenge's bank and ditch could be used to predict lunar and solar eclipses (1965), Stonehenge gained a new and sensational reputation as a repository of the ancients' lost knowledge. As the counter-culture of the 1970s and early 1980s claimed Stonehenge as spiritual inspiration for a lost world of mysticism, so the archaeological 'fringe' imputed a new range of earth mysteries, ley lines and hidden forces responsible for Stonehenge's location and raised stones [...] the views of professional archaeologists had largely separated from those of numerous amateur enthusiasts pursuing alternative theories about earth and sky mysteries, ley lines, astrology and megalithic yards, a split that remains today.'* (Parker Pearson 2013).

- 6.16.10 Ley-lines are theoretical alignments of natural landmarks, religious sites and human constructions. Some believe that they are straight, navigable paths and that they have spiritual significance, or that they emanate psychic or mystical energy. Although their existence is disputed, they are endorsed by adherents of the earth mysteries movement.
- 6.16.11 Although spiritual practices and activities can impact upon sacred sites and challenge the preservation ethic of heritage management, groups have also acted as the guardians of monuments, supporting the preservation, conservation and restoration of sites (Wallis and Blain 2003).
- 6.16.12 Consultation was undertaken with members of the Druid Order on 18th April 2018, involving a walk through the landscape where they highlighted significant places of ritual or memory, and described their relationship with monuments and the landscape. David Lomax, Chief Druid and Brenda Sanderson of the Druid Order indicated that the following elements of the landscape were particularly significant to them:
- The Avenue (AG27), particularly the western bend towards Stonehenge Circle;

- Stonehenge Circle, the Station Stones and the Heel Stone (AG22). Some members of this group believe that the five trilithons of Stonehenge represented the planets visible with the naked eye (Mercury, Venus, Mars and Jupiter and Saturn) (Postins 1982);
- The Sun Barrow, a prominent barrow in the Normanton Down group (AG19A) located on the solstitial alignment of the midsummer sunrise towards Stonehenge;
- The ‘mother mound’, a Bronze Age barrow (burial mound) on Normanton Down (AG19B), south-east of Normanton Gorse. Normanton Gorse is the location of overnight vigils, partly due to solstitial alignments and prominent barrows, but also for practical reasons, due to the landowner’s permission and the presence of a standpipe in Normanton Gorse; and
- The King Barrows (AG26), which they call ‘Seven Kings’ mounds’, east of Stonehenge, in particularly the New King Barrows (AG26B) that are particularly prominent, north of Stonehenge Cottages.

6.16.13 In addition, they have memories associated with the places and events of the Stonehenge Free Festivals in 1970s and 1980s. They also noted that they understand the layout of barrows in the Stonehenge landscape as a ‘star-map’, and see barrows as living sacred places as well as the burial places of ancestors.

6.16.14 Consultation was undertaken with Frank Somers, of the Amesbury Druids, on 11th April 2018. This involved walking from Woodhenge to the Cursus and on to King Barrow Ridge. He considered the following elements of the landscape particularly significant:

- Woodhenge (AG33), which represents the circle of life. Gifts of flowers / crystals are left on a child’s grave (marked by a small cairn) at Woodhenge, acknowledging the child as an ancestor;
- Stonehenge (AG22), which has energy lines running out from its centre;
- The Southern Mound at Stonehenge (within the henge but outside the Stone Circle; AG22) – where the Amesbury Druids undertake ceremonies at Solstices;
- An annual lantern parade is held at winter solstice, going from Stonehenge (AG22) along the Avenue (AG27) to King Barrow Ridge (AG26) and then using tracks / roads to Bluestonehenge by the Avon and then on to Amesbury Visitor Centre. Blick Mead is also important in the lantern parade;

- Burials may be guardian spirits / guarding spiritual places; and
- Ley-lines, energy hotspots and energy vortices.

### Cultural influences

- 6.16.15 A large number of Asset Groups and discrete assets express the seventh Attribute of OUV, *'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'*. This is partly due to the number of sites which have been subject to antiquarian investigations, as well as more recent investigations which have influenced the development of archaeological practice and understanding.
- 6.16.16 Stonehenge (AG22) features in celebrated artistic depictions such as those by Turner and Constable. Other elements, such as the King Barrow (Stonehenge Bottom / Luxenborough barrows, AG24) and the Avenue (AG27), are the subject of Stukeley's etchings of views from various vantage points across the Stonehenge landscape. Stonehenge and its landscape are also reflected in literature, poetry and music.
- 6.16.17 *'[...] the iconic and symbolic place of Stonehenge in contemporary culture has provided a rich field for the investigation of modern social relations and the value of our heritage to a range of communities'* (Darvill 2001).
- 6.16.18 *'Another facet of modernism was the bringing into the present of things from the past. The use of Stonehenge as the setting for a story or as a powerful image has a long history, but from the 1960s its appearance in popular and historical fiction (Grinsell 1986), advertising, and 'pop' culture becomes more common (see Chippindale 2004; Darvill 2004a). By the end of the 1990s the range of Stonehenge-inspired literature was very considerable, and included 'best-sellers' by Edward Rutherford (1987) and Bernard Cornwell (1999) among others. The emergence of parallel narratives, multivocality, and the study of agency are features of post-modernist or post-processualist views of the past, a return towards essentially interpretative approaches which represents the most recent swing in thinking about Stonehenge and its surroundings.'* (Darvill 2005).
- 6.16.19 Further baseline information on art historical aspects, myth and history associated with Stonehenge, the development of scientific investigations, and Stonehenge in literature and popular culture is contained in HIA Annexes 6, 7 and 8.

## 7 Description of changes or developments proposed

### 7.1 Background to the A303 Amesbury to Berwick Down Scheme

- 7.1.1 The A303 between Amesbury and Berwick Down currently passes through the Stonehenge element of the Stonehenge, Avebury and Associated Sites WHS. The Stonehenge part of the WHS is extensive, at around 25km<sup>2</sup>, which captures the relationship between the monuments as well as their landscape setting. Altogether, the Stonehenge part of the WHS includes more than 700 known archaeological features (including find spots), of which 415 are protected by scheduling within 175 scheduled areas (Simmonds and Thomas 2015, 320). The existing A303 passes within 165m of the Stonehenge monument – a globally recognisable icon of Britain which attracts 1.4 million visitors each year. The A303 separates the iconic stones from other prehistoric monuments and severely limits enjoyment of the wider site. The A303 currently has a major negative impact on the setting of Stonehenge, the Integrity of the WHS and visitor access to some parts of the wider landscape. The harmful impacts of roads and traffic on the WHS include visual intrusion, noise and air pollution within the WHS.
- 7.1.2 The issue of traffic congestion around the Stonehenge part of the WHS has been the subject of discussion at the UNESCO World Heritage Committee since 2004.
- 7.1.3 The UK Government has considered a number of options to rectify this situation, from an initial proposal in the 1989 Roads for Prosperity programme, the reintroduction of an A303 improvement Scheme in the 1998 roads programme, and the A303 Stonehenge Improvement Scheme, a 2.1km bored tunnel within the WHS, announced in 2002. Although the last of these was recommended for implementation in 2005 following a public inquiry, in 2007 the UK Government opted not to proceed with the project.
- 7.1.4 In 2005, the World Heritage Committee regretted that no progress had been made in the implementation of the A303 Stonehenge Improvement Scheme (WHC Decision 29 COM 7B.88). In 2007, it urged the State Party ‘to find an appropriate solution compatible with the outstanding universal value of the property’ (UNESCO 2007).
- 7.1.5 The Summary of the 2006 Periodic Reporting (Cycle 1) noted that ‘*The Stonehenge Project seeks to restore the integrity of the site by removing the roads and moving current visitor facilities*’. The conclusions highlighted the impact of traffic and roads cutting through monuments and the landscape, and noted that it was difficult to access key prehistoric

monuments because of the A303 barrier. The report noted a proposed tunnel for the A303 (DCMS 2006).

7.1.6 The 2013 SoOUV states that:

*'The presence of busy main roads going through the World Heritage property impacts adversely on its integrity. The roads sever the relationship between Stonehenge and its surrounding monuments, notably the A344 which separates the Stone Circle from the Avenue.'* (UNESCO 2013).

7.1.7 Although in 2013, the A344 was removed and a new Stonehenge Visitor Centre opened c.1.5km west of the Stonehenge monument, the A303 continues to adversely affect the OUV and Integrity of the WHS. The 2015 UNESCO / ICOMOS Advisory Mission noted that:

*'This development has clearly brought much benefit to the World Heritage site in terms of visitor experience, recovery and enhancement of OUV. The A344 case illustrates well the benefit that the removal (tunnel) of the A303 could bring to the World Heritage site as a whole.'* (ICOMOS 2016).

7.1.8 The SoOUV section on protection and management requirements notes that:

*'Although substantial progress has been made, the impact of roads and traffic remains a major challenge in both parts of the World Heritage property. The A303 continues to have a negative impact on the setting of Stonehenge, the integrity of the property and visitor access to some parts of the wider landscape.'* (Simmonds and Thomas 2015).

7.1.9 Further details regarding the impact of the existing A303 road on the WHS are described in HIA Section 9.1, Impacts and effects of existing A303.

## **7.2 The A303 Amesbury to Berwick Down Scheme**

7.2.1 The A303 is a trunk road in southern England, connecting the M3 and the A30, it is one of the main routes from London to South West England, and on the most direct strategic route from the South East to the South West for business and tourists. However, the existing A303 has a number of traffic bottle-necks limiting accessibility to the South West with consequential impact on the region's economy and growth. Traffic problems on this section of the corridor are particularly acute.

7.2.2 An A303 Feasibility Study was announced as part of the UK Government's Autumn Statement in 2013. The intention to dual the A303 from Amesbury to Berwick Down, with a twin-bored tunnel of at least 2.9km within the WHS was announced by the Government on 1st

December 2014.

- 7.2.3 The A303 / A30 / A358 package, which is part of the UK Government's Road Investment Strategy (RIS), was identified in the 2014 National Infrastructure Plan as a priority project and is listed in the top forty priority infrastructure projects (HM Treasury 2014). The RIS (2015–2020) states that construction will start within the current roads period (i.e. by the end of March 2020), subject to the necessary approvals (DfT and Highways Agency 2014).
- 7.2.4 The Scheme forms a fundamental part of the Wiltshire Local Transport Plan 2011 – 2026 (Wiltshire Council 2016).

## **7.3 Assessment of Scheme alternatives**

### **Scheme history and development**

- 7.3.1 Proposals for the improvement of the A303 between Amesbury and Berwick Down have been the subject of extensive study and consultation since 1991. These proposals, and the wider context of the Scheme, are detailed in the 2017 Technical Appraisal Report (Highways England 2017).
- 7.3.2 Further details regarding the development of the A303 Amesbury to Berwick Down Scheme are set out in ES Chapter 3, Assessment of Alternatives.

### **Option identification and selection**

- 7.3.3 Following a Feasibility Study to identify opportunities and investment solutions for improving the A303, A358 and A30 corridor (DfT 2015) the Scheme was included in the Road Investment Strategy in 2014.
- 7.3.4 From January 2016, the Option Identification and Option Selection stages included three design fix milestones:
- a) Design Fix A – Corridor identification and initial sifting of corridors;
  - b) Design Fix B – Design development of route options within remaining corridors; and
  - c) Design Fix C – Initial appraisal and sifting of options to identify route options to take forward for consideration by the Department for Transport (DfT).
- 7.3.5 This staged approach aimed to assist decision-makers to understand the potential positive and negative impacts on the WHS at key stages in the project's overall development. This aimed to allow impacts to be weighed against other environmental, economic, social and transport related

issues in determining the preferred approach for the Scheme.

### *Design Fix A*

7.3.6 There have been a wide range of proposed solutions to traffic problems on the A303 at Stonehenge over many years. A review was undertaken of some 60 route options that had been proposed by Government, stakeholders and the public in the past. These options were grouped into a series of corridors which contained route options with similar characteristics. This resulted in eight corridors:

- *‘Corridor A – Surface routes north of the existing A303 (wholly outside WHS);*
- *Corridor B – Surface routes north of the existing A303 (partially inside WHS);*
- *Corridor C – Surface routes within 1km of the existing A303 (as the route options pass through the WHS);*
- *Corridor D – Routes including a tunnel (at least partially within the WHS);*
- *Corridor E – Surface routes south of the existing A303 (at least partially inside WHS);*
- *Corridor F (North) – Surface routes south of the existing A303 (wholly outside WHS) and north of Salisbury;*
- *Corridor F (South) – Surface routes south of the existing A303 (wholly outside WHS) and north of Salisbury, further south than Corridor F (North);*
- *Corridor G – Surface routes south of the existing A303 (wholly outside WHS) and south of Salisbury’ (Highways England 2017).*

7.3.7 These corridors were subject to a three-stage options appraisal applying three sets of established criteria that are applied to all strategic road schemes: the Client Scheme Requirements (CSRs); the Web-based Transport Appraisal Guidance’s (WebTAG) Early Assessment and Sifting Tool (EAST); and environmental aspects of the National Policy Statement for National Networks (NPSNN).

7.3.8 Design Fix A recommended that two corridors should be taken forward for further, more detailed development and assessment:

- *‘Corridor D (a bored tunnel route within the WHS). A tunnelled route through the WHS would reduce severance within the WHS and*

*improve the setting of key assets such as Stonehenge. The surface elements may cause adverse effects on the character of the WHS but it is considered that substantial harm can be avoided.*

- *Corridor F (north) and Corridor F (south) (a surface level route bypassing the WHS to the south). Corridor F surface route options to the south of the WHS would remove the A303 from the WHS in its entirety. This would bring substantial benefits by reducing severance and improving the setting of key assets, including the Stonehenge monument. These benefits would need to be balanced against adverse environmental effects of constructing a longer route within a high quality, unspoilt landscape with the associated loss of habitats. Surface route options to the south of the WHS would also offer a less direct route for through traffic and would therefore offer reduced transport benefits. More traffic would also remain or divert onto local roads, giving rise to adverse impacts on local villages and communities.’ (Highways England 2017).*

#### *Design Fix B*

- 7.3.9 Design Fix B involved identifying the most appropriate route options for assessment within the two better performing corridors identified from Design Fix A. It recommended six route options within Corridor D and three route options within Corridor F to be taken forward for initial appraisal and sifting.

#### *Design Fix C*

- 7.3.10 Design Fix C assessed four options within Corridor D and three options in Corridor F. The routes were assessed against the Options Assessment Framework contained within the WebTAG Transport Appraisal Process, which is based around the Transport Business Case Five Case Model criteria. This approach assesses whether schemes:
- a) Are supported by a robust case for change that fits with wider public policy objectives – the ‘strategic case’;
  - b) Demonstrate value for money – the ‘economic case’;
  - c) Are commercially viable – the ‘commercial case’;
  - d) Are financially affordable – the ‘financial case’; and
  - e) Are achievable – the ‘management case’ (DfT 2013, 4).
- 7.3.11 Primary considerations at this stage were the Strategic Fit assessment (fit with policy and CSRs) and the Value for Money assessment which includes the impact on the economy and the environment.

- 7.3.12 *'Route options incorporating 4.5km tunnels were assessed as having significantly higher estimated scheme costs that were considered to be unaffordable and were not considered further in the assessment.'* (Highways England 2017, 6).
- 7.3.13 The option identification process was supported by HIA. An 'Outline Approach Document' was agreed with HMAG. A high-level HIA (Iteration 1) was undertaken for the route options identified at Design Fix B, and was reported as part of the Design Fix C assessment in December 2016 (Highways England 2016).
- 7.3.14 *'As part of the option selection and assessment work on revised Route Options D031 and D032, a programme of geophysical surveys was undertaken to investigate the possible presence of buried archaeological features along the two options. This identified two Neolithic long barrows and a henge-type enclosure to the east of the A360 and within the likely construction footprint of both options. These were considered to be important archaeological features that contribute to the OUV of the WHS. These features were considered to be adversely affected by the D031 and D032 route options and the decision was made to adjust both route options by moving them locally further to the south to avoid physical impact on these assets.'* (Highways England 2017, 9).
- 7.3.15 Revised options D031 and D032 were renamed D061 and D062.

### **Further appraisal of route options**

- 7.3.16 Routes D061, D062 and F010 were identified as the better performing routes against the Transport Business Case Five Case Model criteria above. Further analysis of these three routes included assessment of the following areas: traffic and journey times, scheme costs, economic, social impact, safety, operational, technology and maintenance, environmental aspects, programme compliance and the CSRs.
- 7.3.17 Although F010, the southern surface route, was found to have benefits to heritage, as it avoided the WHS, it was found to have other significant environmental impacts and community severance issues. It also did not perform as well as the preferred route against transport and economic objectives, with reduced economic benefit over the life-time of the project, increased use of local roads, increased carbon emissions and, due to its longer length, increased accident rates.
- 7.3.18 A second version of the high-level HIA (Iteration 2) was prepared to assess route options D061, D062 and F010 (Highways England 2016). These route options were also subject to a further full WebTAG appraisal to determine the route options to be taken forward to public consultation and further design development.

- 7.3.19 The assessment in the Technical Appraisal Report included a third iteration of the HIA, which formed part of the Historic Environment Assessment (Highways England 2017).

*Public and stakeholder consultation*

- 7.3.20 Two route options within Corridor D were selected for public and stakeholder consultation to further develop the design and undertake further appraisal to determine the preferred route for the Scheme. These were:
- a) Route Option D061 – 2.9km length tunnel with route running north of Winterbourne Stoke, the eastern tunnel portal located east of The Avenue and the western tunnel portal located west of Normanton Gorse;
  - b) Route Option D062 – 2.9km length tunnel with route running south of Winterbourne Stoke, the eastern tunnel portal located east of The Avenue and the western tunnel portal located west of Normanton Gorse.
- 7.3.21 Consultation on the above two route options was undertaken between 12 January and 5 March 2017, and public responses subsequently helped to inform route selection and refine the initial design before it was recommended to the UK Government.
- 7.3.22 The most significant improvements to the design, following public consultation, have been changes to the location of the western tunnel portal and the approach route through the western half of the WHS. The preferred route is now much closer to the line of the existing A303, avoiding impacts on newly-discovered barrows just to the east of the A360 (the ‘Diamond Group’ of Neolithic long barrows on the former D061 / 062 approach alignment and a hengiform enclosure, including a number of other Neolithic and Bronze Age sites, notably the cluster of scheduled round barrows just to the north-east of the Diamond). The modified alignment also avoids any risk of the road intruding on the view of the setting sun from Stonehenge during the winter solstice and reduces impacts on the Royal Society for the Protection of Birds (RSPB) reserve at Normanton Down.
- 7.3.23 Further details about the consultation process and specific consultation exercises are contained in the ES and DCO Application documents.
- 7.3.24 The 2018 State of Conservation Report for the Stonehenge, Avebury and Associated Sites WHS report by the State Party (DCMS 2018) noted that:

*‘In response to World Heritage Committee Decision 41 COM 7B.56, the feedback from UK heritage bodies and from the wider UK*

*heritage sector and from civil society, concerning the potential negative impact upon the OUV of the WH property of the 2.9km tunnel options consulted upon in January-February 2017, Highways England significantly modified the proposed scheme.*

*The new scheme proposal has been pulled back from the SW quadrant of the property to take a new alignment close to the south side of the existing A303 surface road. This resolves the previous scheme impacts on the winter sunset solstitial alignment as viewed from Stonehenge – the revised scheme infrastructure has no interaction with this key astronomical alignment, with the proposed western tunnel portal and new surface approach road situated well to the north-west of the previous scheme. By pulling the route alignment back to closely follow the current surface A303, the new road avoids impacting adversely upon the setting of the two new long barrows identified during archaeological field evaluation in 2016.*

*The new alignment also means that the length of new road within the western part of the property is reduced to c.1km. The route now proposed also has a significantly reduced impact upon the setting of the property by avoiding:*

- the need for a large cutting through the crest of Oatlands Hill, which forms the backdrop to the property in its SW quadrant (i.e. to the south and west of the current surface A303), or*
- a new junction just outside the SW corner of the property at The Park, where geophysical survey has identified a previously-unknown Bronze Age round barrow cemetery.*

*The revised scheme proposal removes an adverse impact on the setting of the Normanton Down barrow cemetery by positioning the western portal in a less obtrusive location to the north-west of the barrow group.*

*The length of bored tunnel would be c. 3km and has been extended westwards by a further c. 200 metres of cut-and-cover tunnel which serves two purposes:*

- it positions the point where traffic emerges from underground to a location near the head of a shallow dry valley, which minimises the visual intrusion as viewed from Normanton Down; and*
- it allows the post-construction reinstatement of the land-form above the cut-and-cover section to match the existing ground surface thus helping to protect the setting of the Normanton Down barrow group.*

*The new route from the western tunnel portal to the western edge of the property has been designed to be in a c. 7-10m deep cutting, with vertical sides and rounded grassed shoulders. This option would minimise the land-take for the new road within the WHS, while the depth of cutting will remove the visual intrusion of the moving traffic, particularly heavy goods vehicles, from the sightlines between many of the groups of sites and monuments that convey the OUV of the property.*

*At the western boundary of the property, where the existing surface A303 has a junction (Longbarrow Roundabout) with the existing surface A360 road, the new scheme proposal will completely remove the present, highly intrusive roundabout. A replacement junction will be positioned some 600m beyond the western boundary of the World Heritage property. This will also remove c.600m of the A360 to both the north and south of the present Longbarrow Roundabout (a total of c.1.2km) and reposition it away from the property to connect with the new junction. This will have a positive impact upon the OUV of the property, with a substantial improvement on the setting of the Winterbourne Stoke barrow group and the recently identified Diamond group of sites and monuments that convey the OUV of the property.*

*The new junction 600m beyond the western boundary of the World Heritage property and the new A303 road within the property will all be free of lighting (although the interior of the tunnel itself will need to be lit), thus having a positive impact upon dark skies and the appreciation of astronomy compared with the existing surface road and Longbarrow Roundabout.*

*The site of the existing Longbarrow Roundabout and the redundant sections of the existing A303 both within and without the property, plus the redundant sections of the A360 north and south of Longbarrow Roundabout, will be removed of all existing infrastructure and returned to traditional Wiltshire chalk-land byways for walkers, cyclists, and horse riders.*

*At the eastern end of the bored tunnel within the World Heritage property, a second extension to the tunnel of c.100 metres has been designed to achieve a location for the eastern portal with the minimum level of visual intrusion which optimises the beneficial effects of removing the existing surface road within this part of the WHS. The revised location offers a greater degree of landscape mitigation for the eastern portal, which will only be visible from close-up viewpoints.*

*[...] the proposed location of the eastern portal will avoid any negative setting / visual impacts to sites and monuments that convey*

*the OUV of the property. The relocation of the portal some 100 metres east of the 2017 location further protects the Stonehenge Avenue, which is now located c.150 metres west of the portal site (and whose previous location in the 2017 consultation was based on the recommendation of the 2015 Advisory Mission).*

*It will also completely remove the intrusive impact of the existing surface road and its heavy traffic when viewed from Woodhenge and Durrington Walls henge. From the eastern portal to the eastern boundary of the World Heritage property, the new scheme proposal lies almost entirely within the existing highway boundary and will largely re-use the existing highway infrastructure.*

*Following Committee Decision 41 COM 7B.56 the State Party gave further consideration to both F010 and longer tunnel options before the preferred route was announced. This consideration was based on the evidence provided by Highways England as part of the development of the route options which were discussed during the 2017 Advisory Mission. The State Party concluded that neither F010 nor the longer tunnel options were viable but acknowledges that although the evidence that had been submitted to the 2017 Advisory Mission was extensive, the reasons why these particular routes were not deliverable had not been clearly articulated. Further work has been undertaken by Highways England to better collate the evidence and set out more clearly the reasons why neither the F010 southern bypass nor the longer tunnel option are deliverable. This information was presented by Highways England to the 2018 Advisory Mission and is summarised below.*

#### *F010 non-tunnel bypass*

*In cultural heritage terms, although the bypass around the southern edge of the property could result in a lower impact upon the property from new infrastructure development, there would still be impacts upon the setting of the property given the proximity of the F010 route alignment to the south of it. The landscape to the south of the WHS property is itself a very rich archaeological landscape which contains a high potential, as revealed by archaeological investigations not associated with the proposed road improvement, to contain extensive sites and monuments relevant to the period of OUV for which the property is inscribed. In response to a question about the F010 route from a member of the March 2018 World Heritage Centre / ICOMOS Advisory Mission, Professor Sir Barry Cunliffe, said that, given the high archaeological potential of the land to the south of the property route F010 would likely impact more heavily on significant archaeology of the Neolithic and Bronze Age periods, compared to the known, low potential for significant archaeology relevant to the period of OUV within the footprint of the currently proposed scheme*

*within the WH property. He also referred to the boundary having been established over thirty years ago and that it would be the subject of review.*

*There is a further critical disadvantage of F010 for the WH property as a result of its poor performance in dealing with traffic flows. Because the F010 route would involve a total diversion from the existing A303 of 22km and because its principal junctions would be located significant distances away from their current locations, it would not resolve the chronic traffic issues which blight the local road network within and beyond the Stonehenge component of the WH property. In these circumstances it is almost inevitable that the existing surface A303 through the WHS would need to remain open to traffic to provide the required connectivity between local communities and to alleviate pressure on the local roads around the boundaries of the property.*

*The retention of the existing surface A303 would negate the strategic benefit for the property that would be delivered by the proposed scheme, of removing much of the existing, intrusive surface road so that the two halves of the property to the north and south of the existing road, can be reunited over a distance of c. 3.3km and the full potential of the WHS realised in terms of both its condition and the public appreciation of its full range of sites and monuments.*

*In natural environment terms, route F010 would have an impact upon the Rivers Avon and Till Special Area of Conservation (SAC). The SAC is protected by the European Union Nature Directive and benefits from the highest level of statutory protection. The State Party understands that an EU level designation does not equate to the same level of significance as a WHS but nevertheless the UK government is under a statutory duty to protect sites subject to an EU wide Directive. Route F010 would involve two substantial viaducts and embankments crossing the two river valleys where they are deeply incised and where the special qualities of the SAC inscription are most strongly expressed.*

*Given its protection by EU Directive, its poor fit with the local road network, and the overall extent of adverse environmental impact that would be caused by 22km of new dual carriageway through currently undisturbed high value countryside, route F010 is not a viable option. It is not an option that can be supported by the State Party*

#### *Longer tunnel options*

*Highways England's work to look at longer tunnel options has shown why a longer tunnel option scheme is not deliverable.*

*At the western end of the WH property, the rising ground to the west of the property, known as Oatlands Hill, dictates that a tunnel continuing beyond the property boundary would need to traverse the width of the hill before it could emerge where the ground begins to descend into the Till valley, east of Winterbourne Stoke. This would extend the tunnel westwards at least 1.8km, at an additional cost of c. £540m. The extension would be impractical in terms of accommodating a safe new junction connection with the A360 which would have to remain on its existing alignment at the western boundary of the WHS property. As well as reducing the benefit for the Winterbourne Stoke Barrow Group by the retention of the A360 in its current alignment, the location of the new junction so far west of its optimum location would mean that local communities would still suffer from rat-running traffic. The substantial additional cost entailed in this would make it unlikely ever to be achieved, particularly when assessed in relation to what the State Party sees as the limited additional heritage benefits that would be delivered by this option above those offered by the current scheme.*

*At the eastern end of the proposed scheme the presence of the River Avon makes it impossible to create a tunnel portal just beyond the WH boundary without the construction having an unacceptable impact on the River Avon's international status as a Special Area of Conservation (SAC). To the east of the Avon, the proximity of the Solstice Park junction and the rising ground means that the tunnel would have to be extended at least 4km eastwards, at an additional cost of c. £1.2 billion, before it could emerge at a suitable location. The extension would remove the existing A303 junctions with the A345 at Countess Roundabout and at Solstice Park, wholly disrupting the operation of the road network both locally and more widely, with consequent adverse impacts on nearby communities. As with the western extension, while the eastern extension of the tunnel could secure some degree of heritage benefit, the stated disadvantages and additional cost mean that this would be an extremely poor value for money option. It is not an option that could be supported by the State Party.*

*A longer tunnel with the eastern portal further east than that shown in the proposed scheme but still within the WH property would cause greater impacts on nationally-important designated sites such as Vespasian's Camp Iron Age Hillfort and the Grade II\* Registered Park and Garden (RPaG) at Amesbury Abbey. In addition it would impact negatively on the nationally-important Mesolithic site recently discovered at Blick Mead, just east of Vespasian's Camp and within the RPaG. Most significantly, but not related to heritage, a tunnel portal further east within the WH property would harmfully impact the groundwater flow to the River Avon SAC and would not secure planning consent.'*

## 7.4 Scheme design development

### Scheme design objectives

7.4.1 The A303 will pass through a bored tunnel, of at least 2.9km in length, to reduce its impact on the WHS. The improvement will also include a bypass of the village of Winterbourne Stoke beyond the WHS to the west.

7.4.2 The four principal objectives for the Scheme, the CSRs, are:

- *‘Transport: To create a high quality reliable route between the South East and the South West that meets the future needs of traffic.*
- *Economic growth: to enable growth in jobs and housing by providing a free flowing and reliable connection between the South East and the South West.*
- *Cultural heritage: To help conserve and enhance the World Heritage Site and to make it easier to reach and explore.*
- *Environment and community: To improve biodiversity and provide a positive legacy to nearby communities.*

7.4.3 The heritage topic CSRs were expanded in the 2017 Technical Appraisal Report, as follows:

- *‘The existing road will be downgraded as it passes through the WHS for use by non-motorised users and for access.*
- *The strategic route will be redirected so as to reduce its site and sound impacts on the WHS. The redirected route will treat archaeological features with sensitivity and will protect the Outstanding Universal Value (OUV) of the WHS. It will seek to minimise any damage to or loss of archaeology.*
- *Grade separated junctions will be introduced in place of at-grade junctions on the A303 within the length of the scheme, improving access onto and off the A303, with well-designed signing to access the WHS.*
- *Where the road passes through the WHS it will have an iconic identity and be of good design. As far as is practicable and without compromise to safety, the design will seek to accommodate the specific needs of the WHS.*

- *Learning associated with any excavation within the WHS will be ensured, by working sensitively and in close collaboration with key heritage stakeholders.’ (Highways England 2017, 31).*

7.4.4 The permanent removal of existing road infrastructure in the tunnel section of the Scheme provides the opportunity to reconnect and improve this landscape without parallel. The tunnel section and proposed tunnel portal locations would remove the existing severance due to the A303 in key views and sight lines, including the midwinter solstitial alignment. In particular, the proposals would remove the severance of the Avenue by the existing A303. The proposals also include the removal from the WHS of the existing Longbarrow Roundabout.

### **Preferred Route Announcement**

7.4.5 The preferred route for the Scheme was confirmed by the Secretary of State in September 2017. It commenced 5km west of the WHS boundary at Yarnbury Castle (Yarnbury Camp), near Berwick Down, and followed a general west-east alignment similar to the existing A303, but passing to the north of Winterbourne Stoke, for some 12.6km to finish just east of Solstice Park, Amesbury.

7.4.6 The Scheme, when announced, consisted of the following principal elements:

- a) Winterbourne Stoke Bypass: A new western section of dual two lane carriageway highway, providing a bypass to the north of Winterbourne Stoke with a viaduct over the River Till Valley;
- b) Long Barrow Junction: A new grade separated junction to the west of the existing junction and 600m outside the WHS, accommodating free-flowing A303 and A360 traffic movements as well as a link to Winterbourne Stoke along the de-trunked section of the existing A303;
- c) Tunnel and Approaches: A new section of dual two lane carriageway highway in a steep sided cutting at least 6.5m deep leading into a twin-bore tunnel, of at least 2.9km in length, emerging east of the Avenue and north of the existing A303;
- d) Countess Junction: A new grade separated junction between the A303 and A345 accommodating free-flowing traffic movements, north of Amesbury. This junction will comprise a fly-over of the existing Countess Roundabout;
- e) The existing A303: To be removed within the WHS and replaced with a byway (along with short sections of the A360 on the western boundary of the WHS). To the west of the WHS, the A303 would be de-trunked and retained for local access to Winterbourne Stoke;

- f) Right of way and byway open to all traffic: The existing right of way for all traffic between BOATs AMES11 and AMES12 provided by the A303 would be maintained; and
- g) High Load Route and Diversionary Route: a High Load Route is required for overheight vehicles which will be prohibited from the tunnel and a diversionary route is required for the event of both bores of the tunnel being closed. Both routes would leave the A303 at the new Longbarrow Junction, run to the north of the A303, along the Packway (the northern boundary of the WHS) before re-joining the A303 at Countess Roundabout (for the diversionary route) and the Solstice Park junction (for the High Load Route).

7.4.7 As part of the Scheme, the following elements would also be required:

- a) Temporary traffic management areas, temporary working and storage areas, material stockpiles, construction compounds, haul roads, and provision for site compounds to be used during the construction period; and
- b) Preliminary works including utility diversions as required.

### **Outline design**

7.4.8 Between September 2017 and January 2018, additional work was undertaken to refine the design for the Scheme. This included a number of additional green bridges crossing the main road alignment, beyond the boundaries of the WHS. This work was presented in the Preliminary Environmental Information Report (PEIR) (Highways England 2018).

7.4.9 This design was the design considered in the HIA Scoping document, during statutory consultation for the Scheme (9 February – 23 April 2018) and during the 2018 Joint World Heritage Centre / ICOMOS Advisory Mission (5 – 7 March 2018).

7.4.10 Following statutory public consultation in February–April 2018, the design has been developed further, as described below.

## **7.5 Assessed Scheme - DCO Design**

### **Description of the Scheme**

7.5.1 On 12 September 2017, the Secretary of State for Transport announced the preferred route for dualling the A303. The design of the Scheme has been undertaken in order to support the submission of the DCO Application.

7.5.2 The DCO Scheme design was developed in an iterative process with the environmental assessment. It was informed by knowledge of

environmental constraints, as well as the environmental assessment of emerging design proposals and engagement with stakeholders.

- 7.5.3 Full details of the assessed Scheme are contained in ES Chapter 2, The Scheme and presented on ES figures 2.1–2.11.
- 7.5.4 The Scheme is described in three route sections:
- a) A western section, from the western tie-in at Berwick Down to the Longbarrow Junction;
  - b) The section within the WHS including a tunnel with its western and eastern approaches; and
  - c) An eastern section over Countess Roundabout, including minor works to the east of the Solstice Park Junction.
- 7.5.5 Elements of the Scheme design key to the assessment of impacts on the WHS include, from west to east:

#### *Western section*

- *River Till viaduct:* The River Till viaduct, located west of the WHS, which would carry the proposed A303 over the River Till Special Area of Conservation (SAC) and Site of Special Scientific Interest (SSSI) and its floodplain. The viaduct would be a twin deck structure, with each deck approximately 14m wide and 212m in length. The road level on the bridge would be approximately 10m above the River Till where it crosses the river channel.
- *Longbarrow Junction:* a new junction approximately 600m west of the existing A360 Longbarrow roundabout. This new element moves this junction outside the WHS. The junction would consist of two roundabouts connected together by a short length of dual carriageway, carried over the A303 on a new green bridge with earth bunds on each side, to help mitigate visual impact and to provide ecological connectivity. The structure would be a single span bridge, with headroom of at least 5.3m.

#### *Central section*

- *Roundabouts and connecting road:* The roundabouts and connecting road will be at, or slightly below, existing ground level.
- As the Scheme crosses the line of the existing A360, it enters into the WHS.
- *Green Bridge Four,* approximately 150m wide, would cross the approach cutting between the Winterbourne Stoke Crossroads Asset

Group (AG12) and the Diamond Group (AG13). In addition to an NMU route and the agricultural and ecological benefits common to the other green bridges, this bridge would also provide visual connectivity between barrow groups and other Neolithic and Bronze Age funerary and ritual monuments to the north and south of the Scheme.

- *Cutting:* The Scheme then follows closely the line of the existing A303. The proposed alignment over the first 1.2km of this section would be in a cutting varying in depth between 7m and 10m, and deepening to almost 17m on the immediate approach to the tunnel portal. The top 2.5m of the cutting would have a 1 in 2 grassed slope running for the length of the cutting. The bottom of the cutting would comprise vertical retaining walls.
- *Western tunnel portal:* The western tunnel portal would be located within the WHS, north-west of Normanton Gorse, and would be located approximately 1.2km east of the existing Longbarrow Roundabout and immediately to the south of the existing A303. The 200m approach to the portal entrance would be within a fully grassed canopy, with tunnel service buildings and store rooms located outside the canopy.
- *Tunnel:* The Scheme would then continue in tunnel in an easterly direction following an alignment that is broadly similar to the existing A303 but at a depth of between 16 and 50m. The proposed bored tunnel would be a twin-bore tunnel approximately 1.9 miles (approximately 3.0km) in length.
- *Tunnel bores:* Each tunnel bore would be of approximately 11.5m internal diameter and approximately 13m external diameter, with a separation of some 13m between the two tunnels. The two bores would be connected underground by a series of cross passages at regular intervals to allow for the safe evacuation of road users in the event of an incident in one of the bores. The tunnel would contain a number of mechanical and electrical, operational and safety systems. The items of plant required to power and control these systems would be housed within tunnel service buildings located at the tunnel portals.

#### *Eastern section*

- *Eastern tunnel portal:* The tunnel would emerge at the eastern tunnel portal through a short section of cut and cover tunnel approximately 85m in length extending eastwards from the bored tunnel section. The eastern tunnel portal would be located to the east of the King Barrow Ridge and The Avenue and just to the north of the existing A303. The portal approach would be in deep cutting similar to the western tunnel portal approach section of road.

- *Approach road:* The Scheme would then closely follow the line of the existing A303 to Countess Roundabout. This is the first roundabout for motorists heading to the South West along the existing A303 and it is currently a major bottleneck.
- *Countess flyover:* A new flyover above the existing roundabout would separate traffic going east-west along the A303 from traffic going north-south along the A345 Countess Road, with slip roads accommodating traffic movements between the two roads. The new flyover would accommodate the existing lanes of roundabout traffic beneath the bridges, with a widened outside verge to accommodate a combined footway and cycle track, and a widened inside verge to accommodate circulatory sightlines. The minimum headroom would be 5.3m. The junction changes would significantly improve the bottleneck and reduce journey times.
- *Countess Junction:* The design of the new Countess Junction would be two single span bridges above the existing roundabout, with the centre of the roundabout filled and landscaped. Retaining walls would be required at this junction to support the A303 between the slip-roads.

#### *High load route*

- The existing A303 on the approaches to the Scheme area is identified as a high load route for vehicles with a maximum height of 6.1m. A restriction on abnormal height vehicles in the new tunnel would mean that only normal height vehicles can use the new tunnel. The high load route would therefore be diverted from the new Longbarrow Junction, north on the A360 and B3086, then east on The Packway and A3028, and south on Salisbury Road to Solstice Park. This route functions in both directions. Redesign of the junction at Rollestone Corner will take place to enable the free flow of traffic between the B3086 and the Packway.

#### *Diversions route*

- In the event of the emergency closure of both bores of the proposed tunnel, traffic would be diverted along the high load route, but using the A345 rather than the A3028 to re-join the A303 at Countess Roundabout.

#### *Utilities*

- The majority of the required diversions would be planned in detail by the Main Contractor as part of the construction works.

- The construction site compounds would also require new ‘temporary’ utility connections or stand-alone provision where direct connections are not viable, for the provision of water, sewerage disposal, electricity and telecommunications.
- Electricity connections would be required at both ends of the Scheme and once in place the cables would be used to provide power from nearby electricity substations to the construction compounds. New electricity cables would typically be run along roads or tracks and be buried at a depth of about 1m. They would be created at the start of construction would be retained to provide power for the operational development.

### *Existing A303*

- From the proposed Longbarrow Junction to existing Longbarrow Roundabout, this short length of the existing road would largely be removed and lost within the new junction and associated landscaping works. A new bridleway would be created along the southern boundary of the proposed A303, to link with the proposed restricted byway along the line of the old A360 (see sub-section on PRow below).
- Within the WHS, the existing A303 would be converted to a restricted byway accessible to pedestrians, wheelchairs and mobility scooters, cyclists, equestrians and horse drawn carriages. Authorised agricultural, emergency service and maintenance vehicles would also be permitted. The restricted byway would provide safe access for the above user groups, compliant with the Equalities Act and with the aim of providing increased recreational opportunities across the WHS. This restricted byway would extend along the stopped-up section of Stonehenge Road.
- For the purpose of this assessment, it is assumed that the restricted byway will consist of:
  - a 4m wide chalk grassland habitat, accessible to pedestrians and horse riders; and
  - a 4m bound surface, to replace the existing A303 surface.
- The restricted byway would comprise a bound surface adjacent to chalk grassland habitat. The chalk grassland habitat would be mainly bare chalk at year 1 of operation, but by year 15 it would consist of an established grass sward. The bound surface would be suitably coloured at year 1 of operation to be visually recessive and sympathetically integrated within the WHS, to a visually acceptable level. At year 15 of operation, the bound surface tone would have softened, to further aid its integration within the landscape.

- In order to integrate the restricted byway within the landscape, it would not include hard edging, raised kerbs, surface markings, signage, lighting, benches, litter bins or other such street furniture in order to retain an open character. Adjacent fencing would be visually unobtrusive, for example agricultural post and wire fencing.
- The choice of the bound surface colour would be established and agreed between Highways England and relevant Stakeholders. The colour choice would be informed by an initial selection of surface finishes, which would then be tested in the WHS, via field trials during different weather conditions and from close, mid and long distance views, so as to ensure a colour tone which can adapt to seasonal variation and is visually acceptable from locations within and outside of the WHS.
- The establishment and positive management of the chalk grassland habitat is outlined in the Landscape and Ecology Management Plan included in the OEMP presented in ES Appendix 2.2.
- The stretch of the existing A303 to the east of the current junction with Stonehenge Road would not form part of the restricted byway and would only be required for occasional maintenance and agricultural access. As such the existing surface would be broken up and a grassed surface treatment provided.

#### *Public Rights of Way*

- The Scheme would cut across a number of existing PRoWs including Byways Open to All Traffic (BOATs), bridleways and public footpaths. Provision is made within the Scheme to maintain the existing function of the PRoWs with suitably located overbridges. However, the Scheme also includes new NMU routes to improve accessibility and connectivity for communities including Winterbourne Stoke and Amesbury. These are shown on ES figure 2.5. Connecting to and within the WHS, these are:
  - A new bridleway, east from Winterbourne Stoke to the new Longbarrow Junction, connecting with the new restricted byway through the WHS via the new green bridge to the east of the existing Longbarrow Roundabout. The new bridleway and the new NMU route through the WHS would enable cycle journeys between Winterbourne Stoke and Amesbury;
  - A new restricted byway along the existing A360 alignment, where removed, crossing the new A303 alignment on the new green bridge to the east of the existing Longbarrow Roundabout, and extending to the Stonehenge Visitor Centre to the north and restricted byway BSJA9 to south. South of this point a bridleway extends to meet Byway 12; and

- A new restricted byway open to NMUs, agricultural and statutory utility vehicles will be created through the WHS along the route of the existing A303, connecting with Stonehenge Road at the eastern end of the Scheme.
- It is currently possible to gain access between byways AMES11 and AMES12 along the existing A303, however this vehicular access will be removed by the placement of this section of the A303 in tunnel (see ES Chapter 3, Assessment of Alternatives). NMU access between AMES 11 and 12 will be feasible along the new restricted byway along the line of the old A303, but vehicular access will not be retained.

### Construction timescale and phases

- 7.5.6 Subject to securing a DCO, preliminary works are planned to start in early 2020, with the main construction works following in late 2021 and with the Scheme due to open to traffic in late 2026.
- 7.5.7 The construction programme for the main works has two main phases:
- a) Phase 1, when Winterbourne Stoke bypass, Longbarrow Interchange and Countess Roundabout flyover are under construction (likely 2021-2023 in ES figure 2.8); and
  - b) Phase 2, when the construction of the tunnel is the primary construction activity (2024 onwards in ES figure 2.8). The Winterbourne Stoke bypass, Longbarrow Interchange and Countess Roundabout flyover constructed in the prior phase and would be operational.
- 7.5.8 During construction, appropriate traffic management measures would be put in place to ensure that traffic flows on the existing A303 and other local roads are maintained, whilst allowing safe working at the interface between the existing road network and the Scheme.

### Construction methods

- 7.5.9 Elements of Scheme construction methods relevant to the assessment of Scheme impacts on the OUV of the WHS include:

#### *Tunnelling*

- A Tunnel Boring Machine (TBM) is likely to be used to build the tunnel and the current assumption is that it would start boring at the western end of the tunnel at the western portal and continue eastwards. It would then be turned around at the eastern portal to construct the second bore from east to west. The tunnel would be constructed almost entirely through chalk formations.

- Excavated chalk arising from the tunnel would be extracted at the western portal for both tunnel bores and transported to a treatment area within the main tunnel production area.
- The highly variable nature of the groundwater levels (see ES Chapter 11, Road drainage and the water environment) means that it is possible that temporary and localised dewatering would be required for the construction of the tunnel portal slab to launch the TBM and also for some cross-passages for mechanical and electrical services at Stonehenge Bottom where groundwater levels are high. Dewatering will be avoided wherever possible and if it is required, the extent and duration of dewatering would be minimised.
- Further details of tunnel boring concepts and construction techniques are set out in ES Chapter 2, The Scheme.

#### *Other construction methods*

- The construction of the Scheme would use typical construction techniques associated with major infrastructure projects including piling to support major structures. Piling would be required to construct the support for the piers of the River Till viaduct and the Countess Roundabout and elsewhere including supports for vertical cuttings. Major bridge structures are likely to be built using concrete and re-enforced steel approaches and various combinations of ‘cast-in-situ’ elements and imported elements cast off-site and then craned into place.
- Earthworks, including cuttings and embankments, will be required to create the route alignment. The cuttings and embankments would be constructed using a ‘cut-and-fill’ approach, using the alignment and haul routes described above to move materials along the route corridor. The formation of the road surface is likely to use relatively standard techniques, including construction of the base, sub-base and pavement layers.

### **Scheme consultation, design, application and construction timescales**

- 7.5.10 Statutory Public Consultation for the Scheme took place from 8 February to 23 April 2018. The DCO Application has been submitted, following assessment of the consultation feedback and appropriate design amendments and environmental impact assessment. Subject to successfully passing through the DCO process it is intended to commence construction in 2021, with the year of opening anticipated to be 2026.
- 7.5.11 This HIA is based on the Scheme, the subject of the DCO Application. Flexibility will have been inbuilt to the design of the Scheme to provide scope for further ‘value engineering’ through innovative design and

construction techniques. The design will continue to be informed by the EIA and HIA through the iterative working between designers and environmental specialists.

### Traffic forecasting

- 7.5.12 The A303 Stonehenge South West Regional Traffic Model (SWRTM) (DCO) Traffic Forecasting Report, which forms part of the DCO documentation, notes that:

*‘On typical weekdays the scheme is forecast to reduce travel times along the A303 by three or four minutes in 2026. By 2041 some congestion is forecast along this section of the A303 on typical neutral weekdays and the time savings of the scheme are forecast to increase to between four and six minutes. The induced traffic along the A303 corridor is forecast to result in some additional congestion at single carriageway sections further to the west, partly offsetting these timesaving for long distance journeys.*

*During busy days the forecasts indicate that the substantial delay for traffic along the A303 would increase without the scheme. The scheme provides the capacity to address this congestion with average busy day time savings forecast to increase from 14 minutes in 2026 to 19 minutes in 2041. By alleviating queueing on the A303 the scheme would remove the busy day delays that cause traffic to ‘rat run’ using local roads adjacent to the scheme.’*

### Location of further Scheme description information

- 7.5.13 Design principles, assumptions and limitations on design information are set out in ES Chapter 2.
- 7.5.14 ES Chapter 2.3, Description of the Scheme, presents further design information, including information on proposed lighting, drainage, utilities, earthworks and landform, PRoWs, the demolition and removal of redundant A303 sections and the treatment of the existing A303 following construction of the Scheme.
- 7.5.15 ES Chapter 2.3 also presents information on working hours, construction activities and programme, construction compounds and site accesses, material storage and stockpiles, haul routes, construction traffic and construction methods.
- 7.5.16 Horizontal and vertical alignments for the Scheme are presented in ES figure 2.2, including, but not limited to, mainline earthworks and cuttings, the heights and layouts of junctions, treatment of minor roads, bridges and viaducts, lighting and tunnel configuration, verges and variable message signs and temporary construction activities.

## 8 Mitigation measures incorporated into the Scheme

### 8.1 Mitigation strategy

- 8.1.1 Design is an iterative process, and a number of design changes have been made to avoid potentially harmful consequences. A number of adverse effects have still been identified in the final assessment, for which mitigation measures are put forward. Where such measures are proposed, it is intended that these will be secured through appropriate DCO requirements, or in Scheme documentation such as the Environmental Statement (Application Document 6.1), the Environmental Masterplan, the Outline Archaeological Mitigation Strategy (OAMS) and the Outline Environmental Management Plan (OEMP) (Application Document 6.3, Appendix 2.2).
- 8.1.2 In respect of archaeological remains within the footprint of the Scheme, a programme of archaeological fieldwork and recording will be implemented. This will be proportionate to the level of impact and the international significance of the assets affected. Archaeological fieldwork and recording will include archaeological excavations, recording, reporting, publication, and dissemination to local communities, the wider general public and academics. The archaeological mitigation strategy will be designed and agreed with the HMAG (inside the WHS) and WCAS (for non-designated and designated assets) and Historic England (for designated assets) outside the WHS boundary.
- 8.1.3 The following section describes the iterative design process and proposed mitigation measures, which are factored into determining residual significant effects.
- 8.1.4 Enhancement measures, which are not factored into the determination of residual significant effects, are described in HIA Section 12.6, Additional beneficial measures.

### 8.2 Iterative design and embedded mitigation

- 8.2.1 The design process has involved extensive consideration of heritage issues, which have influenced the design of the Scheme. The Scheme is environmentally-led in terms of its design (with a particular focus on heritage within the WHS) and incorporates measures built in to the Scheme to minimise impacts and to enhance the setting of heritage assets, such as the removal of the current A303 into a tunnel across much of the WHS, the downgrading of the current A303 and parts of the A360 to a restricted byway for NMUs and the planting of large areas of chalk grassland. The Scheme also allows the reconnection of the severed route of the Avenue where it is crossed by the current A303.
- 8.2.2 Where possible, proportionate measures to avoid or minimise direct

impacts on heritage assets have been embedded within the Scheme, taking into account that this is a WHS of OUV. Scheme design iterations have included changes made in response to cultural heritage concerns: the key design developments are summarised in Table 9: Design changes to the Scheme within the WHS in response to cultural heritage concerns.

- 8.2.3 The tunnel through the central part of the WHS removes the alternative option of a surface road at this location (i.e. widening of the existing A303). Boring of the tunnel avoids the ground disturbance that attends a cut-and-cover option. These are both embedded mitigation measures for heritage reasons.
- 8.2.4 Throughout the design process, avoidance of heritage assets by refinement of the Scheme alignment has been undertaken. These changes have been made to take account of heritage assets which were already known, and also buried archaeology which has been newly-discovered during the fieldwork undertaken for this project.
- 8.2.5 Measures to avoid or minimise potential physical impacts arising from construction activities include:
- a) Construction compound locations will be situated outside the WHS. They avoid designated heritage assets and, where possible, are sited so as to avoid non-designated assets. Exclusion areas, to protect particular archaeological features, are defined for both the main compound at Longbarrow and the eastern compound at Countess.
  - b) The layouts of the construction compounds have also been designed to reduce temporary impacts on the settings of heritage assets and to minimise visibility in views from, and including, the WHS. This includes the concealing of compound buildings behind existing hedges which will be retained or earthwork bunds.
  - c) Compounds, temporary road diversions and haul roads will be built under a 'no dig' solution, wherever possible, with topsoil retained *in situ* and a protective membrane laid before road stone and the temporary road surface. This approach will also be implemented for PMAs and NMUs where agreed with HMAG and WCAS.
- 8.2.6 Measures to minimise the physical impact of the Scheme itself, and to conserve or enhance the permanent setting of heritage assets, have also been embedded in the design:
- a) The Scheme design has been developed to reduce the land-take within the WHS:
    - i. The western portal approach road will be in a retained cutting.
    - ii. Land-take at and around Blick Mead will be avoided, all

- Scheme elements (including temporary haul roads) avoiding the known extent of this asset.
- iii. Maintenance and safety crossovers for tunnel safety and maintenance will be situated outside the WHS, at the new Longbarrow Junction and at Countess Roundabout.
  - iv. Re-use of part of the existing dual carriageway between the eastern portal and Countess Roundabout.
- b) The Scheme design has been developed to reduce the visual intrusion of new highway sections within the WHS:
- i. The western portal approach road will be in a retained cutting, with grassed upper slopes and flanking chalk grassland (between the A360 and the portal) created to blend the Scheme into the surrounding landscape. Highway safety fencing will be located within the top part of the retained cut so as to screen it from within the WHS.
  - ii. Dry valleys or coombes will be used to conceal the road, both within the WHS as well as outside the WHS, (e.g. the main carriageway between the River Till and Longbarrow Junction).
  - iii. The roundabouts and approach roads to the redesigned Longbarrow Junction will be concealed in false cutting, while Green Bridge No. 3 includes bunds which screen this crossing from the WHS.
  - iv. Re-use of part of the existing dual carriageway between the eastern portal and Countess Roundabout will minimise impacts on the setting of the scheduled Vespasian's Camp and the Grade II\* registered park and garden at Amesbury Abbey.
- c) The locations of the tunnel portals have been developed to avoid key heritage assets:
- i. A sensitive, low key design is adopted for the tunnel portals themselves, in order to minimise the visibility of these new structures within the WHS.
  - ii. The location of the western portal has been moved westwards to avoid impacting the scheduled Wilsford G1 barrow (UID 2018 / NHLE 1010832). The proposed additional length of canopy up to 200m long will reduce the visibility of the portal in views from monument groups such as the Winterbourne Stoke Crossroads barrows, the Diamond Group and the Normanton Down barrows.

- iii. The eastern portal location will be concealed within the landscape at the head of a deep dry valley (coombe) and by a short length of canopy, thus concealing the portal in views from the Avenue, King Barrow Ridge and the Countess Farm barrows.
  - b) The green bridges are designed to reduce their visual impact and to maintain or enhance landscape connectivity. Green Bridge Four has been relocated eastwards from its original position, and substantially lengthened, reconnecting the landscape containing the Diamond Group and Winterbourne Stoke Crossroads barrows in consultation with HMAG, thus allowing the physical and topographic landscape connection between the groups to be maintained.
  - c) Lighting is designed for minimal impact, utilizing downlights with lower light spill to reduce impacts on the surrounding landscape and 'dark skies'. Longbarrow Junction and Rollestone Corner will not be lit; tunnel portal lighting will be downlit and hooded to avoid light spill; lighting changes at Countess Roundabout will reduce light-spill; lighting under Green Bridge Four will only occur during the day time and will be dimmer controlled at dusk and dawn to avoid sudden bursts of light emitting into the landscape at these specific times of the day.
  - d) Road signage will be designed for minimal impact. For example, no signs will be visible above the cutting approaches within the WHS, and signage will employ reflective surfaces rather than being lit.
  - e) Where the decommissioned A303 is converted to a restricted byway, it will be reduced in width and comprise a bound surface that is suitably coloured so as to sympathetically integrate into the WHS. The remaining width of the former road will be converted to chalk grassland. The byway will not include hard edging, raised kerbs, surface markings, signage, lighting, benches, litter bins or other such street furniture. The stretch of the existing A303 to the east of the current junction with Stonehenge Road will not form part of the restricted byway and will only be required for occasional maintenance and agricultural access. Here, the existing surface will be broken up and a grassed surface treatment provided. Stock proof boundary fencing similar to that currently in place on the existing A303 would be provided along the restricted byway, where there is grazing land adjacent.
- 8.2.7 The need to protect heritage assets and their settings has also been taken into account in the development of the Environmental Masterplan, including ecological and landscape mitigation proposals.

**Table 9: Design changes to the Scheme within the WHS in response to cultural heritage concerns**

Issue	Response
Private Means of Access (PMA) track at Scotland Lodge had potential impact upon two non-designated barrows	PMA track re-aligned.
Potential visual impacts upon the WHS arising from the proposed Longbarrow Junction.	Longbarrow Junction moved 600m to the west of the A360 and the WHS so as to conceal it in the existing landform / landscape, behind Oatlands Hill.
Northern slip road for the A360 from the new Longbarrow Junction potentially impacted on the site of a non-designated barrow.	Slip road realigned slightly to the west to avoid the potential non-designated barrow location.
Potential for light pollution and sky glow to affect the WHS.	No lighting provided at the new Longbarrow Junction and Rollestone Corner to avoid light pollution and sky glow on the WHS. Dimmer control for lights under Green Bridge Four (lit only during daylight hours) at dusk and dawn. Signage and bollards not to be lit. Countess Roundabout to be updated with directional LEDS to minimise light spill and sky glow.
Potential engineered earthworks within or on the edge of the western part of the WHS.	Green Bridge Four would connect the existing landform with no raised bunds.
Land-take from the western part of the WHS.	Junction slip roads for the Longbarrow Junction designed to start outside the WHS to limit land-take from the WHS. Land take for the western portal approach road within the WHS limited as far as possible by the use of a retained cut.
<p>Visual impact of traffic on approach road to western portal.</p> <p>Visual impact of western portal and approach road.</p> <p>Use of chalk grassland to the north and south of the western portal approach road.</p>	<p>Western approach within the WHS designed to be in an 8m deep retained cut to remove moving vehicles in views from the majority of monuments and monument groups that contribute to OUV in this part of the WHS. Upper 2.5m of the retained cut would be grassed slopes in order to blend into the surrounding landscape.</p> <p>Western portal entrance further concealed by the use of a canopy.</p> <p>Chalk grassland mitigation beyond the retained cutting to soften views of the cutting in key views from heritage assets and landscape viewpoints. The visual presence of the retained cutting is also lessened by Green Bridge Four and the combination of chalk grassland across and around the bridge would visually aid the integration of this structure within the landscape.</p>

Issue	Response
Potential impact of western portal on scheduled barrow UID 2018 / NHLE 1010832 (Wilsford G1) and possible associated archaeology.	Western portal position optimised at the head of a dry valley, avoiding impact upon the scheduled barrow UID 2018 / NHLE 1010832 (Wilsford G1).
Visual impact of eastern portal.	Eastern portal optimised in the base and at the head of a dry valley and its entrance concealed by the use of a short stretch of canopy.
Land-take for eastern portal approach.	Land-take minimised as far as possible by utilising the existing A303 and the use of a retained cut.
Potential impact on Blick Mead and River Avon	Alignment optimised past Blick Mead, to avoid land-take and to keep the road at existing grade. Ground water modelling indicates no impact on Blick Mead or River Avon (refer to the tiered assessment for Blick Mead presented in Appendix 11.4 Annex 3).
Visual impact of present A303, once decommissioned.	<p>NMU route designed to minimise impacts for the current A303 between the A360 and Stonehenge Road. From Stonehenge Road eastwards, the existing A303 would be returned to chalk grassland to improve the setting of many monuments and remove severance and improve access for the Avenue.</p> <p>Restricted Byway proposed for the A360 as it passes to the west of Winterbourne Stoke Crossroads barrow group. Longbarrow roundabout removed and returned to chalk grassland. These measures would provide a better setting for the Winterbourne Stoke Crossroads barrow group.</p>
New PMA access track crossing the Avenue.	PMA east of Stonehenge Road and crossing the Avenue to have suitable reinforced grassed surface to maintain landscape connectivity.
Adverse impact of vehicles on the new link between Byways AMES11 and AMES12 on the adjacent Normanton Down Barrows (AG19) and on the tranquillity of the WHS at this location.	Removal of the previously proposed link between Byways AMES11 and AMES12 in the WHS. This contributes to the Scheme objective to remove the sight and sound of traffic from much of the WHS landscape, a key aspiration of the WHS Management Plan.
Modifying the layout of Rollestone crossroads to alter the traffic flow priorities and accommodate long vehicles.	The new layout is more compact than that previously proposed, minimising land take. Although this change means that the junction would be located just inside the northwest corner of the WHS, surveys did not identify any archaeological remains that contribute to the OUV of the WHS in the Scheme footprint, and the revised Scheme design would minimise highway infrastructure.

- 8.2.8 Although design principles have been developed specifically for the Avebury part of the WHS in the Avebury WHS Transport Strategy (Atkins 2015), there are no parallel design principles for the Stonehenge part of the WHS. The Scheme design draws on relevant published guidance and practice, including:
- Streets for All: Advice for Highway and Public Realm Works in Historic Places (Historic England 2018);
  - Streets for All: South West (Historic England 2018);
  - Manual for Streets (DCLG and DfT 2007) and Manual for Streets 2 (CIHT 2010);
  - Reducing sign clutter. Traffic Advisory Leaflet (TAL) 01 / 13 (DfT, 2013) and the The Traffic Signs Manual (DfT various); and
  - Design, traffic engineering, management and safety principles in DMRB and compliance with technical and legal requirements.

### **8.3 Proposed mitigation**

#### **Archaeological recording and monitoring**

- 8.3.1 It is envisaged that the majority of the archaeological mitigation works (archaeological fieldwork and recording) would be completed during the preliminary works stage, prior to the appointment of the Main Contractor. However, some areas may still remain to be archaeologically mitigated at construction stage, such as the positions for tunnel movement monitoring stations.
- 8.3.2 The timing of fieldwork within the preliminary works stage is dependent upon land access requirements, prevailing ground conditions and related utility diversions. At the preliminary works stage, mitigation works would be generally programmed as follows:
- Phase 1: topographic surveys, small-scale investigation of historic landscape features and minor archaeological sites and geoarchaeology fieldwork and recording. Archaeological monitoring and recording would be carried out during advanced works contracts such as installation of highway boundary, utility diversions, road diversions, ecology works and woodland clearance at certain locations, if required by the detailed project design. Archaeological mitigation at selected sites to facilitate the installation of protective fencing would be carried out, including boundary fencing. Heritage assets that require relocation, such as historic milestones, would be moved; and

- Phase 2: detailed excavation would be undertaken during the preliminary works stage (and prior to construction), at archaeological sites and areas requiring such mitigation. Design works for additional sites that require preservation *in situ* would be developed and implemented during the preliminary works stage, if appropriate.
- 8.3.3 Prior to the start of construction, the Main Contractor will prepare a Scheme-wide Construction Environmental Management Plan (CEMP) and a Heritage Management Plan and indicate how the historic environment is to be protected in a consistent and integrated manner, coordinated with all other relevant environmental topics. The requirements for inclusion within the plans are as set out in the OEMP.
- 8.3.4 The plan would also set out procedures for the protection of heritage assets and archaeological sites during construction including buffer zones, protective membranes and fill materials, protective fencing and appropriate signage, security measures, control of light spillage, noise and dust etc.
- 8.3.5 ES Chapter 6, Cultural Heritage, sets out commitments to ensure that heritage assets are respected in accordance with national planning policy guidance and good practice. Safeguards would be secured formally through requirements attached to the DCO.
- 8.3.6 At the Construction Works stage, archaeological mitigation works would be generally programmed as follows:
- Phase 3: Monitoring works would be undertaken to ensure the preservation *in situ* of archaeological assets in accordance with the method statements (including sites to be fenced and protected, areas to be preserved under tunnel excavated material deposition areas and landscape fill areas, areas to be protected by no-dig solutions for haul roads, temporary roads required for traffic management, NMU and PMA routes and compound areas).
  - Archaeological evaluation and mitigation would be designed and implemented in compound areas where a no-dig solution is not possible or appropriate (for example areas required for concrete batching plants or tunnel excavated material processing plants).
  - Archaeological mitigation would be undertaken in advance of the installation of tunnel movement monitoring stations required above the section of the Scheme that is in tunnel, where this has not been possible during the Preliminary works stage.

### Protection measures

- 8.3.7 Wherever possible, heritage assets and archaeological sites would be

protected by a range of protection measures that would be put in place at the start of the preliminary works stage and maintained through the full construction programme to ensure their long-term survival. Relevant protection measures would include use of temporary protective fencing where works are to be excluded; and appropriate measures, including using protective barrier membrane, suitable fill and vehicle control measures where buried assets or sites are to be protected *in situ* (temporarily or permanently). A photographic record would be made of the condition of heritage assets and archaeological sites prior to installation of protective measures, and after removal of temporary protective measures.

- 8.3.8 Heritage assets and archaeological sites to be protected include designated and non-designated monuments, whether these are upstanding remains or buried remains identified through previous surveys; and areas of archaeological interest.
- 8.3.9 Sites requiring protection are identified in ES Chapter 6, Cultural Heritage, Appendix 6.11, Outline Archaeological Mitigation Strategy.

### **Archaeological fieldwork and recording strategy**

- 8.3.10 A programme of archaeological recording would be implemented for archaeological remains within the footprint of the Scheme which would be removed during construction. This would be proportionate to the level of impact and the value of the assets affected, taking into account the status of the WHS. Archaeological mitigation work would include archaeological excavations, recording, reporting, publication, and dissemination to local communities, the wider general public and academics (see HIA Section 8.3, Proposed mitigation: Post-excavation assessment, analysis, reporting, dissemination and archiving and Section 8.4, Post-construction mitigation measures: Interpretation, access and outreach).
- 8.3.11 The approach to archaeological mitigation is outlined in ES Chapter 6, Cultural Heritage, Appendix 6.11, Outline Archaeological Mitigation Strategy. A Detailed Archaeological Mitigation Strategy (DAMS) and an accompanying Overarching Written Scheme of Investigation (OWSI) would be prepared that would set out the scope, guiding principles and methods for the planning and implementation of essential archaeological mitigation. For each site or area of archaeological interest a Site Specific Written Scheme(s) of Investigation (SSWSI) would be prepared that outlines specific measures that would apply to particular pieces of archaeological fieldwork, carried out as part of the programme of archaeological works. These documents would be agreed in consultation with HMAG (inside the WHS) and WCAS (outside the WHS) prior to the preliminary works commencing on site. The advice of the Scientific Committee would also be sought and incorporated into the fieldwork design.

- 8.3.12 The archaeological mitigation programme would be designed and conducted with full consideration of the Research Framework for the Stonehenge and Avebury and Associated Sites WHS (Leivers and Powell, 2016); and where appropriate the South West Archaeological Research Framework (Grove and Croft, 2012).

### **Outline Environmental Management Plan**

- 8.3.13 An OEMP has been prepared for the Scheme. This outlines how the Scheme would avoid, minimise or mitigate effects on the environment, including cultural heritage. OEMPs are 'live' documents that are reviewed and updated at regular intervals throughout the project life cycle.

### **Post-excavation assessment, analysis, reporting, dissemination and archiving**

- 8.3.14 A post-excavation assessment, in accordance with DMRB and Historic England guidelines, followed by an appropriate Scheme of detailed analysis and reporting would be undertaken. It would commence as soon as the archaeological fieldwork and recording has been completed.
- 8.3.15 Proposals to disseminate information, knowledge or understanding gained during the heritage evaluation and assessment process and detailed fieldwork and recording, are set out in the OWSI and AESR and would be further iterated in the DAMS. A timescale of a maximum of three years for the publication of results from the evaluations was set where no further mitigation work would be required, and where this is the case for the evaluation results to be incorporated into the overall publication of the results of the archaeological mitigation works.
- 8.3.16 Proposals for appropriate publication would be considered in each SSWSI and / or as part of a subsequent WSI or Further Archaeological Design (FAD) document setting out a programme of post-excavation and dissemination of the results of the overall evaluation fieldwork programme as a whole.
- 8.3.17 A clear commitment is made for all the results to be disseminated in an appropriate format for assimilation into the WSHER, and disseminated in a timely manner via OASIS. Additionally the results are to be made available in a format that is accessible to the wider public in order to promote understanding of the historic environment of the WHS and the Scheme.
- 8.3.18 Archive preparation and deposition would follow the requirements set out in the OWSI. The Project archive would be deposited at a local museum for long-term storage and the archive would be made publicly accessible with the museum's agreement. Digital data and digital finds information would also be conserved on a local and / or national web-based server.

### *Publication*

- 8.3.19 The post-excavation works are likely to result in both a popular publication(s) and an academic monograph or academic papers presented in an appropriate geographic or topic specific academic journal (which would either be available in hard copy or online).

### *Public outreach*

- 8.3.20 The results of the archaeological fieldwork would be disseminated, by various means, to as wide an audience as possible (local, regional, national, international), given the international importance of the WHS and its associated archaeological remains.
- 8.3.21 Opportunities for public archaeology would be arranged to view work in progress and to highlight the heritage-led aspects of the Scheme, providing a 'behind-the-scenes' insight and showcasing archaeological discoveries arising from the fieldwork and recording undertaken during Phase 2 where safe and practicable.
- 8.3.22 Media relations would be maintained throughout the project by Highways England's and Principal Contractor's media and PR team(s) and relevant details provided to media outlets, to inform local communities, the wider public and the academic community.
- 8.3.23 Opportunities to enhance public appreciation of the findings and an understanding of the project would be developed during the course of the fieldwork and recording and could involve, for example, providing interpretation panels and displays of finds at selected venues.

## **8.4 Post-construction mitigation measures**

- 8.4.1 No specific post-construction mitigation measures related to the Scheme have been identified. The following mitigation measures form part of Highways England's heritage management process and wider proposals to develop interpretation, access and outreach.

### **Cultural Heritage Asset Management Plan**

- 8.4.2 A requirement has been placed on Highways England in their role as a government body to undertake regular checks on the heritage assets within their ownership in order to fulfil their obligations towards the historic environment. Through the Cultural Heritage Asset Management Plan (CHAMP) process, the condition of the heritage assets within and adjacent to the highway estate can be assessed and management actions implemented to ensure their future protection. This system assesses the impacts of routine management tasks and / or vulnerabilities associated with road users.

- 8.4.3 CHAMPs are prepared in accordance with DMRB Volume 10 Environmental Design and Management, Section 6 Archaeology, Part 2, HA 117 / 08 Cultural Heritage Asset Management Plans (Highways Agency 2008) and the Protocol for the Care of the Government Historic Estate (2017).
- 8.4.4 The asset maintenance company (maintaining agent) for Area 3 (Hampshire, Surrey, Berkshire, Oxfordshire, Dorset, Wiltshire and part of Buckinghamshire) is responsible for preparing CHAMPs, undertaking regular reviews and implementing heritage management actions.
- 8.4.5 CHAMPs should be produced regularly for heritage assets that are situated within Highways England owned land associated with the Scheme, to ensure the long term survival, condition and maintenance of features.

#### **Interpretation, access and outreach**

- 8.4.6 Long-term interpretation and public access measures, awareness-building and education proposals are being developed as part of the National Trust and Historic England's Phase 2 – Partnership Plan for National Trust and English Heritage Trust land.
- 8.4.7 Highways England has convened an A303 Benefits and Legacy Forum and Benefits Steering Group. This would look to work with partner organisations to develop the Scheme legacy and benefits as the Scheme develops, tying in to the priorities set out within the 2015 WHS Management Plan.

## 9 Assessment and evaluation of overall impact of the proposed changes

### 9.1 Impacts and effects of existing A303

- 9.1.1 It is considered relevant to include an assessment of the impacts and effects of the existing A303 on OUV, as this has been noted in management and planning documentation since nomination, and is a key driver of the Scheme.
- 9.1.2 Impacts of the existing A303 on Asset Groups and discrete assets are considered in HIA Sections 6.9, Asset Groups: baseline description and assessment of Scheme impacts and effect and 6.10, Discrete and isolated assets: baseline description and assessment of Scheme impacts and effects.
- 9.1.3 These impacts are summarised in Table 11 and Table 12. Table 13 summarises the significance of impacts and effects of the existing A303 on Attributes of OUV, Integrity and Authenticity.
- 9.1.4 A summary table of impacts and effects is also presented in HIA Annex 3, Summary of assessment of impacts and effects.

#### Impacts and effects of existing A303 on Attributes of OUV

- 9.1.5 The existing A303 impacts upon Attributes of OUV, due to:
- a) Visual intrusion due to views of moving and stationary traffic on the road, particularly high-sided vehicles.
  - b) Visual intrusion due to the presence of the A303 surface route, including signage clutter and lamp standards (particularly at Longbarrow Junction).
  - c) Night-time visual intrusion due to light spill / light pollution from lit junctions at Longbarrow and Countess, and from traffic head- and tail-lights.
  - d) Intrusion on solstitial alignments (see HIA Sections 6.6, OUV of the World Heritage Site and 6.15, Archaeoastronomical aspects). The ICOMOS-International Astronomical Union thematic study on astronomical heritage notes that '*Although the A344 has been closed to great effect, the A303 remains a major problem for some of these sightlines and a road tunnel would be an excellent solution.*' (Chadburn and Ruggles 2017, 62).
  - e) Views from the south-west, for example from the 'Sun Barrow', along the solstitial alignment of the midsummer sunrise towards Stonehenge

and the Avenue beyond.

- f) Aural intrusion due to traffic noise.
- g) Air quality impacts on human receptors due to traffic fumes.
- h) Severance of visual and physical relationships between monuments, between Asset Groups and their relationships with the landscape. This includes visual and aural intrusion, including intrusion on views between heritage assets and Asset Groups – in particular:
  - Severance of linkage between AG12 Winterbourne Stoke Crossroads Barrows and AG13 The Diamond Group;
  - Severance of the AG19 Normanton Down Barrows, splitting the group from a northerly element, three bowl barrows immediately north of the A303 on Stonehenge Down (NHLE 1012369);
  - Severance of AG24 Stonehenge Bottom / Luxenborough Barrows, splitting the group from a northerly element, a bowl barrow 300m south west of New King Barrows (NHLE 1008947);
  - Severance of AG27 the Avenue;
  - Severance of AG30 the Avenue Barrows;
  - within AG30 the Avenue Barrows, the southern side of the bowl barrow 150m east of Stonehenge Cottages on A303 (NHLE 1012129) is cut through and has been partially removed by the existing A303 road;
  - Severance of the long barrows identified by Roberts et al. (2018) set around the Wilsford/Normanton dry valley.

9.1.6 The impact of rat-running and traffic jams along the Packway and Fargo Road in the north of the WHS, and the B3086 and the A360 along the western edge of the WHS. This rat-running is caused by traffic attempting to avoid congestion on the existing A303.

9.1.7 The existing A303 effectively prevents safe access to the Stonehenge WHS to the south, limiting access to the wider prehistoric landscape. This restricts opportunities for interpretation and the transmission of its significance, limiting the ability of the public to appreciate and understand the archaeology of the WHS.

9.1.8 Other roads and byways in the immediate vicinity of the WHS also impact upon Integrity and Attributes of OUV. These are noted here, as any changes to traffic flows, motorised and non-motorised user access due to the Scheme may also impact upon these aspects. Severance of other

Asset Groups in the WHS and visual and aural intrusion caused by modern routes, includes:

- AG12 Winterbourne Stoke Crossroads Barrows, AG11 Lesser Cursus Barrows and AG10 Rollestone Barrows, which are severed by the course of the A360 / B3086, which forms the western boundary of the WHS;
- AG10 Rollestone Barrows, severed by the course of the Packway, which forms the northern boundary of the WHS; and
- AG33 Durrington Walls Avenue is cut across by the A345 which also buries part of the Southern Circle. The A345 forms the eastern boundary of the WHS.

9.1.9 The following impacts and effects of existing A303 on Attributes of OUV have been identified:

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

9.1.10 The dominance of traffic around Stonehenge has long been recognised as an issue for the WHS. The current environment is characterised by excessive and highly intrusive traffic including heavy commercial vehicles, and private cars. At peak times the monument's immediate and near-distance setting is dominated by stationary queues of traffic which are entirely at odds with its global status and iconic standing. BOATs AMES11 and AMES12, along which vehicles are often illegally parked, cause visually intrusive effects.

9.1.11 Overall, the existing A303 has a Moderate Negative impact on this Attribute of OUV, leading to a Large Adverse effect.

*2. The physical remains of the Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape*

9.1.12 The existing A303 impacts upon the setting of all monuments from which it is visible and audible and the WHS as a whole. The road also intrudes in views of the setting sun from Stonehenge during the winter solstice

9.1.13 Overall, the existing A303 has a Moderate Negative impact on this Attribute of OUV, leading to a Large Adverse effect.

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

9.1.14 The existing A303 severs relationships between a number of monuments and their wider landscape, including Stonehenge, the Normanton Down Barrows (AG19), barrow cemeteries on King Barrow Ridge (AG26) and numerous barrows to the south of the A303. The existing A303 severs the

course of the Avenue.

- 9.1.15 Overall, the existing A303 has a Minor Negative impact on this Attribute of OUV, leading to a Moderate Adverse effect.

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

- 9.1.16 The existing A303 impacts upon the midsummer sunrise / midwinter sunset solstitial axis at Stonehenge itself (Snashall and Young 2017, 54). This midwinter sunset occurs south-west of the monument behind an apparent horizon outside the WHS to the west. The solstitial axis crosses the line of the existing A303 slightly to the east of the junction of the road with BOAT AMES12 and then passes through the Sun Barrow north of Normanton Gorse. The lights of traffic along the present road adversely affect the ability to observe the midwinter sunset so that there is currently an adverse impact, probably to be assessed as minor, with a moderate adverse significance according to the ICOMOS HIA scale (Snashall and Young 2017, 54). This has been confirmed by another study carried out on behalf of ICOMOS (Chadburn and Ruggles 2017, 51). This considers the integrity of sightline – and its intermediate ridgelines and final horizon – to be marred by the A303, which runs relatively close to the monument and presents a considerable visual and noise intrusion to this alignment (Chadburn and Ruggles 2017, 51).
- 9.1.17 The Stonehenge Avenue (AG27) looking south-west (midwinter sunset) shares the same alignment, and the same issues apply regarding its integrity (Chadburn and Ruggles 2017, 52).
- 9.1.18 The sightline from the Stonehenge Station-Stone Rectangle looks south-east on the line of the southernmost moonrise. The integrity of this sightline, and its intermediate ridge lines and final horizon is marred as looking out from Stonehenge, the existing A303, runs relatively close to the monument, presenting a considerable visual and noise intrusion to this alignment (Chadburn and Ruggles 2017, 52–3).
- 9.1.19 Overall, the existing A303 has a Minor Negative impact on this Attribute of OUV, leading to a Moderate Adverse effect.

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

- 9.1.20 The relationships between many monuments in the WHS are severed by the course of the existing A303, which interrupts sightlines with visual distraction and clutter, and causes physical severance. The existing A303 has a particularly negative impact on visual connections between the Normanton Down Barrow Group (AG19) and monuments such as Stonehenge (AG22), the Old and New King Barrows (AG26), the Avenue

Barrows (AG30), the Avenue (AG27), the Cursus (AG23) and various barrows, and in relationships between Stonehenge and a range of monuments to the south, as well as discrete barrows and other ritual / ceremonial sites across the WHS.

- 9.1.21 Overall, the existing A303 has a Moderate Negative impact on this Attribute of OUV, leading to a Large Adverse effect.

*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*

- 9.1.22 The existing A303 has a negative impact on the setting of a range of monuments and sites including Stonehenge (AG22), the Avenue (AG27), the Cursus (AG23), Normanton Down Barrow Group (AG19), the Winterbourne Stoke Crossroads Barrows (AG12), the Diamond Group (AG13) and other related assets. The A303 not only severs relationships between Asset Groups and discrete assets, it also physically severs a number of barrows, cutting through them or clipping parts of monuments.

- 9.1.23 Overall, the existing A303 has a Moderate Negative impact on this Attribute of OUV, leading to a Large Adverse effect.

*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*

- 9.1.24 The existing A303 is highly visible in many views in the landscape and blights appreciation of views and the landscape setting. However, the view of Stonehenge from vehicles descending from King Barrow Ridge to Stonehenge Bottom along the A303 is highly appreciated by many.

- 9.1.25 Overall, the existing A303 has a Negligible Negative impact on this Attribute of OUV, leading to a Slight Adverse effect.

### **Impacts and effect of existing A303 on Integrity**

- 9.1.26 The existing A303 has visual, aural and access impacts on the Integrity of the WHS.

- 9.1.27 The 2015 WHS Management Plan notes that: '*Assessments of integrity are asked to examine the extent to which the WHS:*

- *Includes all elements necessary to express its OUV*
- *Is of adequate size to ensure the complete representation of the features and processes which convey the property's significance*
- *Suffers from adverse effects of development and / or neglect.'* (Simmonds and Thomas 2015, 35).

9.1.28 The SoOUV notes that: *'The presence of busy main roads going through the World Heritage property impacts adversely on its integrity. The roads sever the relationship between Stonehenge and its surrounding assets [...]'* (UNESCO 2013).

9.1.29 The 2015 WHS Management Plan states:

*'The traffic impacts negatively on the setting of multiple Attributes of OUV including Stonehenge, the round barrow cemeteries on King Barrow Ridge and Winterbourne Stoke Crossroads Barrows. In addition the A303 and the A345 sever the Stonehenge Avenue and the henge at Durrington Walls respectively in two'* (Simmonds and Thomas 2015, 21).

9.1.30 According to the 2015 WHS Management Plan, the existing A303 has:

*'[...] a major impact on the integrity of the wider WHS, the setting of its assets and the ability of visitors to explore the southern part of the Site. The A303 divides the Stonehenge part of the WHS landscape into northern and southern sections diminishing its integrity and severing links between assets in the two parts. It has significant impacts on the setting of Stonehenge and its Avenue as well as many other assets that are Attributes of OUV including a number of barrow cemeteries. The road and traffic represent visual and noise intrusion and have a major impact on the tranquillity of the WHS. Access to the southern part of the WHS is made both difficult and potentially dangerous by the road'* (Simmonds and Thomas 2015, 169).

9.1.31 The 2015 UNESCO / ICOMOS Advisory Mission report noted that:

*'The removal of the damaging surface A303 from the World Heritage site has been a long-running ambition of the UK Government, due to the serious harm the current road is causing to OUV, not only through the noise, pollution and distraction of heavy traffic, but also due to the effective severance of the bulk of the WHS to the south of the existing A303 from the northern part of the property containing Stonehenge and the other major ceremonial sites and assets'* (UNESCO / ICOMOS 2016, 5).

9.1.32 Overall, the existing A303 has a Major Negative impact on Integrity, leading to a Large Adverse effect.

### **Impacts and effect of existing A303 on Authenticity**

9.1.33 The 2015 WHS Management Plan cites the SoOUV, noting that:

*'Interventions have been limited mainly to excavations and the re-erection of some fallen or buried stones to their known positions in*

*the early and mid-twentieth century in order to improve understanding. Ploughing, burrowing animals and early excavation have resulted in some losses but what remains is remarkable in its completeness and concentration. The materials and substance of the archaeology supported by the archaeological archives continue to provide an authentic testimony to prehistoric technological and creative achievement.*

*This survival and the huge potential of buried archaeology make the property an extremely important resource for archaeological research, which continues to uncover new evidence and expand our understanding of prehistory. Present day research has enormously improved our understanding of the property.*

*The known principal monuments largely remain in situ and many are still dominant features in the rural landscape. Their form and design are well-preserved and visitors are easily able to appreciate their location, setting and inter-relationships which in combination represent landscapes without parallel.*

*At Stonehenge several monuments have retained their alignment on the Solstice sunrise and sunset, including the Stone Circle, the Avenue, Woodhenge, and the Durrington Walls Southern Circle and its Avenue.*

*Although the original ceremonial use of the monuments is not known, they retain spiritual significance for some people, and many still gather at both stone circles to celebrate the Solstice and other observations. Stonehenge is known and valued by many more as the most famous prehistoric monument in the world.*

*There is a need to strengthen understanding of the overall relationship between remains, both buried and standing, at Stonehenge and at Avebury'. (Simmonds and Thomas 2015, 28).*

- 9.1.34 The 2015 WHS Management Plan assessed impacts on Authenticity since nomination in 1986, discussing impacts on an attribute-by-attribute basis, noting recent archaeological fieldwork, recording and interpretation projects. In relation to the impact of the existing A303, the Management Plan notes the following:

*'3. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape [...] Some visual and physical links are still impeded by the major roads in the landscape, by woodland and by modern development around Larkhill, as they were in 1986.'* (Simmonds and Thomas 2015, 36).

*'4. The design of Neolithic and Bronze Age funerary and ceremonial*

*sites and monuments in relation to the skies and astronomy. There is much debate about the way in which the design and siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments relate to the skies and astronomy. It is generally agreed that the solstitial alignments of Stonehenge itself are a key element of its design. These have not been impaired by intrusive structures since the site was inscribed in 1986 (although the A303 continues to have a negative impact on the solstitial relationship of Stonehenge and the 'sun barrow' immediately north of Normanton Gorse). Some plantations also intrude on this and other solstitial alignments [...]' (Simmonds and Thomas 2015, 37).*

*'5. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other. Relationships between the Neolithic and Bronze Age funerary and ceremonial sites and monuments remain as clear as they were in 1986 and can in most cases be easily appreciated. In some cases, visual and physical links are interrupted by woodland [...] The major roads in the landscape intrude on some relationships, for example between Stonehenge itself and its Avenue and the Sanctuary and the Overton Hill Barrow Cemetery at Avebury. This is also the case for many other key Neolithic and Bronze Age sites and monuments.'* (Simmonds and Thomas 2015, 37).

*'6. The disposition, physical remains and settings of the Neolithic and Bronze Age funerary, ceremonial and other monuments and sites of the period, which together form a landscape without parallel. The largely open nature of the landscape means that the disposition, physical remains and settings of the Neolithic and Bronze Age funerary, ceremonial and other monuments and sites of the period, which together form a landscape without parallel, remain clear over much of the WHS. Relationships are less clear in the northern part of the Stonehenge landscape around the settlement of Larkhill where there is a considerable amount of modern development within the WHS. At Avebury the built environment intrudes on the setting of some monuments. This has increased on the approach to the Henge from the north. Elsewhere, in both parts of the WHS, the major roads intrude on appreciation of this landscape without parallel. Modern woodland obscures some aspects of the landscape though it also has an important screening role in some locations. The reversion of large areas of the WHS to grassland has strengthened the setting of a number of attributes of OUV since 1986.'* (Simmonds and Thomas 2015, 37).

*'7. The influence of the remains of Neolithic and Bronze Age funerary and ceremonial monuments and their landscape settings on architects, artists, historians, archaeologists and others. This attribute is expressed most clearly in artworks and literature*

*depicting or inspired by the WHS, many centred on the stone settings at Stonehenge or Avebury [...] Many such views remain largely unaffected by modern development apart from the major roads which can of course be an aspect of the artist's or writer's response to the WHS as seen in V S Naipaul's *The Enigma of Arrival* (1987). This position has not altered since 1986 apart from the increased volume and noise of road traffic [...]'.* (Simmonds and Thomas 2015, 37).

- 9.1.35 Overall, the existing A303 has a Negligible Negative impact on Authenticity, leading to a Slight Adverse effect.

### **Impacts and effects of existing A303 on OUV**

- 9.1.36 A major step towards improving the protection and management of the WHS was taken with the opening of the new Stonehenge Visitor Centre, the closure of the A344 and the closure of the old visitor centre in 2013. However, the A303 remains a problem because it impacts upon the settings of many of the principal monuments, including Stonehenge itself, and the visual and physical, spatial, contextual and experiential relationships between monuments. These settings and relationships are Attributes of the OUV of the WHS. The A303 also restricts and severs access and impacts the quality of visitor experience, such that the vast majority of visitors are able only to visit part of the WHS.

- 9.1.37 The 2013 SoOUV notes that:

*'Although substantial progress is being made, the impact of roads and traffic remains a major challenge in both parts of the World Heritage property. The A303 continues to have a negative impact on the setting of Stonehenge, the integrity of the property and visitor access to some parts of the wider landscape. A long-term solution remains to be found.'* (UNESCO 2013).

- 9.1.38 The SoOUV notes that *'The presence of busy main roads going through the World Heritage property impacts adversely on its integrity. The roads sever the relationship between Stonehenge and its surrounding assets [...]'* (UNESCO 2013).

- 9.1.39 The 2015 WHS Management Plan highlights the impact of the A303 as follows:

*'The main adverse impact of development on integrity - the major roads A303, A344, A (4)361 and the A4 – were present in 1986. At that time, the Government gave assurances that they would give serious consideration to the closure of A344 where it crossed the Avenue at Stonehenge. This was achieved in 2013. These impacts have not largely changed in form though there is now a greater*

*impact from increased traffic. More intensive use of the roads has an impact on the visual and tranquil enjoyment of the Site.’ (Simmonds and Thomas 2015, 35).*

*‘Roads and traffic in particular dominate in a number of areas and are visibly and aurally intrusive. At Stonehenge, although considerable progress has been made by the removal of the A344, the A303 (which follows the line of a former 18<sup>th</sup>-century toll road) and the A360 run straight across the landscape. The traffic impacts negatively on the setting of multiple attributes of OUV including Stonehenge, the round barrow cemeteries on King Barrow Ridge and Winterbourne Stoke Crossroads Barrows. In addition the A303 and the A345 sever the Stonehenge Avenue and the henge at Durrington Walls respectively in two.’ (Simmonds and Thomas 2015, 21).*

*‘The presence of busy main roads going through the World Heritage property impacts adversely on its integrity. The roads sever the relationship between Stonehenge and its surrounding monuments, notably the A344 which separates the Stone Circle from the Avenue [...] Roads and vehicles also cause damage to the fabric of some monuments while traffic noise and visual intrusion have a negative impact on their settings. The incremental impact of highway-related clutter needs to be carefully managed.’ (Simmonds and Thomas 2015, 27).*

*‘At Stonehenge the A303 trunk road is a highly visible route that cuts through the WHS landscape. The western boundary of the WHS is the A360 and part of the eastern boundary is formed by the A345 which also cuts through the henge at Durrington Walls. The northern boundary of the site is the Packway which is the main access route to the army base at Larkhill [...] Significant volumes of traffic pass through the WHS on the A303 trunk road and also along the other main roads bounding the Site to the east and west. 2013 figures from the Department for Transport show daily traffic flows of over 26,700 vehicles. The settlements around the Site and down the Avon Valley generate traffic as does the very large distribution centre at Solstice Park to the east. Stonehenge itself generates traffic with over 1.25 million visitors to the Stones annually most of whom come by car or coach. In the future the Department for Transport predicts that the volume of both commuter and leisure-related traffic is likely to continue to grow in line with national trends, driven by changing social, demographic and economic factors [...]’.(Simmonds and Thomas 2015, 158–159).*

*‘Although the closure of the A344 marks very substantial progress at Stonehenge, the A303 continues to have a major impact on the integrity of the wider WHS, the setting of its monuments and the*

*ability of visitors to explore the southern part of the Site. The A303 divides the Stonehenge part of the WHS landscape into northern and southern sections diminishing its integrity and severing links between monuments in the two parts. It has significant impacts on the setting of Stonehenge and its Avenue as well as many other monuments that are attributes of OUV including a number of barrow cemeteries. The road and traffic represent visual and noise intrusion and have a major impact on the tranquillity of the WHS. Access to the southern part of the WHS is made both difficult and potentially dangerous by the road. In addition to its impacts on the WHS, reports indicate that the heavy congestion has a negative impact on the economy in the South West and locally and on the amenity of local residents.’ (Simmonds and Thomas 2015, 169).*

*‘The traffic impacts negatively on the setting of multiple attributes of OUV including Stonehenge, the round barrow cemeteries on King Barrow Ridge and Winterbourne Stoke Crossroads Barrows. In addition the A303 and the A345 sever the Stonehenge Avenue and the henge at Durrington Walls respectively in two’ (Simmonds and Thomas 2015, 21).*

- 9.1.40 Other developments and agricultural practices also impact upon the OUV of WHS. These are detailed in the 2015 WHS Management Plan. They include:
- a) Visually intrusive qualities of the existing Stonehenge Visitor Centre, associated traffic and vehicle parking including the bus parking area. Roundabout, lighting and signage clutter at Airman’s Corner roundabout immediately north-west of the Visitor Centre. This is particularly marked from AG15 the Lesser Cursus, AG11 Lesser Cursus Barrows, and the western end of AG23 the Greater Cursus.
  - b) Visually intrusive qualities of the former A344, including visual and aural intrusion from visitor shuttle buses and the new bus parking area located north-west of the Stonehenge monument.
  - c) Visual intrusion caused by the fading ‘scars’ of the former locations of the A344 and Stonehenge Visitor Centre and car park removed as part of the Stonehenge Environmental Improvements Programme (SEIP), which are a notable feature of views from AG18 the Cursus Barrows (West) towards AG22 Stonehenge to the south-east.
  - d) The presence of screening plantations, shelter-belts and stands of woodland, which obscure views (e.g. Winterbourne Stoke Clump; along Lake and Wilsford ridges, the Diamond and Normanton Gorse; Fargo Plantation; Durrington Down Plantation; woodland north of the Cursus; King Barrow Ridge; and at Stonehenge Bottom and Luxenborough).

- e) Visually intrusive qualities of overhead cables and pylons within the wider landscape.
- f) Agricultural land use, including arable cultivation and a pig farm, which impact upon the conservation and integrity of buried archaeological remains. The restoration of an open chalk grassland setting for Stonehenge and other assets within the WHS is a key aspiration of the Management Plan.
- g) Burrowing animals, particularly badgers and also hares and rabbits, compromising the integrity of some monuments.
- h) The presence of Larkhill Camp and its surrounding plantations, Bulford Camp and Boscombe Down airfield, and military activity including low flying aircraft and helicopters. Temporary effects of extensive construction activity, including cranes and chalky spoilheaps, associated with the Army Basing Programme.
- i) *'The night sky is compromised in some places owing to lights from cars on the roads, street lights, housing, and Larkhill Garrison, Amesbury town and Durrington village [...] Light pollution from the neighbouring military settlements and installations at Larkhill and Boscombe Down are [...] a problem. The dark skies which once existed in prehistory are often difficult to see today because of light spillage from these areas.'* (Chadburn and Ruggles 2017, 57).

9.1.41 The 2015 Joint World Heritage Centre / ICOMOS Advisory Mission report noted that:

*'The removal of the damaging surface A303 from the World Heritage site has been a long-running ambition of the UK Government, due to the serious harm the existing road is causing to OUV, not only through the noise, pollution and distraction of heavy traffic, but also due to the effective severance of the bulk of the WH property to the south of the current A303 from the northern part of the property containing Stonehenge and the other major ceremonial sites and monuments.'* (UNESCO / ICOMOS 2016, 5).

9.1.42 Both the 2017 and 2018 Joint UNESCO World Heritage Centre / ICOMOS Advisory Mission reports note the problems caused by the existing A303 trunk road (ICOMOS 2017; ICOMOS 2018 passim).

9.1.43 The A303 is assessed as having a Moderate Negative impact on the OUV of the Stonehenge component of the WHS.

9.1.44 The significance of effect of the existing surface A303 on the overall OUV of the Stonehenge component of the WHS is assessed as Large Adverse.

## 9.2 Impacts and effects of Scheme: overview

### Scheme phases

9.2.1 For the purposes of HIA and the ES, the construction phase is defined as the temporary activities involved in building the Scheme, and the subsequent permanent presence of the Scheme once constructed. The operational phase comprises the situation when the Scheme is being used by traffic.

9.2.2 Physical impacts upon assets would only occur during the construction phase; impacts upon assets' setting would arise during both the construction and operation phases. Impacts upon setting may be either positive or negative.

### Construction

9.2.3 The construction of the Scheme has potential for benefits to cultural heritage. These include:

- a) Removing existing highway and associated infrastructure from the WHS.
- b) Removing existing physical severance caused by the current A303.
- c) Reducing aural and visual intrusion by removing or reducing the number of moving and stationary traffic.
- d) Re-establishing the visual prominence or dominance of monuments.
- e) Removing intrusions that disrupt astronomical / solstitial relationships.
- f) improving lighting ambience and dark skies.
- g) Impacts related to the severance or reuniting of historic landscapes and agricultural land parcels that result in changes to land-use patterns, leading to improvements to land management regimes for monuments that contribute to the OUV of the WHS.
- h) Changes in visitor footfall numbers and locations in parts of the WHS during construction and operation of the Scheme. Reuniting the landscape provides an opportunity to enhance conservation, interpretation, understanding and access to monuments that contribute to the OUV of the WHS.
- i) Impacts on communities including local and visitor perceptions of the significance and influences of cultural heritage, intangible and sacred heritage, and economics.

- 9.2.4 Construction of the Scheme also has the potential for adverse impacts upon cultural heritage, including:
- a) Partial or total removal of heritage assets, including archaeological remains, within the Scheme footprint.
  - b) Compaction of archaeological deposits by construction traffic and structures.
  - c) Temporary impacts upon the settings of heritage assets, including those that convey the Attributes of OUV.
  - d) Permanent impacts upon the setting of heritage assets, including those that convey the Attributes of OUV.
  - e) Changes to key views and sight lines.
  - f) Potential light spill at tunnel portals.
  - g) The presence of new road infrastructure including carriageways, tunnel portals, lighting, signage etc. in views to and from monuments and across the wider landscape of the WHS and severance of relationships (visual and physical) between monuments. Asset Groups affected by these changes include the Winterbourne Stoke Crossroads Barrows (AG12), The Diamond (AG13) and the Normanton Down Barrows (AG19).
  - h) The severance of relationships (visual and physical) between monuments and severance of relationships (visual and physical) between monuments and the landscape. Again, this affects the Winterbourne Stoke Crossroads Barrows (AG12), The Diamond (AG13) and the Normanton Down Barrows (AG19). The western portal and approach cutting of the Scheme also affects long barrows identified by Roberts et al. (2018) set around the Wilsford/Normanton dry valley.
  - i) Impacts related to the severance or reuniting of historic landscapes and agricultural land parcels, that result in changes to land-use patterns, leading to degradation and erosion of monuments due to changes in land management regimes.
  - j) Changes in visitor footfall numbers in parts of the WHS during construction and operation of the Scheme, which lead to the degradation of the conservation of monuments that contribute to the OUV of the WHS – whether situated in the Stonehenge or Avebury parts of the WHS.
  - k) Changes to badger sett positions and badger activity, and ensuing damage to barrows and other archaeological remains; and

- l) Changes to lichen communities growing on the stones at Stonehenge.

#### *Noise and vibration*

- 9.2.5 The potential impacts and effects of noise and vibration during operation of the Scheme are described in ES Chapter 9: Noise and vibration.
- 9.2.6 During tunnelling, vibration from construction works is predicted to be significantly below the Lowest Observable Adverse Effect Level (LOAEL) at Stonehenge; this level of vibration is not generally considered to be perceptible.
- 9.2.7 The possibility of physical and other effects on heritage assets positioned above the tunnel would be managed through the placement and operation of tunnel movement monitoring stations during construction works.
- 9.2.8 The tunnel passes directly beneath a long barrow 250m north of Normanton Gorse (NHLE no. 1008953). Significant impacts due to construction vibration are not anticipated, however, in the absence of specific criteria regarding construction vibration impacts on barrows and as a precautionary approach, monitoring at this feature is proposed during nearby tunnelling works.
- 9.2.9 Vibration monitoring would be undertaken at Stonehenge Cottages when vibration levels from the TBM are predicted to exceed the Significant Observed Adverse Effect Level (SOAEL) at this location as discussed in ES Chapter 9.9. Vibration monitoring would also be undertaken at Stonehenge and the single identified potentially sensitive barrow to the tunnelling works (long barrow 250m north of Normanton Gorse), when tunnelling is ongoing at the closest approach, the details of which would be set out in the Construction Environmental Management Plan.

#### *Air quality*

- 9.2.10 Construction dust emissions generated during tunnelling operations and portal construction, which are likely to be alkaline due to the nature of the material to be excavated, are considered to have the potential to affect the lichen community found on the standing stones at the Stonehenge monument, which may be particularly sensitive to such dust. However, specific mitigation is not considered to be required as Stonehenge is located over 1.5km from the nearest tunnelling activities, which would be controlled through standard mitigation measures in respect of dust emissions.

#### **Operation**

- 9.2.11 The potential impacts and effects of noise and vibration during operation of the Scheme are described in ES Chapter 9: Noise and vibration.

- 9.2.12 A major reduction in traffic noise level is predicted along the tunnelled section of the Scheme, including at Stonehenge. Outside of the tunnelled section, decreases in traffic noise levels would occur on the existing A303 alignment, and increases on the new alignment. However, the cuttings on the tunnel approaches would minimise the propagation of traffic noise from the A303, compared to the existing alignment on the surface. Noise generated within the tunnel would result in higher noise levels in the vicinity of the portals, however this is minimised by the inclusion in the design of absorptive lining at the tunnel portals.
- 9.2.13 The Scheme would be inspected regularly and subject to regular maintenance and repairs. Operational maintenance would be subject to the CHAMP process and prevailing heritage planning and permitting systems.

### **Theoretical decommissioning**

- 9.2.14 It is highly unlikely that the Scheme would be demolished after its design life as the road would have become an integral part of nationally important infrastructure. In the unlikely event of the Scheme needing to be demolished, this would be part of the relevant statutory process at that time, including EIA as appropriate.
- 9.2.15 The Scheme is being designed as permanent infrastructure. The life expectancy of the Scheme, as stated in ES Chapter 2, The Scheme, is 120 years. It is designed so that particular elements can be continually maintained, dismantled and replaced once they reach the end of their design life. For this reason, decommissioning is excluded from the Highways England design brief.
- 9.2.16 Theoretically, the tunnel and associated road infrastructure (both surface and underground components) may be decommissioned at some point in the future. At present, there is insufficient information on the manner of any future decommissioning (anticipated to be at least 120 years in the future), and that both engineering and design technologies and the regulatory environment will evolve over time.
- 9.2.17 For the purposes of assessment, it is anticipated that any theoretical future decommissioning of the Scheme would comprise either decommissioning the tunnel and leaving it in place, or the partial or full removal, disposal and recycling of the tunnel and associated structures.
- 9.2.18 It is standard practice to remove redundant facilities and man-made materials as obsolete infrastructure degrades over time. Removing all or parts of the tunnel would involve stripping / grubbing out of reusable or recyclable materials within the construction footprint, removing tunnel lining in segments and backfilling and sealing the tunnel, portals and approach roads with concrete / grout to ensure future ground stability.

Landscape restoration and remediation to suitable surfaces would be undertaken.

- 9.2.19 It is expected that the selected method of decommissioning would have due regard to health and safety, environmental impact and benefits, and economic aspects. Any future maintenance, decommissioning and / or reinstatement works would be subject to prevailing legislation, guidance and permitting regimes.
- 9.2.20 Potential decommissioning and reinstatement activities could result in a range of short-term impacts for the duration of the decommissioning stage, including:
- a) environmental disruption, particularly at the tunnel portals and approaches;
  - b) noise, dust, vibration and views of heavy machinery used in decommissioning activities which may have a short-term impact upon the setting of the WHS, and detract from the visitor experience and local amenity within the wider WHS landscape, particularly in the vicinity of the tunnel portals and approach roads; and,
  - c) alteration of traffic flows and impacts upon road users, depending on any provision of alternative private and public transport routes.
- 9.2.21 Land at the tunnel approaches would be available following removal, providing an opportunity to further reinstate connectivity between the north and south of the WHS, albeit across an area of recently-infilled ground.
- 9.2.22 It is not assessed that a well-designed decommissioning Scheme would have any impact beyond the already-disturbed footprint of the Scheme: it is not anticipated that decommissioning activities would have a direct physical impact upon archaeological remains.
- 9.2.23 As described above, the hypothetical decommissioning of the Scheme might have a slight adverse short term impact upon the OUV of the WHS.
- 9.2.24 In the long term, it is not anticipated that hypothetical decommissioning of the Scheme would have any additional significant long term adverse impact upon the OUV of the WHS.
- 9.2.25 However, given the many variables involved, it is not assessed that it is possible to make any realistic assessment of impacts and effects at this stage.

## 9.3 Potential impacts and effects of Scheme: aspects of the WHS

### Impacts and effects on long barrow groupings

- 9.3.1 The western portal and approach cutting of the Scheme are situated between long barrows identified by Roberts et al. (2018) set around the Wilsford/Normanton dry valley:
- Winterbourne Stoke 1, long barrow north-east of Winterbourne Stoke crossroads (NHLE 1011841; AG12 Winterbourne Stoke Crossroads Barrows Group);
  - Wilsford 34 (NHLE 1010830, AG13 Diamond Group);
  - Winterbourne Stoke 71 (AG13 Diamond Group);
  - Winterbourne Stoke 86 (HOUID 1611042; AG13 Diamond Group);
  - Wilsford 41 (NHLE 1010863, AG16 North Kite Enclosure and Lake Barrows);
  - Amesbury 14 (NHLE 1009621, AG19C Normanton Down barrow group – south-west);
  - Wilsford 13 (NHLE 1009614, AG19B Normanton Down barrow group – central); ND
  - Wilsford 30 (NHLE 1009621, South-west of the Normanton Down round barrow cemetery).
- 9.3.2 The Scheme would remove the sight and sound of traffic on the existing A303. Whilst the Scheme has been designed to reduce the visual intrusion of the cutting within the landscape, the new cutting would affect the physical relationships between the long barrows in the western part of the WHS. The proposed Green Bridge Four (the long landbridge) would help to reduce the severance due to the cutting and would maintain physical landscape connectivity in this area, being specifically placed to ensure that the relationships are maintained between the upstanding long barrows in the Winterbourne Stoke Crossroads Barrows (AG12) and the Diamond Group (AG13).
- 9.3.3 Taking account of the Very High value of the long barrows and in accordance with Table 5, and contrasting the varying effects on the relevant Asset Groups (AG12, AG13, AG16 and AG19 above – see Table 11), the change is considered to be both Moderate Negative and Minor Positive on the group of long barrows in the western part of the WHS. The overall significance of effect of the Scheme on the long barrows in the

western part of the WHS is assessed as **Slight Adverse** (derived from both Moderate Negative and Minor Positive change on Very High value assets).

### **Impacts and effects on archaeological remains within the Scheme footprint**

- 9.3.4 Archaeological remains related to funerary and ritual activity are related to the second Attribute of OUV, '*The physical remains of the Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape*', and some may, therefore, be of Very High value.
- 9.3.5 Settlement sites are amongst the range of prehistoric monuments and sites mentioned in the SoOUV. Proven Early Neolithic to Early Bronze Age settlement sites may therefore be considered to be of Very High value. The degree and scale of clearance, agriculture and sedentism among Neolithic communities is much debated. Many Neolithic and Early Bronze Age occupation sites are characterised by artefact scatters dominated by struck flint, although the finds are more likely to be accompanied by sub-surface features such as pits and postholes than in earlier periods. In exceptional cases, the remains of timber or stone structures may be found (English Heritage 2012).
- 9.3.6 The archaeological evaluation of the Scheme has identified a number of heritage assets within and adjacent to the WHS. These contribute to the body of evidence for activity in the WHS and may contribute to the understanding of associated sites in the context of OUV. However, these are not considered of OUV in their own right. These types of features and finds are widespread in the context of South Wiltshire and do not relate directly to the OUV of the WHS. They are therefore assessed to be of either Low (local) value or Medium (regional) value.

#### *Archaeological remains identified within the footprint of the Scheme in the course of archaeological evaluation*

- 9.3.7 The Scheme would have a **Moderate Adverse** effect on the fabric of the following sites of possible Early Neolithic to Early Bronze Age date (derived from a Major Negative Change to assets of Low to Medium value):
- Western portal evaluation: worked and burnt flint scatters, a crouched burial and scattered pits and natural features containing anthropogenic material;
  - Eastern portal evaluation: worked and burnt flint scatters and natural features containing anthropogenic material;

- Longbarrow Junction north and south: worked and burnt flint scatters, ditches, pits and postholes;
- Longbarrow Junction north and south: possible Early Bronze Age enclosure, burials (flat graves) associated with a non-designated barrow close to the A360 north link road, and scattered pits.

9.3.8 The Scheme would have a **Slight Adverse** effect on the low level of background worked and burnt flint at Rollestone Corner junction.

*Mitigation by record of archaeological remains within the footprint of the Scheme*

9.3.9 A programme of archaeological fieldwork and recording would be implemented for archaeological remains within the footprint of the Scheme. This is set out in HIA Section 8, Mitigation measures incorporated into the Scheme and ES Chapter 6, Cultural Heritage, Appendix 6.11, Outline Archaeological Mitigation Strategy, which also illustrates the location of proposed mitigation areas.

9.3.10 Detailed excavation sites within the WHS are confined to the western portal approaches, movement monitoring points for the tunnel section and the eastern portal approaches. Proposed mitigation measures comprise:

- a) Detailed excavation and geoarchaeological assessment; and
- b) Detailed excavation of small areas for each tunnel monitoring position with micro-siting of the equipment to avoid archaeological remains.

*Protection of archaeological sites and monuments in the vicinity of Scheme*

9.3.11 Within the WHS, protective mitigation measures would involve:

- a) Protective fencing that incorporates a 10m buffer around extant and levelled barrows, where feasible;
- b) Appropriate protection using protective barrier membrane, suitable fill and vehicle control measures for proposed NMU routes; and
- c) Archaeological photographic recording of monuments prior to installation of protection measures.

*Mitigation and monitoring measures*

9.3.12 Proposed mitigation measures where the Scheme is situated close to existing Asset Groups and discrete assets that convey Attributes of OUV are presented in Table 10.

**Table 10: Proposed archaeological mitigation measures related to Asset Groups and discrete assets that convey Attributes of OUV**

Asset Group or discrete assets that convey Attributes of OUV	Mitigation measures
<b>Proposed archaeological preservation <i>in situ</i> areas</b>	
AG12 Winterbourne Stoke Crossroads Barrows.	Protection during the preliminary works and construction. Protective fencing that incorporates a 10m buffer around the barrows, where feasible.
Area of archaeological interest north from A360 North Link Road to Stonehenge Visitor Centre within the WHS for NMU route.	Protective fencing. Appropriate protection using protective barrier membrane, suitable fill and vehicle control measures.
Area of archaeological interest south from A360 South Link Road to Druids Lodge within the WHS for NMU route.	Protective fencing. Appropriate protection using protective barrier membrane, suitable fill and vehicle control measures.
Barrow (Wilsford G1) and other scheduled monuments under or close to the line of the tunnel including the Avenue.  Scheduled monuments (NHLE 1010832; 1008953; 1008947; 1012420; 1010140)	Protective fencing that incorporates a 10m buffer around the scheduled areas, where feasible.
AG19A Normanton Down barrow group – north.  AG24 Stonehenge Bottom / Luxenborough Barrows.  AG26B King Barrows (New King Barrows, south).  Scheduled barrows along sections of the A303, A360 and Stonehenge Road which would be converted into restricted byways.  Scheduled monuments (NHLE 1011047, 1011842, 1011841, 1012369, 1008947, 1012129, 1012420, 1010140 and 1012131)	Protective fencing that incorporates a 10m buffer around the scheduled areas, where feasible.
<b>Proposed archaeological investigation areas</b>	
Longbarrow Junction (south), mainline to the A360 and the realigned A360 south - C-shaped enclosure at Longbarrow Junction (southern dumbbell), scattered pits, Wessex linear and two sides of a possible enclosure.	Detailed excavation of C-shaped enclosure and associated remains; detailed excavation of the mainline to the east of the C-shaped enclosure and the realigned A360 south, where scattered pits, a Wessex linear and two sides of a possible enclosure have been located by trial trenching.
Realigned A360 north - isolated burials, flint scatter, scattered pits, ditches and post holes, Wessex linears and a geological sinkhole.	Combination of detailed excavation and geoarchaeological assessment.
Main line A360 to Western Portal – flint	Combination of detailed excavation and

scatters, occasional scattered pits and post holes, dry valley and a geological sinkhole.	geoarchaeological assessment.
Movement monitoring points for the tunnel section.	Detailed excavation of small areas for each monitoring position including ploughsoil artefact sampling with micro-siting of the equipment to avoid archaeological remains. (Carried out prior to the installation of the equipment).
Buried soil horizon and double ditch, undated ditch, flint scatters, in situ flint knapping in stony hollow.	Combination of detailed excavation and geoarchaeological assessment.
Mesolithic site at Countess Farm West – Mesolithic material located within a buried soil horizon and colluvial deposits.	Combination of detailed excavation and geoarchaeological assessment.
Channel cleaning of existing highway drainage ditches.	Combination of detailed excavation and geoarchaeological assessment.
Rollestone Corner - occasional tree throws that contained material that could broadly be of Neolithic date.	Detailed excavation.

### Impacts and effects on artificial lighting visible within the WHS, including night-time lighting and ambience of WHS

- 9.3.13 Artificial lighting and sky glow is currently visible within the WHS and adversely affects Attributes of OUV. Light sources include Solstice Park; Larkhill Garrison and military installations at Bulford and Boscombe Down; Amesbury town and Durrington village; and lights on cars on the roads and street lighting (Chadburn and Ruggles 2017, 57). Lit elements of the existing A303 include the Longbarrow and Countess Roundabouts, as well as vehicle head- and tail-lights travelling along the existing A303. Further details regarding lighting outside the WHS boundary is contained in ES Chapter 7, Landscape and Visual Impact Assessment: Appendix 7.2, Dark skies.
- 9.3.14 There would be no permanent surface lighting associated with the proposals within the WHS. The Scheme is designed to avoid impacts upon horizon-based celestial/astronomical alignment phenomena.
- 9.3.15 Placing approximately 3.0km of the Scheme in tunnel, with 200m under canopy at the western end would remove vehicle head- and tail-lights from view along its length. The approach roads are in cutting, which would also hide vehicle lights from view. The new Longbarrow Junction would also be unlit.
- 9.3.16 The current Countess Roundabout is already lit. The proposed roundabout beneath the Countess flyover would be lit with modern

directional lighting to limit light spill. The Countess flyover would be unlit.

- 9.3.17 Mitigation measures, as set out in the OEMP, would aim to minimise the impact of temporary lighting associated with the construction phase on the OUV of the WHS.
- 9.3.18 Permanent lighting during the operation phase, including reduced lux levels and changes in lighting ambience, are assessed to generate a substantive beneficial effect on setting, ambience, dark skies and celestial axes in relation to assets and Asset Groups that contribute to the Attributes of OUV of the WHS.
- 9.3.19 Overall, it is anticipated that the Scheme would have a Moderate Positive impact on this aspect of the WHS, resulting in a **Large Beneficial** effect.

### Impacts and effects of the Scheme on astronomical aspects

- 9.3.20 The impact of the Scheme on astronomical aspects are considered in HIA Section 9, Assessment and evaluation of overall impact of the proposed changes: Impacts and effects of Scheme on Attributes of OUV, which assesses impacts and effects on Attribute of OUV 4, the design of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the skies and astronomy.
- 9.3.21 Overall, it is assessed that the Scheme would have a Moderate Positive impact on astronomical aspects and the fourth Attribute of OUV, resulting in a **Large Beneficial** effect.

### Impacts and effects on biodiversity related to the conservation and character of the WHS

- 9.3.22 Information on badger sett positions and badger activity is derived from a range of sources: the 2010–2011 WHS monument condition survey (Wessex Archaeology 2018) and AAJV 2016 and AmW 2017–2018 badger survey data. The removal of the existing A303 and its conversion into a restricted byway may change the territory boundaries of badger clans, causing their boundaries to shift. This in turn may cause badgers to create new setts. This may change the current distribution of badger setts within barrows, and may impact upon other barrows or other areas. Further detail is contained in ES Chapter 8, Biodiversity.
- 9.3.23 The lichen communities at Stonehenge include many maritime species which are rare or absent inland, other than on sarsen stone in the Wiltshire and Berkshire Downs. They include the near threatened *Buellia saxorum*. There are similar lichen communities at the Avebury stone circle. Lichen communities contribute to the character and appearance of the stones at Avebury and Stonehenge. Lichens are sensitive to changes in the environment and have often been used as environmental indicators.

The environmental changes which might be caused by the Scheme are predicted to be slightly beneficial to the lichen communities of Stonehenge due to the removal of surface traffic on the existing A303 near the monument. Traffic creates dust and gaseous compounds of nitrogen, which can cause changes in lichen communities leading to a predominance of nitrophilic ruderal species. The construction of the Scheme may temporarily cause dust and other atmospheric pollution. Where necessary, mitigation measures would reduce these to an acceptable level. Further detail is contained in ES Chapter 8, Biodiversity: Appendix 8.2A Stonehenge lichen report.

### Impact and effect of the Scheme on the public visibility of monuments

- 9.3.24 It is a principal aim of the Scheme to remove the visual impact and noise of roads and traffic from the vicinity of the Stones and to reunite Stonehenge with its surrounding monuments in their natural chalk downland setting. This means the road and its traffic being removed completely from within sight of the Stones, with the locations of the portals being beyond the visual horizons from Stonehenge.
- 9.3.25 There would be no change to 'free' views from the National Trust inalienable land surrounding Stonehenge that is managed as permissive open access land. However, placing the A303 in tunnel past Stonehenge (AG22) means that the 'free' view of Stonehenge (AG22) for people in vehicles travelling along the existing A303 would be lost. As noted in HIA Section 6.14, Public visibility of monuments, the Scheme would also result in the loss of 'free' views of prominent upstanding barrows in the landscape.
- 9.3.26 English Heritage's Phase 1 Visitor Survey indicated that 75% of A303 travellers don't mind losing the view of Stonehenge or believed that the loss of the view was less important than reducing traffic or protecting the WHS. Although many heritage attractions are not readily visible from the public highway, elements of most can be viewed from public paths.
- 9.3.27 The 'free' view of Stonehenge and other prominent monuments from the existing A303 would be lost to motorists. However, views would be more readily appreciated by NMUs using the restricted byway which would replace the A303. Although Stonehenge is a well-known landmark, it is currently blighted by the existing A303 itself. In future, the reconnection of the landscape opens up opportunities for NMUs which may be further developed.
- 9.3.28 It is assessed that the loss of the 'free' view of the Stones and other monuments brings about both Minor Negative and Minor Positive Changes, resulting in a **Neutral** effect overall.

## Impacts and effects on tourism

- 9.3.29 The elements of the Scheme design of particular relevance to tourism include:
- a) Reconnecting the southern and northern parts of the WHS.
  - b) Use of the former course of the A303 as a restricted byway connecting Amesbury in the east to Yarnbury Castle in the west.
  - c) Improved journey times and improved traffic flow along the A303.
  - d) Improved access to the Stonehenge Visitor Centre once the Scheme opens.
- 9.3.30 It is anticipated that visitor numbers may increase slightly following the construction of the Scheme, due to:
- a) Proposals for increased access to southern elements of the WHS and enhanced visitor interpretation; and
  - b) An existing trend of increasing visitor numbers.
- 9.3.31 Potential negative impacts of the Scheme include:
- a) Impact from construction works, including diversions, changes in traffic flows and uncertainty regarding temporary traffic measures.
  - b) Change of visitors' perception associated with poor traffic experience: tourists might avoid the area during the construction period, and, given that it would last for several years, an extra marketing effort would be required to mitigate.
  - c) The loss of 'free views' of the stones from passing vehicles may decrease the number of spontaneous visitors.
- 9.3.32 Potential positive impacts of the Scheme include:
- a) Increasing length of tourist trips and average spend per trip in the South West.
  - b) The loss of 'free views' of the stones may result in more people visiting the stones via the Visitor Centre, and / or exploring the wider WHS landscape on foot, by bicycle and on horseback.
  - c) Easier access to the WHS – a shorter journey time due to less congestion.
  - d) Contributing to objectives of the Joint English Heritage Trust and

National Trust Marketing Plan, providing the opportunity to improve connectivity and access to the landscape, develop interpretation and visitor access in the southern part of the WHS.

- 9.3.33 Although the international tourist market is generally the most difficult to penetrate for attractions, Stonehenge has a very strong international draw, as it has a clear international profile and “brand”.
- 9.3.34 The Scheme is not anticipated to significantly impact current levels of market penetration. Resident market penetration rates have grown at a steady pace in recent years, with a marked increase in 2017. The impact of the Scheme on tourist market penetration rates is likely to be negligible. This market segment makes dedicated trips to visit this unique landmark as part of their wider itinerary.
- 9.3.35 Cumulative impacts related to tourism and visitor experience include the MOD rebasing programme, which is likely to result in increased numbers of military personnel using the northern area for fitness activities.
- 9.3.36 Overall, it is assessed that the Scheme would have a Negligible Positive impact on tourism, leading to a **Slight Beneficial** effect.

### Impacts and effects on the visitor economy

- 9.3.37 In the absence of quantitative baseline visitor economy evidence for the local impact area and specific investment plans for Stonehenge, the WHS and the wider area, the assessment of the potential benefits from the Scheme to the local area’s visitor economy is primarily qualitative.
- 9.3.38 There is no data source from which to establish the baseline position in terms of visitor volumes and values in the area. Any increase in volumes and the value of the visitor economy would be heavily dependent on the ways in which the local area invests to capture a share of growing visitor numbers and expenditure, both from domestic and inbound overseas tourists. At present, there are no specific plans for investment on and around the WHS in accommodation, attractions and other visitor facilities on which an assessment of this type would typically be based.
- 9.3.39 Whilst data on the benefits of Stonehenge and WHS-related tourism trade in the local area are not available, the qualitative evidence produced in the Assessment of the Visitor Economy and Local Economy Benefits of the A303 Improvements to support the Outline Business Case (OBC) suggests that, for many accommodation providers in the area, the WHS is an important driver of their trade, particularly through the summer and shoulder months. At times, the evidence suggests that the area does not have sufficient capacity to absorb the higher paying, overnight tourists who visit Stonehenge. However, the broader issue is that the Stonehenge tourism market remains largely one for day visitors, and for relatively short

visits to the monument and Visitor Centre before most visitors move on.

- 9.3.40 Despite the presence of an internationally significant heritage site and the major domestic and international tourism draw that this represents, it is widely recognised, including in Wiltshire's Destination Management Plan and its Core Strategy, that the local area has not benefited to the extent that might be expected and that much more could be made of the visitor experience and the product it offers. This reflects the current characteristics of the Stonehenge offer, but also the shortage of other activities and attractions in the immediate area which are able to retain visitors.
- 9.3.41 The potential for the local impact area to see additional and significant economic benefit from an enhanced visitor experience at Stonehenge and the WHS is clear. The tourism industry is forecast to see further growth nationally and in Wiltshire, driven by both inbound and domestic tourism. Visit England's target rate of 5% annual growth in the value of the sector is ambitious, but Wiltshire has seen year on year growth in visitor trips and spend since the low point during the recession of c. 4–5%, and Visit Wiltshire's projections point to a continuing upward trend.
- 9.3.42 There are undoubtedly potential opportunities to enhance the capture of local tourism benefits associated with the Stonehenge WHS as a consequence of the A303 improvements. However, without formal and detailed plans for how Stonehenge and the WHS experience, and the supporting infrastructure, might be enhanced following on from the A303 improvements project, it is too early to provide quantitative estimates of the scale or types of benefits that are likely to arise in the local visitor economy linked to both the growth of tourism generally, and the opportunities for growth that might result from a better visitor offer on the WHS.
- 9.3.43 Several clear messages arise from the study about the measures that businesses, English Heritage, the National Trust and other public-sector partners should consider if economic benefits to the local area are to be realised in ways which are sustainable and welcomed by local communities and stakeholders:
- a) A review of the area's accommodation provision to identify and then pursue opportunities to improve provision and bring new investment in a range of stock from high end hotels to camping facilities. This is an essential part of gearing up the area to absorb more staying and higher spending visitors.
  - b) The need to strategically plan for improvements to access points around the WHS, including parking provision and pedestrian access. Specifically, the need to provide access points that encourage WHS visitors into and out of Amesbury and the surrounding villages.

- c) The need for a strategy to enhance signage, guidance and interpretation about the WHS, in surrounding towns and villages and across the wider area.
- d) Options for widening and diversifying the range of activities available to visitors to the area, both those linked directly to the WHS and Stonehenge, and other attractions which give visitors more reasons to visit and spend time in the area. This requires a coordinated investment strategy that is responsive to new opportunities for development, recognising that this is set in the context of a highly sensitive landscape.
- e) The need for investment in the quality and range of other visitor facilities and services available in the area. The A303 improvements, the imminent rebasing of military personnel and the opportunity to improve the WHS experience provide a strong rationale for new business investment in the area and to improve the quality of the living and visiting environment in the surrounding area.

9.3.44 English Heritage and the National Trust recognise that partnership between them as the key custodians of Stonehenge and the WHS, other public sector bodies and the private sector would be critical to delivering an enhanced experience for visitors. Securing commitments to a new strategy and plans for the area, and putting in place the investment and planning to deliver this, should now be a key priority.

9.3.45 Research interviews with businesses and public sector partners in Wiltshire and in the local impact area indicate concerns about potential Scheme impacts on the visitor economy:

- a) Several interviewees highlighted the risks presented to the local visitor economy of an extended construction period if the preferred option of a tunnel development proceeds. Although there is not yet a clear understanding of the timeline, issues highlighted to this study included the possibility of visitors avoiding the area entirely for other routes (and thus any potential to spend time and money in the area), disruption to the experience of the WHS and the wider area resulting from building activity and construction vehicle movements, and impacts on visitor economy businesses off the A303 if diversionary routes become congested.
- b) Beyond completion of the project, a number of interviewees pointed to the potential for improved traffic flows to discourage stop over and delay-related visits to Amesbury, Solstice Park and other locations in the area.

9.3.46 It is assessed that there is currently insufficient data about the relationship between the WHS and the visitor economy to clearly establish either the

current scale of the benefits the area sees from it, or the potential for future growth. The effect on the visitor economy is therefore **Uncertain**.

### **Impacts and effects of changing patterns of access in the WHS**

#### *Stonehenge Environmental Improvements Programme (SEIP) and the operation of the Stonehenge Visitor Centre and associated facilities*

- 9.3.47 In the light of the decision not to proceed with the A303 scheme in 2007, the government established a group of stakeholders in 2008 to identify and implement environmental improvements that could be made at Stonehenge. The SEIP comprised a major project to improve the setting of Stonehenge and to provide new facilities for visitors. The SEIP has delivered an improved landscape setting for Stonehenge. The A344 adjacent to the Stones, and the previous visitor facilities, were removed in 2013 and returned to chalk downland, reuniting the monument with its Avenue. The new, sensitively designed and environmentally sustainable Stonehenge Visitor Centre opened in December 2013, providing a high-quality and fully accessible exhibition, café, shop and toilets. Development of visitor interpretation has included new interpretation boards and signage and innovative displays.

#### Increased or altered footfall patterns in parts of the WHS

- 9.3.48 The Stonehenge WHS is currently effectively divided into a northern and southern half by the A303 for those on foot, bicycle or horseback. There is currently no safe route across the A303 within the WHS. The southern part of the WHS is criss-crossed by a network of footpaths but parking is extremely limited. In addition, most of the land is in private ownership and there are ecologically sensitive areas.
- 9.3.49 Currently, a series of byways, bridleways, footpaths and National Trust permissive paths and open access land allow people to gain access to many of the key features within the northern part of the WHS, with the exception of those on private land. There is currently no or very limited public access to the Durrington Down Barrows (AG20); Normanton Down Barrows (AG19); Coneybury Henge (AG29); the Lake Barrows and North Kite Enclosure (AG16); Wilsford Barrows; and the Lake Down Barrows. The Avenue (AG27) has open access from Stonehenge (AG22) to King Barrow Ridge (AG26), where it is severed by the A303; but there is no access to the Avenue south beyond Seven Barrows Field (English Heritage 2011, 37).
- 9.3.50 'The southern half of the WHS does not offer the same level of access as the northern half. Improved physical access would need to take into account that:
- a) Access is only by public or permissive (National Trust) footpaths and

open access land;

- b) Much of the land in the WHS is in private ownership;
- c) Disturbance to stone curlews should be avoided (i.e. paths not too close to nesting areas, dogs on a lead etc.);
- d) There is a lack of parking (and the risk of fly-parking)' (English Heritage 2011, 38).

9.3.51 The removal of the severance caused by the existing A303 and the resulting unification of the landscape would create the environment for English Heritage and the National Trust to provide an additional offer, enabling greater visitor movement, particularly in the southern part of the WHS. The reunification of the landscape may also involve the further development of visitor interpretation in the landscape, within the context of the SEIP project.

9.3.52 English Heritage and the National Trust are developing a joint approach for the parts of the landscape in their care, which takes into account conservation and access considerations.

9.3.53 This may involve the construction of new or improved access points, footpaths and interpretative signage. Such infrastructure may result in changes to visitor numbers and increased or altered footfall patterns in parts of the WHS, changes to public access arrangements and changes to the locations subject to increased human presence. Removing the A303 barrier between the Stonehenge monument and the wider WHS landscape may indirectly result in greater potential for interference with heritage assets.

*'With the future emphasis on exploration of the landscape, desire lines are likely to appear on certain key monuments (especially those from which there are good views) and along certain key routes. This risk applies in particular to the Cursus and Cursus Barrows (for which this is already a reality), the barrow cemetery at Winterbourne Stoke and that on King Barrow Ridge. The barrow group most at risk is the Cursus Barrow group.'* (English Heritage 2011, 71).

*'[...] the erosion risk is particularly high in the WHS, as shown by problems in the past at Stonehenge, now solved by the intensive grass management regime. This is especially so where there are large numbers of visitors (e.g. around the stone circle at Stonehenge), on slopes (e.g. the henge banks at Durrington Walls and Avebury, or on barrow tops) and on unimproved chalk grassland.'* (English Heritage 2011, 72).

9.3.54 English Heritage and the National Trust will undertake appropriate

baseline studies and impact assessments. They will develop and implement any necessary conservation monitoring and targeted conservation and mitigation measures. It is assumed that any future visitor infrastructure will be designed to avoid impacts on heritage assets, including assets expressing Attributes of OUV.

- 9.3.55 There is currently insufficient data to inform an assessment of potential changes to patterns of access to the WHS that may arise as a consequence of Scheme construction and operation. The effect is therefore assessed as **Uncertain**.

### **Impacts and effects on WHS conservation related to changes to tourism**

- 9.3.56 The Scheme would reconnect the landscape, which may result in changes to footfall, vehicle parking and interpretation. English Heritage has not undertaken any forward projections of visitor numbers following the construction of the Scheme, if there are changes to access routes. The National Trust also has no forward projections, but broadly anticipates that more visitors would access the southern parts of the WHS.
- 9.3.57 Although the National Trust and English Heritage have undertaken some work to explore the potential of the reunification of the landscape, this is at an early stage and is being further developed in partnership with the WHS coordination unit, tenants, other landowners and the local community. There is currently limited information available regarding plans for access, parking arrangements, visitor and land management, enhanced visitor interpretation and potential increased visitor numbers following the construction of the Scheme. It is understood that English Heritage and the National Trust have commissioned consultancy advice to develop this as the Phase 2 – Partnership Plan for National Trust and English Heritage Trust Land.
- 9.3.58 English Heritage and the National Trust plan to jointly explore options for best management of the Woodhenge and Durrington element of the landscape and how it is used by visitors. They plan to review physical barriers and boundaries to ensure the right treatment is used for the landscape and the visitors, stock and wildlife that use it. They also plan to look at transport and movement around the WHS to understand how best to move people through the landscape and how to support the improvement of access to and around the WHS. Part of this will look at managing the impact of tunnel construction on the visitor experience in the landscape.
- 9.3.59 The management of solstice and equinox observances is led by English Heritage and organised through partnership with the National Trust and key public services across Wiltshire including the council and the police. It is reviewed regularly to ensure that the commitments of the 2015 WHS

Management Plan are met, which calls for the proactive and inclusive management of the solstice in order to protect the WHS and its Attributes of OUV. English Heritage and the National Trust are committed to working in partnership to consider the potential impact of the Scheme and resulting changes to the landscape on the solstice and equinox arrangements.

#### *Construction phase*

- 9.3.60 The construction phase for the Scheme may impact upon visitor numbers to Stonehenge and to other heritage attractions in the south-west, with a resulting impact upon the income of attractions and the financial viability of the organisations that manage them. However, the A303 would remain open throughout the construction phase and other routes to the south-west are available. Highways England will be managing partnerships through the Benefits and Legacy Forum and the Benefits Steering Group to ensure that construction impacts upon tourism, both in the vicinity of the Scheme and in the wider region, are mitigated.

#### *Operational phase*

- 9.3.61 In broad terms, following Scheme construction, reuniting the WHS may result in:
- a) Changes in visitor numbers, and consequential changes to WHS management requirements.
  - b) Changes in the origins and distance travelled by visitors, which may impact upon community costs and benefits arising from the WHS.
  - c) Changes to the location of visitor access points and the dispersal of visitors across the landscape.
  - d) Opportunities to improve connectivity and access to the landscape.
  - e) Opportunities to develop PRoWs for visitor access.
  - f) Opportunities for the development of physical and digital / mobile interpretation, particularly in the southern part of the WHS, building on the best practice developed in the Stonehenge Environmental Improvements Project. Opportunity to increase the orientation of signage to the south.
- 9.3.62 In the short term, footfall erosion impacts are liable to continue to be focused on the northern part of the WHS, as this is an area in which there is greater public access to land in farm business tenancies. In the long term, open permissive access to the southern area may increase, but this cannot be predicted in any detail at present as it is highly dependent on long term agricultural holding tenancies and land ownership. Increasing

visitor footfall in the south, attracting people away from the north, may also have a negative impact upon the RSPB stone curlew reserve at Normanton Down Nature Reserve, south of the existing A303.

- 9.3.63 In the long term, and with appropriate planning and monitoring, reuniting the Stonehenge landscape may broaden tourist scope by drawing their attention to lesser-known and potentially less vulnerable areas of the destination, increasing visitor dwell-time where it does the least damage.
- 9.3.64 Although the Scheme would provide the opportunity to improve connectivity, the National Trust and English Heritage partnership plan proposals are at a very early stage.
- 9.3.65 It is assessed that there is currently insufficient data to inform an assessment of the potential conservation implications of reuniting parts of the WHS as a consequence of Scheme construction. The effect is therefore assessed as **Uncertain**.

### **Impacts and effects on the Avebury part of the WHS**

- 9.3.66 The Avebury part of the WHS is located over 40km away. There is insufficient baseline data regarding current visitor flows and characteristics to enable a clear understanding of any potential change resulting from the Scheme. The English Heritage and the National Trust's Phase 2 – Partnership Plan, which considers understanding and planning for impact on Avebury and linking the two parts of the WHS, is in development at the time of writing, and not sufficiently advanced to be able to inform this HIA.
- 9.3.67 Implications for tourism in the Avebury element of the WHS are currently unclear. It is possible that it may experience increased visitor numbers and traffic during the construction period, or that construction of the Scheme may deter visitors. The effect is therefore assessed as **Uncertain**.

### **Impacts and effects of the Scheme on aspects of intangible cultural heritage**

#### *Spiritual aspects*

- 9.3.68 The Scheme would not have a direct physical impact on any heritage assets that have been identified as spiritually significant by the pagan and druid groups consulted during the preparation of the HIA. The Scheme is assessed as having beneficial effects on the setting of several Asset Groups identified as being spiritually significant, as follows:
- The Scheme would place the existing A303 in tunnel adjacent to Stonehenge (AG22), removing the current visual and aural impact of

the route and its traffic fumes, and enabling connectivity with the wider ceremonial landscape to the south. It is assessed that this would comprise a Major Positive Change resulting in a **Very Large Beneficial** effect.

- The solstitial alignment between Stonehenge and the Sun Barrow, and other solstitial alignments, are considered spiritually significant by some. The Scheme would restore solstitial alignments and has been designed to minimise light spill to reduce impacts on the surrounding landscape and ‘dark skies’. It is assessed that the Scheme would give rise to Negligible Negative and Negligible Positive Change to the setting of north-westerly monuments of the Normanton Down Asset Group (AG19A), including the Sun Barrow, resulting in a **Slight Beneficial** effect overall.
- The Scheme has been designed to remove the existing severance of the Avenue (AG27) where it is crossed by the existing A303. This would potentially enable the restoration of physical connectivity along much of the length of this important prehistoric ceremonial route. It is assessed that this would produce a Moderate Positive Change, resulting in a **Large Beneficial** effect.
- It is assessed that Woodhenge (AG33) would experience Negligible Positive Change, resulting in a **Slight Beneficial** effect.

9.3.69 Potential Scheme impacts and effects on the setting of barrows within Asset Groups and isolated barrows are detailed in HIA Sections 6.9, Asset Groups: baseline description and assessment of Scheme impacts and effects and 6.10, Discrete and isolated assets: baseline description and assessment of Scheme impacts and effect.

9.3.70 Potential Scheme impacts and effects upon theoretical ley lines and energy hot-spots have not been assessed, as there is no objectively verifiable data regarding their existence or location. Many scientific studies and surveys have been undertaken over the years on the landscape of Stonehenge. Highways England have comprehensively evaluated the Scheme with detailed geophysical survey which has the ability to identify variations in the earth’s magnetic field caused by buried archaeological and geological features, as well as power cables and other utilities and services buried in the ground. Assuming that energy lines or ley lines would be likely similarly to cause anomalies in the earth’s magnetic field, the results of these surveys have not identified any such features in the landscape.

9.3.71 People’s spiritual experiences of the landscape are not confined to Asset Groups, or even to cultural heritage assets. Archaeological sites, combined with flora and fauna, landforms, places of personal and collective memory, and people’s individual beliefs, perceptions and

interpretations, contribute to a landscape which, for some, fosters contemplation and spiritual practices. Although the new tunnel, portals and cuttings introduce modern infrastructure into the land, it is assessed that the removal of the visual and noise intrusion of the existing A303 would result in a beneficial effect on the surroundings, context and ambience of the landscape in which spiritual practices and experiences take place.

- 9.3.72 The Scheme would provide the opportunity to reunite the landscape. The Phase 2 – Partnership Plan for National Trust and English Heritage Trust Land would explore opportunities for and implications of improving access, particularly in the southern part of the WHS, as well as considering parking, visitor interpretation and other facilities in the landscape. The Partnership Plan would consider spiritual aspects and also aims to foster dialogue between all those involved with the WHS landscape.
- 9.3.73 Overall, it is anticipated that the Scheme would bring about Negligible Positive Changes to spiritual aspects, resulting in a **Slight Beneficial** effect.

#### *Cultural influences*

- 9.3.74 It is not assessed that the Scheme would impact upon the influence of the remains of the Neolithic and Bronze Age funerary and ceremonial monuments and their landscape setting on architects and historians. These influences are strongly connected to wider intellectual, cultural and philosophical movements such as the Renaissance, the Enlightenment, Romanticism, Positivism, Modernism and Post-Modernism.
- 9.3.75 Archaeological fieldwork and recording in the WHS has influenced the development of archaeological practice and understanding. It is not considered that the Scheme would alter the nature, pace or quality of the research that will continue to take place within the WHS. The Scheme would not impact upon the analysis, interpretation and dissemination of the results of field research. Although archaeological evaluations and excavations within the footprint of the Scheme would remove archaeological deposits, the Scheme has been designed to minimise land-take and avoid known archaeological sites. Archaeological interventions in connection with the Scheme are being undertaken to high standards developed with HMAG and the Scientific Committee, and have the potential to contribute significant data to ongoing research priorities. Further details of the proposed mitigation strategy are set out in HIA Section 8, Mitigation measures incorporated into the Scheme.
- 9.3.76 It is anticipated that research in and around the WHS will continue both to influence and to mirror contemporary approaches to social and natural sciences and archaeological theory. These are currently reflected in, for

example, concerns with interpretative theory, interdisciplinary studies, anthropological approaches, multivocality and social accountability.

9.3.77 Artists' depictions of the Stonehenge landscape are primarily focussed on the Stonehenge monument (AG22), the King Barrow (AG24 Stonehenge Bottom / Luxenborough barrows) and the Avenue (AG27). Literary aspects also concentrate on the Stones, and convey the atmosphere of the wider landscape. It is assessed that placing the existing A303 in tunnel would have a beneficial effect on understanding and experiencing the viewpoints, prospects, ambience and character that has inspired artists and writers. It is assessed that:

- AG22, Stonehenge, the Scheme would bring about a Major Positive Change resulting in a **Very Large Beneficial** effect;
- For AG24, Stonehenge Bottom / Luxenborough barrows, the Scheme would bring about a Major Positive Change resulting in a **Very Large Beneficial** effect; and
- For AG27, the Avenue, the Scheme would bring about a Moderate Positive Change resulting in a **Large Beneficial** effect.

9.3.78 The Scheme has been carefully designed to blend sensitively with the landscape, while remaining a clearly modern element within it. The low-key design of the Scheme aims to avoid competing with or distracting from the outstanding creative and technological achievements conveyed by the prehistoric landscape.

9.3.79 The Scheme builds on over 20 years of proposed road schemes and public debate. It is anticipated that public and stakeholder consideration and discussion of this high-profile Scheme may raise awareness, understanding of and interest in both the WHS landscape as a whole, and in the better-known and more widely-visited elements of the WHS, such as the Stonehenge monument and prominent barrow groups.

9.3.80 It is not anticipated that the Scheme would result in any change to the place of the WHS and iconic components such as Stonehenge in contemporary culture. This would result in a **Neutral** effect.

### **Impacts and effects on public understanding of OUV**

9.3.81 It is assessed that the Scheme would contribute to increasing public understanding of OUV through press coverage and public debate, as well as the dissemination of the results of archaeological fieldwork.

9.3.82 The Scheme would provide the opportunity to reunite the landscape, enabling the development and implementation of a seamless visitor offer. Reuniting the landscape provides prospects for increased interpretation

(digital and physical), learning and community engagement. This would contribute to the preservation and transmission of OUV.

- 9.3.83 The consultation, advisory and monitoring arrangements established during the Scheme's development has the potential to foster relationships and collaborations that would benefit spatial planning, management and research in the WHS.
- 9.3.84 Although the Scheme would provide a significant opportunity to develop and enhance public understanding as a consequence of enabling the reunification of the landscape, there is insufficient information about English Heritage and the National Trust's partnership proposals and post-construction plans to inform an assessment of effects on public understanding. The effect is therefore assessed as **Uncertain**.

## 9.4 Impacts and effects of Scheme on Attributes of OUV, Integrity and Authenticity

### Introduction

- 9.4.1 A description and assessment of direct and indirect impacts on Asset Groups, isolated and discrete assets is presented in HIA Sections 6.9, Asset Groups and 6.10, Discrete and isolated assets. For ease of reference, the baseline and assessment are presented together. These impacts are summarised in Table 11, Summary of assessed impacts and effects of the existing A303 and anticipated impacts and effects of the Scheme on Asset Groups conveying Attributes of OUV and Table 12, Summary of assessed impacts and effects of the existing A303 and anticipated impacts and effects of the Scheme on designated isolated and discrete assets conveying Attributes of OUV.
- 9.4.2 Table 13 summarises the significance of impacts and effects of the existing A303 on Attributes of OUV, Integrity and Authenticity. A summary table of impacts and effects is also presented in HIA Annex 3, Summary of assessment of impacts and effects.

### Impacts and effects on Asset Groups conveying Attributes of OUV

- 9.4.3 This HIA has assessed the following effects on Asset Groups conveying Attributes of OUV arising from the existing A303, and that are anticipated to arise from the Scheme, taking into account embedded, heritage-led, design mitigation. Table 11 summarises the significance of effect of the existing A303 and anticipated impacts and effects of the Scheme on each Asset Group conveying Attributes of OUV, for which a more detailed assessment is presented in HIA Section 6.9, Asset Groups and HIA Annex 3 – Summary of assessment of impacts and effects.

**Table 11: Summary of assessed impacts and effects of the existing A303 and anticipated impacts and effects of the Scheme on Asset Groups conveying Attributes of OUV**

Asset Group		Impact of existing baseline / A303 on Asset Group conveying Attributes of OUV	Effect of existing baseline / A303 on Asset Group conveying Attributes of OUV	Impact of Scheme on Asset Group conveying Attributes of OUV	Anticipated significance of effect of Scheme	Residual significance of effect of Scheme on Asset Groups conveying Attributes of OUV
AG06	Net Down Barrow Cemetery	None	Neutral	No Change	Neutral	Neutral
AG08	Winterbourne Stoke Down Barrows	None	Neutral	No Change	Neutral	Neutral
AG10	Rollestone Barrows	None	Neutral	No Change	Neutral	Neutral
AG11	Lesser Cursus Barrows and Pit Circle	Negligible	Slight Adverse	Negligible Negative and Negligible Positive Change	Neutral	Neutral
AG12	Winterbourne Stoke Crossroads Barrows	Moderate	Large Adverse	Minor Negative Change and Major Positive Change	Moderate Beneficial	Moderate Beneficial
AG13	The Diamond Group	Moderate	Large Adverse	Moderate Negative and Minor Positive Change	Slight Adverse	Slight Adverse
AG14	Robin Hood's Ball and Associated Sites	None	Neutral	No Change	Neutral	Neutral
AG15	The Lesser Cursus	Negligible	Slight Adverse	Negligible Negative and Negligible Positive Change	Neutral	Neutral
AG16	North Kite Enclosure and Lake Barrows	Minor	Moderate Adverse	Negligible Positive Change	Slight Beneficial	Slight Beneficial
AG17	Barrow West of	Moderate	Large Adverse	Minor Positive Change	Moderate Beneficial	Moderate Beneficial

Asset Group		Impact of existing baseline / A303 on Asset Group conveying Attributes of OUV	Effect of existing baseline / A303 on Asset Group conveying Attributes of OUV	Impact of Scheme on Asset Group conveying Attributes of OUV	Anticipated significance of effect of Scheme	Residual significance of effect of Scheme on Asset Groups conveying Attributes of OUV
	Stonehenge					
AG18	Cursus Barrows (West)	Minor	Moderate Adverse	Minor Positive Change	Moderate Beneficial	Moderate Beneficial
AG19	Normanton Down Barrows	Moderate	Large Adverse	Minor Negative, Minor Positive and Moderate Positive Change	Moderate Beneficial	Moderate Beneficial
AG19 A	Normanton Down Barrows– north	Moderate	Large Adverse	Minor Negative Change and Major Positive Change	Slight Beneficial	Slight Beneficial
AG19 B	Normanton Down Barrows – central	Moderate	Large Adverse	Moderate Positive Change	Large Beneficial	Large Beneficial
AG19 C	Normanton Down Barrows – south-west	Moderate	Large Adverse	Minor Positive Change	Large Beneficial	Large Beneficial
AG19 D	Normanton Down Barrows – south-east	Moderate	Large Adverse	Minor Positive Change	Moderate Beneficial	Moderate Beneficial
AG20	Durrington Down Barrows	None	Neutral	Negligible Negative and Negligible Positive Change	Slight Beneficial	Slight Beneficial
AG21	Stonehenge Down Barrows	Moderate	Large Adverse	Major Positive Change	Very Large Beneficial	Very Large Beneficial
AG22	Stonehenge	Moderate	Large Adverse	Major Positive Change	Very Large Beneficial	Very Large Beneficial
AG23	The Greater Cursus, Amesbury 56 and Winterbourne Stoke 30	Moderate	Large Adverse	Moderate Positive Change	Large Beneficial	Large Beneficial

Asset Group		Impact of existing baseline / A303 on Asset Group conveying Attributes of OUV	Effect of existing baseline / A303 on Asset Group conveying Attributes of OUV	Impact of Scheme on Asset Group conveying Attributes of OUV	Anticipated significance of effect of Scheme	Residual significance of effect of Scheme on Asset Groups conveying Attributes of OUV
	Round Barrows, and the Amesbury 42 Long Barrow					
AG24	Stonehenge Bottom / Luxenborough Barrows	Minor	Moderate Adverse	Major Positive Change	Very Large Beneficial	Very Large Beneficial
AG25	Packway Barrows	None	Neutral	Negligible Positive Change	Slight Beneficial	Slight Beneficial
AG26	Old and New King Barrows	Moderate	Large Adverse	Minor Negative, Moderate Positive and Major Positive	Moderate Beneficial	Moderate Beneficial
AG26 A	Old King Barrows – north	Moderate	Large Adverse	Moderate Positive Change	Large Beneficial	Large Beneficial
AG26 B	New King Barrows – south	Moderate	Large Adverse	Minor Negative Change and Major Positive Change	Moderate Beneficial	Moderate Beneficial
AG27	The Avenue	Moderate	Large Adverse	Moderate Positive Change	Large Beneficial	Large Beneficial
AG28	Cursus Barrows (East)	None	Neutral	No Change	Neutral	Neutral
AG29	Coneybury Henge and Associated Monuments	Moderate	Large adverse	Moderate Positive Change	Large Beneficial	Large Beneficial
AG30	The Avenue Barrows	Moderate	Large Adverse	Minor Positive Change	Moderate Beneficial	Moderate Beneficial
AG31	Countess Farm Barrows	Negligible	Slight Adverse	Negligible Negative, Minor Positive, No Change	Slight Adverse	Slight Adverse
AG31 A	Countess Farm Barrows – north	Negligible	Slight Adverse	No Change (northerly elements) and Negligible	Slight Adverse	Slight Adverse

Asset Group		Impact of existing baseline / A303 on Asset Group conveying Attributes of OUV	Effect of existing baseline / A303 on Asset Group conveying Attributes of OUV	Impact of Scheme on Asset Group conveying Attributes of OUV	Anticipated significance of effect of Scheme	Residual significance of effect of Scheme on Asset Groups conveying Attributes of OUV
				Negative Change (southerly elements)		
AG31 B	Countess Farm Barrows – south-west	Negligible	Slight Adverse	Negligible Negative, Minor Positive Change	Slight Adverse	Slight Adverse
AG31 C	Countess Farm Barrows – south-east	Negligible	Slight Adverse	Negligible Negative	Slight Adverse	Slight Adverse
AG32	Vespasian's Camp Barrows	None	Neutral	No Change	Neutral	Neutral
AG33	Durrington Walls, Woodhenge and Associated Sites	Negligible	Slight Adverse	Negligible Positive Change	Slight Beneficial	Slight Beneficial
AG37	Knighton Long Barrow	None	Neutral	No Change	Neutral	Neutral
AG38	Larkhill Camp Long Barrow	None	Neutral	No Change	Neutral	Neutral
AG39	Larkhill Causewayed Enclosure	None	Neutral	No Change	Neutral	Neutral

## **Impacts and effects on discrete and isolated assets conveying Attributes of OUV**

- 9.4.4 Table 12 summarises the significance of effect of the existing A303 and anticipated impacts and effects of the Scheme on each discrete designated asset conveying Attributes of OUV, for which a more detailed assessment is presented in HIA Section 6.10, Discrete and isolated assets and HIA Annex 3 – Summary of assessment of impacts and effects.

**Table 12: Summary of assessed impacts and effects of the existing A303 and anticipated impacts and effects of the Scheme on designated isolated and discrete assets conveying Attributes of OUV**

Discrete asset		Impact of existing baseline / A303 on discrete asset conveying Attributes of OUV	Effect of existing baseline / A303 on on discrete asset conveying Attributes of OUV	Impact of Scheme on on discrete asset conveying Attributes of OUV	Anticipated significance of effect of Scheme	Residual significance of effect of Scheme on on discrete asset conveying Attributes of OUV
<b>Designated assets</b>						
1011048	Bronze Age enclosure and bowl barrow 100m west of Longbarrow Cross Roads on Winterbourne Stoke Down	Moderate	Large Adverse	Minor Negative Change and Major Positive Change	Slight Beneficial	Slight Beneficial
1010831	Bowl barrow 400m west of Normanton Gorse	Minor	Moderate Adverse	Moderate Negative Change and Major Positive Change	Neutral	Neutral
1013812	Bowl barrow 350m south-west of Normanton Gorse	Minor	Moderate Adverse	Moderate Negative Change and Major Positive Change	Neutral	Neutral
1010832	Bowl barrow south of the A303 and north-west of Normanton Gorse	Moderate	Large Adverse	Negligible Negative Change and Minor Positive Change	Slight Adverse	Slight Adverse
1010833	Pond barrow south of the A303 and 400m west of Normanton Gorse containing the 'Wilsford	Moderate	Large Adverse	Negligible Negative Change and Minor Positive Change	Slight Adverse	Slight Adverse

Discrete asset		Impact of existing baseline / A303 on discrete asset conveying Attributes of OUV	Effect of existing baseline / A303 on on discrete asset conveying Attributes of OUV	Impact of Scheme on on discrete asset conveying Attributes of OUV	Anticipated significance of effect of Scheme	Residual significance of effect of Scheme on on discrete asset conveying Attributes of OUV
	Shaft'					
1011708	Bowl barrow 100m south-east of the southern edge of The Diamond south of the A303	Minor	Moderate adverse	Minor Positive Change	Moderate Beneficial	Moderate Beneficial
1011709	Bowl barrow 450m east of The Diamond south of the A303	Minor	Moderate adverse	Minor Positive Change	Moderate Beneficial	Moderate Beneficial
1012394	Four bowl barrows 140m north of the A303 on Stonehenge Down	Moderate	Large Adverse	Minor Negative Change and Major Positive Change	Moderate Beneficial	Moderate Beneficial
1011044	Bowl barrow 600m south of A344 on Winterbourne Stoke Down	Negligible	Slight Adverse	Negligible Negative and Negligible Positive Change	Neutral	Neutral
1011041	Pond barrow 700m south of A344 on Winterbourne Stoke Down	Negligible	Slight Adverse	Negligible Negative and Negligible Positive Change	Neutral	Neutral
1011039	Bell barrow 450m south of A344 on Winterbourne Stoke Down	Negligible	Slight Adverse	Negligible Negative and Negligible Positive Change	Neutral	Neutral
1008950	Bowl barrow 550m south of Airman's Corner on	Negligible	Slight Adverse	Negligible Negative and Negligible Positive	Neutral	Neutral

Discrete asset		Impact of existing baseline / A303 on discrete asset conveying Attributes of OUV	Effect of existing baseline / A303 on on discrete asset conveying Attributes of OUV	Impact of Scheme on on discrete asset conveying Attributes of OUV	Anticipated significance of effect of Scheme	Residual significance of effect of Scheme on on discrete asset conveying Attributes of OUV
	Winterbourne Stoke Down			Change		
1011043	Bowl barrow 430m south of A344 on Winterbourne Stoke Down	Negligible	Slight Adverse	Negligible Negative and Negligible Positive Change	Neutral	Neutral
1008949	Bowl barrow 450m SSW of Airman's Corner on Winterbourne Stoke Down	Negligible	Slight Adverse	Negligible Negative and Negligible Positive Change	Neutral	Neutral
1011040	Bowl barrow 400m south of A344 on Winterbourne Stoke Down	Negligible	Slight Adverse	Negligible Negative and Negligible Positive Change	Neutral	Neutral
1010895	Pond barrow 50m north of A344 west of The Cursus	Negligible	Slight Adverse	Negligible Negative and Negligible Positive Change	Neutral	Neutral
1012389	Bowl barrow 220m west of Old King Barrows north of the A303	Minor	Moderate adverse	Moderate Positive Change	Large Beneficial	Large Beneficial
1008948	Bowl barrow 100m north of The Avenue and west of Old King Barrows	Minor	Moderate adverse	Moderate Positive Change	Large Beneficial	Large Beneficial
1012388	Bowl barrow 500m WNW of New King Barrows north of the A303	Minor	Moderate adverse	Moderate Positive Change	Large Beneficial	Large Beneficial

Discrete asset		Impact of existing baseline / A303 on discrete asset conveying Attributes of OUV	Effect of existing baseline / A303 on on discrete asset conveying Attributes of OUV	Impact of Scheme on on discrete asset conveying Attributes of OUV	Anticipated significance of effect of Scheme	Residual significance of effect of Scheme on on discrete asset conveying Attributes of OUV
1008946	Bowl barrow 400m west of New King Barrows	Minor	Moderate adverse	Moderate Positive Change	Large Beneficial	Large Beneficial
1009145	Bowl barrow 170m south-east of Strangways on Countess Farm	None	Neutral	No Change	Neutral	Neutral
1010838	Linear boundary within Normanton Gorse	Negligible	Slight Adverse	Negligible Negative Change	Slight Adverse	Slight Adverse
1009138	Bowl barrow 400m north of the A303 on Countess Farm	Negligible	Slight Adverse	Negligible Negative impact	Slight Adverse	Slight Adverse
1014147	Two bowl barrows 700m north-west of Normanton Down House	None	Neutral	No Change	Neutral	Neutral

## Impacts and effects of Scheme on Attributes of OUV

9.4.5 The HIA process has identified assets and Asset Groups which contribute to Attributes of OUV and assessed the impacts and effects of the Scheme on these. This section considers the potential overall impacts and effects of the Scheme on individual Attributes of OUV, taking into account the results of the detailed assessments (HIA Sections 6.9, Asset Groups; 6.10, Discrete and isolated assets and 9.3, Potential impacts and effects of Scheme: aspects of the WHS).

9.4.6 As set out in HIA Section 5.9, Methodology: Evaluation of overall impact, the assessment below has taken into account both positive and negative impacts to arrive at an overall conclusion regarding the effect of the Scheme on individual Attributes of OUV and the Authenticity and Integrity 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.

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

9.4.7 The removal of the A303 would improve the aural and visual environment of the Stonehenge monument providing it with an uncluttered and respectful setting that reflects the iconic status of the monument and its cultural significance within the WHS.

9.4.8 The removal of the 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. Removing the A303 and associated traffic would improve views to and from the monument, relationships between the monument and other monuments in the landscape (e.g. the numerous barrow groups in elevated positions around the monument) and, importantly, the visitor experience at the monument.

9.4.9 The Scheme provides the opportunity to enhance physical access, linking the monument to the wider landscape. This iconic monument also accessed, both domestically and internationally, via a range of media, from social media channels to documentaries. It is not anticipated that the Scheme would impact upon these non-physical access aspects of this iconic monument.

9.4.10 Overall, it is anticipated that the Scheme would have a **Major Positive** impact on this Attribute of OUV, resulting in a **Very Large Beneficial** effect.

### *2. The physical remains of the Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape*

- 9.4.11 The removal of the existing road would reduce physical and contextual severance and visual impacts on a number of assets.
- 9.4.12 At the eastern end, the Scheme would enable the reconnection of the Avenue, where it is severed by the existing A303, and enable the restoration of physical connectivity along much of the length of this important prehistoric ceremonial route.
- 9.4.13 The Scheme's alignment avoids any risk of the road intruding on the view of the setting sun from Stonehenge during the winter solstice.
- 9.4.14 It is anticipated that the construction of the Scheme would result in the loss of any archaeological remains within the construction footprint. The Scheme has been developed to avoid known concentrations of archaeological remains that make a significant contribution to the OUV of the WHS. The most significant improvements to the design, following public consultation, have been changes to the location of the western tunnel portal and the approach route through the western half of the WHS. The Scheme is now much closer to the line of the existing A303, avoiding impacts on newly-discovered barrows just to the east of the A360 (the 'Diamond Group' including Neolithic long barrows and a hengiform enclosure on the former D061 / 062 approach alignment and a number of other Neolithic and Bronze Age sites).
- 9.4.15 Overall, the construction of the route would have a negative impact on this Attribute of OUV due to the loss of archaeological remains within the footprint of the Scheme. However the scale of loss is currently considered to be limited in extent and severity, given the route's realignment away from concentrations of known sites that contribute substantially to conveying Attributes of OUV (see HIA Section 6.10, Discrete and isolated assets: baseline description and assessment of Scheme impacts and effects: Non-designated isolated and discrete assets).
- 9.4.16 Overall, it is anticipated that the Scheme would have a **Negligible Negative** impact on this Attribute of OUV, resulting in a **Slight Adverse** effect.

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

- 9.4.17 The removal of the A303 across much of the WHS would enable the physical reconnection of a number of significant monuments to the wider landscape, including Stonehenge, the Normanton Down Barrows (AG19), barrow cemeteries on King Barrow Ridge (AG26) and numerous barrows to the south of the A303. The removal of the A303 and the associated traffic would also improve people's ability to appreciate and understand the visual and spatial connections between the various monuments and the wider topographic landscape, in particular the relationships with the

rising ground to the south of Stonehenge around Normanton Down. These are benefits for this Attribute of OUV.

- 9.4.18 The reconnection of the Avenue (AG27) (where it is currently severed by the A303) is also a consideration for this Attribute. The route of the Avenue has a strong relationship with the underlying form of the landscape, utilising the topography to create a journey through the landscape to and from Stonehenge. The reconnection of the Avenue would enable this journey to be better understood and appreciated.
- 9.4.19 The construction of a new dual carriageway and tunnel portals within the WHS would, however, have adverse impacts on the relationship between monuments / Asset Groups and the landscape and people's ability to appreciate and understand those relationships, although the design development has focused on minimising this adverse impact.
- 9.4.20 At the eastern end, the new approach road and tunnel portals would be visible features in the landscape and would affect visual relationships between monuments and the landscape. In particular, in views towards the Countess Farm Barrows (AG31), the portal and approach road would introduce major new elements of modern infrastructure that would disrupt the appreciation of the landscape relationship between the barrows. The new portal and dual carriageway would be visible and prominent features in the landscape, although a canopy and the placing of the eastern portal within a dry valley would help to conceal the portal entrance.
- 9.4.21 Conversely, the removal of the A303 at the southern end of King Barrow Ridge (AG26) would improve physical connectivity along the ridge, enabling the physical reconnection of the New King Barrows (and Old King Barrows) to the wider landscape and associated monuments to the south. To the west, between King Barrow Ridge and Normanton Down, the siting of monuments and monument groups in relation to the landscape would be enhanced with the removal of the A303, enabling safe access between the north and south parts of the WHS using PRowS and permissive open access land (see HIA Figure 18). Further information on proposed access arrangements are set out in ES Chapter 2, The Scheme and impacts and effects on non-motorised users (NMU) and motorised travellers are considered in ES Chapter 13, People and Communities.
- 9.4.22 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 including, amongst others, the Winterbourne Stoke Crossroads barrows, the Diamond Group and the Normanton Down barrows. The Scheme would introduce a deep cutting and tunnel portal, severing the physical relationship and topographic linkage between the Winterbourne Stoke Crossroads barrows and the Diamond Group, affecting the integrity of physical relationships between

the monuments. The relationships between the concentration of long barrows associated with the Wilsford/Normanton dry valley complex would also be impacted. The design of the western approach, however, incorporates elements including the use of a canopy at the western portal and Green Bridge Four, to act as concealing devices for the western tunnel portal and its approach cutting in long views out of the WHS to the new Longbarrow Junction from the northern part of the Normanton Down Barrows. Green Bridge Four would also ensure continued north-south connectivity along a PRow, providing the ability for visitors to access the monuments and experience the link between the Winterbourne Stoke Crossroads Barrow Group and the Diamond Group. Shallow grass slopes in the upper portion of the retained cutting, and chalk grassland mitigation beyond the retained cutting edge to north and south and across Green Bridge Four, would soften views of the cutting from heritage assets important to the understanding of the OUV, within the WHS. The visual presence of the retained cutting is also lessened by the 200m long canopy and Green Bridge Four, and the combination of chalk grassland across and around the bridge and canopy would visually aid the integration of this structure within the landscape.

- 9.4.23 Overall, it is anticipated that the Scheme would have a **Negligible Negative** impact on this Attribute of OUV, resulting in a **Slight Adverse** effect.

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

- 9.4.24 The removal of the existing A303 to the south of Stonehenge particularly where it crosses the winter solstice sunset alignment, would benefit this Attribute of OUV through the removal of traffic and modern road infrastructure from views towards the winter solstice sunset.
- 9.4.25 The Scheme's alignment (and placing the Scheme in to a tunnel) avoids any risk of the road intruding on the view of the setting sun from Stonehenge during the winter solstice. There would be no visibility of any Scheme structures in the backdrop of the horizon sector containing the winter solstice sunset alignment.
- 9.4.26 The Scheme would not impact upon the midwinter sunrise solstice alignment of the Durrington Walls Southern Circle Avenue looking down to the south-east towards Countess East. Views of project infrastructure construction components, such as the temporary Countess East compound, would be obscured by intervening topography, as well as modern built form.
- 9.4.27 No lighting is proposed for the 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. There is, however, a risk that vehicular lights on the stretch west of the western portal may create a glow, but due to the deep cutting this is not anticipated.

- 9.4.28 Overall, it is anticipated that the Scheme would have a **Moderate Positive** impact on this Attribute of OUV, resulting in a **Large Beneficial** effect.

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

- 9.4.29 The removal of the A303 would be a benefit for many monuments in terms of removing visual clutter and distraction from sightlines between different groups of monuments and also aiding the physical reconnection between monuments. Of particular note are the improvements to the visual connections between the Normanton Down Barrows (AG19) and monuments such as Stonehenge (AG22), the King Barrow cemeteries (AG26), and the Cursus Barrows (West) (AG18). There are also improvements in visual relationships between Stonehenge and a range of monuments to the south.
- 9.4.30 The removal of the existing A303 provides the opportunity to enable physical access between Asset Groups, for example between major barrow groups such as the Old and New King Barrows and Normanton Down Barrows, along the Avenue (AG27), and between the dispersed barrows and other ritual / ceremonial sites in the central area of the WHS. These physical connections are an important aspect of this Attribute alongside the visual connections between different barrow groups and associated monuments including henges and cursuses.
- 9.4.31 The construction and operation of the Scheme would, however, have adverse impacts on visual and physical relationships elsewhere in the WHS. There would be some impacts on visual relationships between barrow groups and isolated barrows at the eastern end with views from isolated barrows in the Countess Farm area (AG31) towards the Avenue Barrows (AG30) and the King Barrows (AG26) being affected by the presence of the portal in the foreground. The views would not, however, be fundamentally altered.
- 9.4.32 The construction of the western portal and approach roads would affect the relationships between a number of discrete monuments and Asset Groups. The approach road, cutting and tunnel portals to the west would also adversely affect 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 overall assessment of impacts for this Attribute requires a balanced judgement. 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, so that on balance an overall beneficial impact is considered appropriate.

- 9.4.33 Overall, it is anticipated that the Scheme would have a **Negligible Positive** impact on this Attribute of OUV, resulting in a **Slight Beneficial** effect.

*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*

- 9.4.34 The Scheme would improve the setting of numerous assets within the WHS including (to varying degrees) Stonehenge (AG22), the Avenue (AG27), the Cursus (AG23), barrow groups and other related features. The removal of the existing A303 would improve the setting of these and other monuments and enable visitors to better appreciate their disposition and relationships. These are significant benefits for the WHS.
- 9.4.35 The construction of the new road and tunnel portals within the WHS would, however, 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.
- 9.4.36 The overall assessment of impacts for this Attribute requires a balanced judgement. The Scheme has been designed to avoid major known concentrations of archaeological remains that contribute to the OUV of the WHS; however it would have adverse effects on the setting of some assets and Asset Groups. The beneficial effects are considered to slightly outweigh the adverse effects of the Scheme in terms of this Attribute.
- 9.4.37 Overall, it is anticipated that the Scheme would have a **Negligible Positive** impact on this Attribute of OUV, resulting in a **Slight Beneficial** effect.

*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*

- 9.4.38 Stonehenge in particular has been the subject of numerous artists, including J M W Turner, and figures in many books, both fiction such as *Tess of the D'Urbervilles* and academic works. It has also inspired many architects from Inigo Jones onwards and has been the subject of antiquarian and archaeological study and speculation for more than three hundred years.
- 9.4.39 Overall, the existing A303 has an adverse effect. 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. On the other hand, the view of Stonehenge from vehicles descending from King Barrow Ridge to Stonehenge Bottom is highly appreciated by many; although this view would no longer be available to motorists, visitors would still be able to appreciate it on foot, by cycle or on horseback, by using the new A303 restricted byway or other paths in the vicinity.
- 9.4.40 Overall, it is anticipated that the Scheme would have a **Negligible Positive** impact on this Attribute of OUV, resulting in a **Slight Beneficial** effect.

### Impacts and effects of Scheme on Integrity

- 9.4.41 The removal of the existing A303 would address a longstanding threat to the Integrity of the WHS and would provide benefits for the Integrity of the site. Removing a substantial length of the existing A303 would improve the ability to access all parts of the World Heritage property and would reduce aural and visual impact where the road would be in a tunnel. This would be a beneficial change. Benefits include:
- a) The removal of extensive visual and aural intrusion from road traffic and associated infrastructure across many parts of the WHS including around Stonehenge (AG22) itself.
  - b) The reconnection of the Avenue (AG27), which would enhance the integrity of an important asset.
  - c) The removal of severance from the King Barrow Ridge (AG26) and the associated barrow groups to the south.
  - d) The removal of traffic from immediately adjacent to Winterbourne Stoke Crossroads Barrows (AG12).
  - e) Enabling the reconnection of the north and south parts of the WHS, to create a more complete landscape that better represents the cultural heritage value of the WHS and creates the opportunity for visitors to fully engage with and explore key areas of the WHS south of the existing A303 using PRoW.

- 9.4.42 Where the road is not in a tunnel, there would be stretches of new dual carriageway, much of which would be in cutting, but limited to 800m in the western approach (when the canopy and Green Bridge Four are taken in to consideration) and 300m in the eastern approach (when the canopy is taken in to consideration). The construction of the cuttings and the portals would have an adverse impact on the OUV of the WHS – although their locations have been designed to avoid impacts on known archaeological remains. The construction and operation of new areas of dual carriageway and portals, particularly in the western approach section, would introduce additional adverse impacts and degrade the Integrity of the WHS by:
- a) Partially severing physical relationships between important Asset Groups such as the Winterbourne Stoke Crossroads Barrows (AG16) and the Diamond Group (AG13), including the concentration of long barrows associated with the Wilsford/Normanton dry valley complex.; and
  - b) Severing the landscape in this area, dividing a dry river valley in the western tunnel approaches east of the current A360.
- 9.4.43 As described above, the design of the western approach incorporates elements including the use of a canopy and Green Bridge Four, to act as concealing devices for the western tunnel portal and long views out of the WHS to the new Longbarrow Junction from the northern end of the Normanton Down Barrows (AG19). Green Bridge Four would also ensure continued and enhanced north-south connectivity, providing the ability for visitors to access the monuments and experience the link between the Winterbourne Stoke Crossroads Barrows (AG12) and the Diamond Group (AG13). Shallow grass slopes in the upper portion of the retained cutting, and chalk grassland mitigation beyond the retained cutting edge to north and south and across Green Bridge Four, would soften views of the cutting from heritage assets important to the understanding of the OUV, within the WHS. The visual presence of the retained cutting is also lessened by the 200m long canopy and Green Bridge Four and the combination of chalk grassland across and around the bridge and canopy would visually aid the integration of this structure within the landscape.
- 9.4.44 Outside the WHS there may be some loss of archaeological remains associated with key periods represented in the WHS. The route may also affect the settings of non-designated archaeological assets within and beyond the boundary of the WHS.
- 9.4.45 Overall, it is anticipated that the Scheme would have a **Negligible Positive** impact on the Integrity of the WHS, resulting in a **Slight Beneficial** effect.

## Impacts and effects of Scheme on Authenticity

- 9.4.46 In relation to the Stonehenge, Avebury and Associated Sites WHS, the primary factors that express its Authenticity are considered to relate to:
- Form and design – the form and design of assets and the inter-relationships between assets.
  - Materials and substance – the materials used to construct assets and the continuing conservation of those materials.
  - Location and setting – the relationships between assets and the landscape and the horizon-based celestial/astronomical alignment phenomena.
- 9.4.47 In terms of the form and design of assets and the inter-relationships between those assets, the 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 following the results of the archaeological evaluation. The 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.
- 9.4.48 The impact of the road on the materials used to construct assets and the continuing conservation of those materials is assessed to be relatively limited. The existing A303 is currently a dominant feature in many views of the WHS with an adverse impact on the setting of the property. Both its visual and aural impacts are disruptive to the spirit and feeling of the property.
- 9.4.49 The location and setting of the WHS includes the many and varied relationships between assets, between assets and the landscape and the horizon-based celestial/astronomical alignment phenomena. There is a distinct mix of positive and negative impacts, with areas of the WHS seeing a marked improvement in the experience and display of these aspects of Authenticity, and others experiencing a negative impact.
- 9.4.50 Overall, it is anticipated that the Scheme would have a **Negligible Positive** impact on the Authenticity of the WHS, resulting in a **Slight Beneficial** effect.

**Table 13: Summary of assessment of significance of effect of existing A303 and anticipated significance of effect of Scheme on Attributes of OUV, Integrity and Authenticity**

Attribute of Outstanding Universal Value	Impact of existing A303	Effect of existing A303	Impact of Scheme	Effect of Scheme
1. Stonehenge itself as a globally famous and iconic monument	Moderate Negative	Large Adverse	Major Positive	Very Large Beneficial
2. The physical remains of the Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape	Moderate Negative	Large 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
4. The design of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the skies and astronomy	Minor Negative	Moderate Adverse	Moderate Positive Change	Large Beneficial
5. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other	Moderate Negative	Large Adverse	Negligible Positive Change	Slight Beneficial
6. The disposition, physical remains and settings of the key Neolithic and Bronze Age funerary, ceremonial and other monuments and sites of the period, which together form a landscape without parallel	Moderate Negative	Large Adverse	Negligible Positive Change	Slight Beneficial
7. The influence of the remains of the Neolithic and Bronze Age funerary and ceremonial monuments and their landscape setting on architects, artists, historians, archaeologists and others	Negligible Negative	Slight Adverse	Negligible Positive Change	Slight Beneficial
<b>Integrity</b>	Major Negative	Large Adverse	Negligible Positive Change	Slight Beneficial
<b>Authenticity</b>	Negligible Negative	Slight Adverse	Negligible Positive Change	Slight Beneficial

## 10 Cumulative impact assessment

### 10.1 Cumulative effects with other development

- 10.1.1 Cumulative impacts can arise from multiple effects of the same scheme, multiple effects of other schemes, or incremental effects arising from a number of actions over time, on a heritage asset or Asset Group conveying Attributes of OUV. Interactions may arise from activities related to other topics, such as drainage, endangered species relocation, sound attenuation measures or access arrangements, taken together with any cultural heritage impacts.
- 10.1.2 The 2018 State of Conservation Report notes that ‘[...] *it will be important to assess cumulative and consequential impacts of development in the setting of Stonehenge from this proposed major development [Future Boscombe Down Development: Boeing Defence UK New Aircraft Hub], the Army Basing Programme and the A303 scheme as well as planned expansion of housing. High level strategic engagement is required to ensure infrastructure planning is coordinated to minimise intrusion in the setting of the World Heritage property and avoid harm to OUV.*’ (DCMS 2018).
- 10.1.3 In selecting relevant potential for cumulative impacts, the HIA has had regard to those identified in the 2018 State of Conservation Report (DCMS 2018). The HIA has assessed the potential for cumulative impacts on the Attributes of the OUV of the WHS of committed developments (i.e. developments with planning consent and / or development allocations in adopted local plans and MOD development plans), including:
- a) **Kings Gate, Amesbury.** A new strategic housing allocation. 1,300 dwellings are to be provided within the Core Strategy period (to 2026), a proportion of which have already been the subject of planning applications. The site is located off the A345 just to the south of Amesbury.
  - b) **Various Wiltshire Core Strategy development allocations.** Various Core Strategy development allocations to the north and east of Salisbury are linked to the A303 via the A360 and A345. These include the Fugglestone Red mixed-use development alongside the A360 (1,250 dwellings and 8ha employment land) and the Longhedge mixed-use development alongside the A345 (450 dwellings and 8ha employment land).
  - c) **Army Basing 2020 Programme: Larkhill and Bulford.** The programme is projected to see an additional 5,000 personnel and families focused particularly at Larkhill with a substantial amount of residential and facilities development already underway. The opportunity for the local visitor economy arises out of the additional

demand this would generate for retail and leisure facilities in the area, the strength of the case for new business investment that follows from this, and the additional workforce that some of the base's population represent for the area. *'The Ministry of Defence has progressed with the planned development north of Stonehenge at Larkhill Garrison, which is part of the Army Basing Programme. The final location and design of the Scheme has demonstrated sensitivity to the protection of the WHS and its setting. It is important that any additional or consequential development continues to take into account the need to protect the World Heritage property and its OUV'* (DCMS 2018).

- d) **Future Boscombe Down Development: Boeing Defence UK New Aircraft Hub.** *'This development in the setting of the Stonehenge part of the World Heritage property is at the master planning stage. This is a major project that aims to redevelop the existing military airfield to the south-east of the World Heritage property near Amesbury to include a Boeing 'centre of excellence' for its UK business [...] The developers have been asked to produce an HIA following ICOMOS guidance. It is essential that any proposal brought forward identifies and adequately mitigates any harmful impacts on the World Heritage property and its OUV.'* (DCMS 2018).
- e) **Solstice Park, Amesbury.** Already largely built.; and
- f) **The Stonehenge Environmental Improvements Programme (SEIP),** including the operation of the Stonehenge Visitor Centre (already largely undertaken and built).

- 10.1.4 Many of these developments are too distant from the Scheme to result in any meaningful cumulative change or are in established development areas that have already been substantially developed, such as Solstice Park and Archers Gate. The negative effects that they have, particularly Solstice Park, are therefore considered as part of the current baseline for the HIA.
- 10.1.5 The Army Basing 2020 Programme: Larkhill and Bulford is taking place to the north or east of the WHS or within the existing confines of the existing army base. It is considered that these developments will not comprise a change to the baseline conditions as the army bases are already extant and are too distant from the Scheme to result in cumulative changes to the Asset Groups and discrete heritage assets that are considered in relation to the Scheme.
- 10.1.6 Proposals associated with interpretation panels, permissive paths and new access to Stonehenge associated with the Stonehenge Visitor Centre and the improvements to the A344 are considered as part of the baseline for the HIA as the majority of the improvements are in place.

- 10.1.7 The identified applications and allocations are likely to be completed before the Scheme goes to construction, and are therefore considered to form part of the 'future baseline'.

## **10.2 Assessment of in combination effects**

- 10.2.1 The combined effect of individual impacts occurs when a receptor is affected by more than one impact during any phase of a development.
- 10.2.2 Only impact interactions for the anticipated residual impacts of the development have been considered. Only the minor, moderate and major adverse or beneficial impacts are included. It is anticipated that the construction phase of the Scheme would have the greatest influence on impact interactions.
- 10.2.3 In terms of the likely significance of effect due to the combination of impacts upon identified receptors, it is anticipated that the combined construction phase visual, dust and noise impacts would interact to result in a greater significance of effect than each of the impacts acting in isolation.
- 10.2.4 ES Chapter 15, Cumulative Effects, has identified potential Large Adverse in-combination effects on recreational and tourists users in the WHS arising from visual and audible impacts from the construction activity. No mitigation measures are considered practical above the measures outlined within the OEMP.

## 11 Evaluation of overall impact and significance of effect of Scheme on the OUV of the WHS

- 11.1.1 This HIA has assessed the impact and effect of the existing A303 and the anticipated impacts of the Scheme on the Attributes conveying OUV, Integrity and Authenticity of the WHS. It has assessed the significance of effect of the existing A303 and the anticipated magnitude of change and significance of effects of the Scheme on Asset Groups expressing Attributes of OUV. It has also assessed the significance of effect of the Scheme on isolated or discrete heritage assets that convey OUV (Table 12) and non-designated discrete assets.
- 11.1.2 The assessment has considered potential Scheme effects on aspects such as visitor attendance, footfall changes, impacts on tourism and the tourist economy and changes to the public's perception of the WHS and its OUV.
- 11.1.3 Finally it has assessed both the significance of effect of the existing A303 and the anticipated magnitude of change and significance of effects of the Scheme on the Attributes of OUV (Table 13, Summary of assessment of significance of effect of existing A303 and anticipated significance of effect of Scheme on Attributes of OUV, Integrity and Authenticity) and arrived at an overall significance of effect for the Scheme on the OUV of the whole of the WHS.
- 11.1.4 In considering the Scheme as a whole, this HIA has drawn out elements of the Scheme that would be beneficial – namely the placing of the road in a tunnel across much of the WHS, the reunification of the Avenue where it is truncated by the existing A303, the realignment of the A303 and A360 away from the Winterbourne Stoke Crossroads Barrows, the downgrading of the A303 and part of the A360 to restricted byways and the improvement of junctions which would alleviate the impact of traffic congestion in the WHS. These aspects would reduce the current adverse impacts from the existing A303 and A360 on the WHS.
- 11.1.5 However, the Scheme would introduce additional adverse impacts in some parts of the WHS landscape – changing the inter-relationships and the setting of some discrete heritage assets, Asset Groups and the landscape context. These changes would be irreversible.
- 11.1.6 Both beneficial and adverse effects have been taken into account in arriving at an assessment of the overall significance of effect on the Attributes of OUV of the WHS.
- 11.1.7 Elements of the Scheme which have the potential to have impacts upon OUV comprise:

- The tunnel section;
- Western and eastern approach roads;
- Western and eastern portals;
- Countess Roundabout and Flyover;
- Longbarrow Junction;
- Till viaduct; and
- Rollestone Crossroads.

### **The tunnel section**

- 11.1.8 The tunnel section of the Scheme would remove the existing severance and intrusion due to the existing A303 along the full length of the 3km bored tunnel and its canopy extensions; a total of c.3.3km between Normanton Gorse and Vespasian's Camp. This section of the route affects the settings of Stonehenge itself and related barrow groups in a beneficial way, including the relationships between the monuments, between the monuments and the topography, and in relation to the skies and astronomy.
- 11.1.9 The surface treatment and management of access along the closed A303, has been designed to maximise the tranquil and rural setting and enhance the integrity of this area of the landscape.
- 11.1.10 Amendments to vehicular access to byways have been designed to avoid damage to archaeology, improve safety and encourage exploration of the wider landscape.
- 11.1.11 The placing of the new road in tunnel and the conversion of the A303 to a restricted byway with no right of way for motor vehicles would bring a Very Large beneficial effect, enhancing the landscape over an extensive area of the WHS and impacting upon the following Attributes of OUV:

*(1) Stonehenge itself as a globally famous and iconic monument.*

The tunnel section would restore a tranquil, more authentic setting to the iconic monument, removing the intrusive site and sound of trunk road traffic from close proximity to it and greatly enhancing the visitor experience. The reduction of pollution would enhance biodiversity and the environment in the vicinity of the monument.

*(2) The physical remains of the Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape.*

The bored tunnel would have no impact on the fabric or setting of any monuments or associated remains in the tunnel section. The downgrading of the A303 would remove risks to the fabric of monuments that are close to or extend into the current A303 highway boundary.

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

The placing of the new road in tunnel would remove a major impediment to the appreciation of the landscape setting of the monuments within this part of the WHS. It would remove the severance of the Avenue where it is crossed by the existing A303 and also the severance between Stonehenge and other Asset Groups to the north and south of the existing A303.

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

The placing of the new road in tunnel would remove the intrusion of the existing road and associated light pollution in views between Stonehenge and the Sun Barrow restoring this important solstitial alignment and greatly enhancing this Attribute of OUV.

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

The placing of the new road in tunnel would remove the severance of the existing road between monument groups to the north and south of the A303, in particular between the Normanton Down Barrows (AG19) and Stonehenge (AG22); Stonehenge Bottom / Luxenborough Barrows (AG24) and Stonehenge (AG22); the Old and New King Barrows (AG26) and the Coneybury Henge and Associated Monuments (AG29) and both north and south parts of the Avenue Barrows (AG30).

*(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 placing of the new road in tunnel would remove the severance of the existing road between monument groups in the landscape, including Stonehenge (AG22), the Normanton Down Barrows (AG19), the Old and New King Barrows (AG26), Stonehenge Bottom / Luxenborough Barrows (AG24), Coneybury Henge and Associated Monuments (AG29) and the Avenue Barrows (AG30). It would also enable the reconnection of the Avenue (AG27) where it is severed by the current A303.

*(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, both in prospects immortalised in historic works of art, and in spiritual perceptions of the landscape. The Scheme would remove this intrusion and enhance the setting of the monuments, returning them to a more tranquil and authentic environment for people to experience, appreciate and enjoy.

- 11.1.12 Placing the new road in tunnel and downgrading the existing A303 to a restricted byway would remove the existing severance caused by the surface A303 for a distance of some 3.3km within the WHS. It would also enhance the Integrity and Authenticity of the OUV of the WHS.

### **Western approach road**

- 11.1.13 The alignment of the western approach road between Longbarrow Junction and the western portal has been selected to avoid known heritage assets and Asset Groups and to follow a shallow dry valley. Placing the road in a deep cutting would 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 sites and monuments in relation to the landscape.*

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.*

- 11.1.16 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.
- 11.1.17 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.

### **Western portal**

- 11.1.18 The western portal has been positioned to make best use of the topography to conceal the new structure within the landscape. A low-key design has been adopted to minimise intrusion and a 200m canopy extension would conceal the portal in views from the northern part of the Normanton Down Barrows (AG19), the Winterbourne Stoke Crossroads Barrows (AG12) and the Diamond Group (AG13). There would be the following effects on Attributes of OUV:

*(2) The physical remains of the Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape.*

The location of the western portal has been selected to avoid known monuments. Archaeological field evaluations have shown there are no significant archaeological remains that would be affected by construction of the western portal; potential loss of any archaeological remains would be mitigated through a programme of archaeological fieldwork and recording prior to construction.

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

The western portal has been positioned to make best use of the topography to conceal the new structure within the landscape. A low-

key design has been adopted to minimise intrusion and a 200m grassed canopy extension would help to conceal the portal and maintain landscape connectivity.

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

There would be no effect on this Attribute of the OUV of the WHS.

*(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 western portal has been positioned to make best use of the topography to conceal the new structure within the landscape. A low-key design has been adopted to minimise intrusion and a 200m grassed canopy extension would help to conceal the portal and maintain landscape connectivity.

*(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 western portal would have no effect on this Attribute of the OUV of the WHS.

- 11.1.19 The western portal would allow the construction of the tunnel. The construction of the portal mouth would be mitigated and concealed by a 200m grassed canopy which, together with the chalk grassland mitigation to the north and south of the cutting further to the west would enhance integration of the portal into the landscape.

### **Eastern approach road**

- 11.1.20 The alignment of the eastern approach road between Countess Junction and the eastern tunnel portal has been selected to avoid known monuments and to follow a shallow dry valley. Its topographical positioning within the dry valley would conceal the new highway infrastructure in the landscape and the sight and sound of high-speed traffic in views across this part of the WHS. The approach road would require a short length of new cutting to access the existing portal but would re-use approximately 1km of the existing A303 two-lane dual carriageway, with minimal new impacts. There would be the following effects on Attributes of OUV:

*(2) The physical remains of the Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape.*

The alignment of the eastern approach road has been selected to avoid known monuments 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 eastern approach road; potential loss of archaeological remains would be mitigated through a programme of archaeological fieldwork and recording prior to construction.

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

Placing the eastern approach road in cutting would help to conceal the new infrastructure in views from monument groups including some of the Countess Farm Barrows (AG31) and would remove the existing long-distance views of traffic on the A303 in views from Durrington Walls and Woodhenge (AG33).

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

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 Neolithic and Bronze Age funerary, ceremonial and other monuments and sites of the period, which together form a landscape without parallel.*

The placing of the eastern approach road in cutting would help to conceal the new infrastructure in views from monument groups including the Countess Farm Barrows (AG31) and would remove the existing long-distance views of traffic on the A303 in views from Durrington Walls and Woodhenge (AG33).

*(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 already presents an intrusion in this part of the WHS. The concealment of the new infrastructure in a cutting would minimise adverse effects upon the setting of adjacent monuments and Asset Groups.

- 11.1.21 The eastern approach road would not remove the existing severance due to the surface A303. This, however, would be partially mitigated through careful design of the cutting and cutting slopes.

### Eastern portal

- 11.1.22 The eastern portal has been positioned to make best use of the topography to conceal the new structure within the landscape. A low-key design has been adopted to minimise intrusion and a 100m grassed canopy extension would help conceal the portal in views from the Avenue, barrows on King Barrow Ridge (AG26) and amongst the Countess Farm Barrows (AG31). There would be the following effects on the Attributes of OUV:

*(2) The physical remains of the Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape.*

The location of the eastern portal has been selected to avoid known monuments. Archaeological field evaluations have shown there are no ceremonial or funerary monuments and few other archaeological remains that would be affected by the construction of the eastern portal; potential loss of archaeological remains would be mitigated through a programme of archaeological fieldwork and recording prior to construction.

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

The eastern portal has been positioned to make best use of the topography to conceal the new structure within the landscape. A low-key design has been adopted to minimise intrusion and a 100m canopy extension would help to conceal the portal and maintain landscape connectivity.

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

There would be no effect on this Attribute of the 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 eastern portal has been positioned to make best use of the topography to conceal the new structure within the landscape. A low-key design has been adopted to minimise intrusion and a 100m grassed canopy extension would help to conceal the portal from adjacent monuments – for example the Countess Farm Barrows (AG31).

*(5) 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 eastern portal would have no effect on this Attribute of the OUV of the WHS.

- 11.1.23 The eastern portal would allow the construction of the tunnel. The construction of the portal mouth would be mitigated and concealed by a 100m grassed canopy which would enhance integration into the landscape.

### **Countess roundabout and flyover**

- 11.1.24 The existing Countess roundabout on the River Avon floodplain, at the eastern boundary of the WHS, would retain its current form with the A303 rising on embankment to pass over the junction on a new flyover. The roundabout beneath the Countess flyover would be lit with directional lighting to limit light spill. The Countess flyover would be unlit. There would be the following effects on Attributes of OUV:

*(2) The physical remains of the Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape.*

The new junction would be constructed within the footprint of the existing highway. Geotechnical and archaeological investigations indicate that the existing junction and slip roads are built on made ground formed on gravel. Other deposits, including any archaeological remains, were removed when the roundabout was originally constructed in the 1960s and during subsequent maintenance and improvement works. There would therefore be no effect on this Attribute of OUV.

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

The new flyover would be largely screened by existing trees and landform in views from the WHS, and is set against a backdrop of peri-urban development, thus minimising its effect on this Attribute of OUV.

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

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 flyover has been designed within the existing highway boundary and would not be visible from within the WHS once replacement tree planting on the north side of the A303 has established. There would be no new effect on this Attribute of OUV.

*(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 new junction would have no effect on this Attribute of OUV.

- 11.1.25 The Countess roundabout and flyover would be constructed within the existing highway footprint and, once the carefully designed replacement planting screening has established, would be integrated into the landscape east of the WHS. It is not assessed that this screening would have an intrusive effect on the setting of the WHS or its Attributes of OUV.

### **Longbarrow Junction**

- 11.1.26 The existing Longbarrow roundabout would be removed and replaced with a new junction outside the WHS approximately 600m to the west. The A360 would be realigned to cross the A303 at the new junction, with the former alignment downgraded to a restricted byway. The new junction would be unlit and the approach roads and roundabouts would be set down below the surrounding ground level to minimise intrusion and hidden behind false cuttings; traffic would cross the new A303 on a green bridge. There would be the following effects on Attributes of OUV:

*(2) The physical remains of the Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape.*

The location of Longbarrow Junction has been selected to avoid known monuments. Archaeological field evaluations have shown there are no ceremonial or funerary monuments that contribute to the OUV of the WHS within the junction's footprint; potential loss of

archaeological remains would be mitigated through a programme of archaeological fieldwork and recording prior to construction.

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

The removal of the existing Longbarrow roundabout would be beneficial for both the setting of the Winterbourne Stoke Crossroads Barrows (AG12) and the Diamond Group (AG13), moving the new junction 600m to the west of the WHS boundary.

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

There would be no effect on this Attribute of the OUV of the WHS. Longbarrow Junction would not be lit. Vehicle head-and tail-lights would be screened from view from the WHS by intervening topography.

*(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 Longbarrow roundabout would be beneficial for both the setting of the Winterbourne Stoke Crossroads Barrows (AG12) and the Diamond Group (AG13), moving the new junction 600m to the west of the WHS boundary.

*(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 removal of the existing Longbarrow roundabout and downgrading of the redundant sections of the A303 and parts of the A360 would enhance the setting of the prominent Winterbourne Stoke Crossroads Barrows (AG12), returning a more tranquil environment for people to appreciate and enjoy for this barrow group.

- 11.1.27 The removal of the existing Longbarrow roundabout would enhance the Integrity and Authenticity of the WHS.

### **Winterbourne Stoke Bypass**

- 11.1.28 Although elements of the proposed bypass may be visible in long views

from within the WHS to the west, it is assessed that at a distance of between c.1km and c.4km from the western boundary of the WHS, and partly screened by topography, this would not result in a significant change in these views.

- 11.1.29 Overall, it is assessed that the Winterbourne Stoke bypass would not impact upon Attributes of OUV, Integrity or Authenticity; or the overall OUV of the WHS.

### **Till viaduct**

- 11.1.30 The new River Till crossing would be located approximately 3km outside the WHS. Although the viaduct may (wholly or in part) be visible in long views from within the WHS to the west, it is assessed that at a distance of between c.1km and c.4km from the western boundary of the WHS, and partly screened by topography, this would not result in a significant change in these views.

- 11.1.31 Overall, it is assessed that the new Till viaduct would not impact upon Attributes of OUV, Integrity or Authenticity; or the overall OUV of the WHS.

### **Rollestone Corner**

- 11.1.32 The Rollestone Corner junction improvement would require new land take within the WHS. This amended, shorter road layout within the WHS has been developed in place of a more extensive one within the setting of this part of the WHS. The new junction would be unlit and would reduce signage and related highway clutter to a minimum. The use of the new junction as part of the high load and diversionary routes would be occasional and intermittent. Archaeological field evaluations have shown there are no ceremonial or funerary monuments that contribute to the OUV of the WHS within the junction footprint; potential loss of archaeological remains would be mitigated through a programme of archaeological fieldwork and recording prior to construction.

- 11.1.33 The Rollestone Corner junction improvement would not result in any change to the fabric or setting of the Rollestone Barrows (AG10) and Net Down Barrows (AG06). These Asset Groups, although in whole or in part located outside the current WHS boundary, have been assessed as contributing to the OUV of the WHS as they are included as part of ongoing boundary revision discussions. Although the proposed junction involves construction of a new route within the north-western corner of the WHS, it is not assessed that this would impact upon the Attributes of OUV expressed by these Asset Groups.

## **11.2 Assessment of overall impact of Scheme**

- 11.2.1 The Scheme has been assessed by this HIA as to its impacts on Asset

Groups, discrete and isolated assets and the Attributes of the OUV of the WHS.

### Impacts in relation to Scheme locations

- 11.2.2 This section considers the differences in impacts in each geographical segment of the Scheme.
- 11.2.3 Substantial beneficial change is particularly noted in the tunnel section where Moderate and Major positive changes are noted to the setting of heritage assets and Asset Groups that contribute to OUV over a 3km distance within the WHS. This is particularly apparent for Asset Groups such as Stonehenge itself (AG22), Stonehenge Down Barrows (AG21), Stonehenge Bottom / Luxenborough Barrows (AG24), Coneybury Henge and Associated Monuments (AG29) and the Greater Cursus (AG23).
- 11.2.4 Beneficial change that is more moderated, and change with both positive and negative impacts from the Scheme, is also noted where assets or Asset Groups are sited at a distance from the existing A303, and the move into cutting would mean that both the cutting and traffic would not be visible; where the Asset Group is close to the western or eastern portals; or where the road or a junction is moved slightly further away from the asset or Asset Group. This is particularly apparent for Asset Groups such as the Winterbourne Stoke Crossroads Barrows (AG12), Normanton Down Barrows (AG13), the Old and New King Barrows (AG26), the Avenue (AG27), Durrington Down Barrows (AG20), Durrington Walls and Woodhenge (AG33) and the North Kite Enclosure and Lake Barrows (AG16).
- 11.2.5 Assets or Asset Groups that would experience no change are situated far from the Scheme mainline on the northern edge of the WHS or to the north-west of the WHS boundary such as the Rollestone Barrows (AG10), Robin Hood's Ball and Associated Sites (AG14), the Lesser Cursus (AG15) and the Knighton Long Barrow (AG37); or would experience no change to setting such as Vespasian's Camp Barrows (AG32) and the Cursus Barrows (East) (AG28); or are isolated barrows situated to the south of the western approach road which have both complex positive and negative changes.
- 11.2.6 Adverse changes that are moderated are experienced by assets or Asset Groups that are situated adjacent to the western and eastern portals or are partially severed within the landscape by the new western approach cutting. These include the Countess Farm Barrows (AG31), isolated barrows and features such as Wilsford G1 and the Wilsford Shaft (close to the western portal), the Diamond Group (AG13) and relationships between the concentrations of long barrows in the western part of the WHS.

## Impacts in relation to Attributes of OUV

11.2.7 Impacts in relation to Attributes of OUV are detailed in HIA Section 9.4, Impacts and effects of Scheme on Attributes of OUV, Integrity and Authenticity: Impacts and effects of Scheme on Attributes of OUV.

11.2.8 With regards to the Attributes of OUV:

- Major Positive Change from the Scheme is experienced by:
  - Attribute 1. Stonehenge itself as a globally famous and iconic monument; and
  - Attribute 4. The design of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the skies and astronomy.
- Negligible Positive Change from the Scheme is experienced by:
  - Attribute 5. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other;
  - Attribute 6. The disposition, physical remains and settings of the key Neolithic and Bronze Age funerary, ceremonial and other monuments and sites of the period, which together form a landscape without parallel; and
  - Attribute 7. The influence of the remains of the Neolithic and Bronze Age funerary and ceremonial monuments and their landscape setting on architects, artists, historians, archaeologists and others.
- Negligible Adverse Change from the Scheme is experienced by:
  - Attribute 2. The physical remains of the Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape; and
  - Attribute 3. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape.

## Impacts in relation to Integrity

11.2.9 Impacts in relation to Integrity are detailed in HIA Section 9.4, Impacts and effects of Scheme on Attributes of OUV, Integrity and Authenticity: Impacts and effects of Scheme on Integrity.

- 11.2.10 With regards to the Integrity of the WHS, the Scheme would have a Negligible Positive Change overall, resulting in a Slight Beneficial effect.

### **Impacts in relation to Authenticity**

- 11.2.11 Impacts in relation to Authenticity are detailed in HIA Section 9.4, Impacts and effects of Scheme on Attributes of OUV, Integrity and Authenticity: Impacts and effects of Scheme on Authenticity.
- 11.2.12 With regards to the Authenticity of the WHS, the Scheme would create Negligible Positive Change overall, resulting in a Slight Beneficial effect.

## **11.3 Assessment of overall significance of effect of Scheme**

- 11.3.1 The significance of effect of the existing surface A303 on the overall OUV of the Stonehenge component of the Stonehenge, Avebury and Associated Sites WHS is assessed as Large Adverse.
- 11.3.2 The significance of effect of the Scheme on the overall OUV of the Stonehenge component of the Stonehenge, Avebury and Associated Sites WHS, taking into account the beneficial and adverse changes on the Attributes of the OUV as set out above and in Table 13, is assessed as **Slight Beneficial**.

## 12 Summary and Conclusions

### 12.1 World Heritage Convention

- 12.1.1 The Convention Concerning the Protection of the World Cultural and Natural Heritage (the World Heritage Convention) is the principal global instrument for the protection of cultural and natural heritage. The UK ratified the Convention on 29 May 1984. Article 4 of the Convention sets out the duties of States Parties:

*'Each State Party to this Convention recognizes that the duty of ensuring the identification, protection, conservation, presentation and transmission to future generations of the cultural and natural heritage referred to in Articles 1 and 2 and situated on its territory, belongs primarily to that State. It will do all it can to this end, to the utmost of its own resources and, where appropriate, with any international assistance and co-operation, in particular, financial, artistic, scientific and technical, which it may be able to obtain.'* (UNESCO 1972).

### 12.2 Operational Guidelines for the Implementation of the World Heritage Convention

- 12.2.1 The Operational Guidelines note that 'each nominated property should have an appropriate management plan or other documented management system which must specify how the Outstanding Universal Value of a property should be preserved, preferably through participatory means.' (UNESCO 2017, para. 108). 'States Parties are responsible for implementing effective management activities for a World Heritage property. State Parties should do so in close collaboration with property managers, the agency with management authority and other partners, and stakeholders in property management.' (ibid., para. 117).
- 12.2.2 In England, these commitments are fulfilled through the statutory planning system, designation of specific assets within World Heritage properties and the development of WHS Management Plans.
- 12.2.3 The 2015 WHS Management Plan (Simmonds and Thomas 2015) is in place to protect and manage the property as required by the World Heritage Convention. It deals with policy aspects, legal status and protective measures and with the practicalities of day-to-day administration and management.

### 12.3 Alignment with WHS Management Plan vision, aims and policies

- 12.3.1 The ICOMOS HIA Guidance notes that 'Conservation policies embedded in the management system may also be used as a measure to assess potential adverse impacts' (ICOMOS 2011, 2) and that 'Proposals should

*be tested against existing policy frameworks and the management plan for the property and surrounding area' (ibid., 10).*

12.3.2 One of the priorities of the 2015 WHS Management Plan is to '*reduce the dominance and negative impact of roads and traffic and ensure any improvements to the A303 support this*' (Simmonds and Thomas 2015, 8).

12.3.3 This section considers the ways in which the Scheme delivers against the aims and policy set out in the 2015 WHS Management Plan. Only those aims and policies considered to have the potential to be affected by the Scheme have been considered. Aims and policies have been selected in accordance with the advice of the Stonehenge and Avebury World Heritage Site Coordination Unit.

*Aim 1: The Management Plan will be endorsed by those bodies and individuals responsible for its implementation as the framework for long-term detailed decision-making on the protection and enhancement of the WHS and the maintenance of its Outstanding Universal Value (OUV). Its aims and policies should be incorporated in relevant planning guidance and policies.*

- Policy 1a – Government departments, agencies and other statutory bodies responsible for making and implementing national policies and for undertaking activities that may impact on the WHS and its environs should recognise the importance of the WHS and its need for special treatment and a unified approach to sustain its OUV.
- Policy 1d – Development which would impact adversely on the WHS, its setting and its attributes of OUV should not be permitted.
- Policy 1e – Minimise light pollution to avoid adverse impacts on the WHS, its setting and its attributes of OUV.

12.3.4 In line with Policy 1a, identification of the preferred route and development of the Scheme design has been heritage led, and the protection and enhancement of the WHS is one of the CSR for the project. The Scheme design has been developed in line with Policies 1d and 1e to avoid and minimise adverse impacts on the OUV of the WHS; to maximise opportunities for enhancement, in particular with respect to accessibility; and to minimise light pollution relating to the A303 Scheme and car head and tail lights.

*Aim 3: Sustain the OUV of the WHS through the conservation and enhancement of the Site and its attributes of OUV.*

- Policy 3a – Manage the WHS to protect the physical remains which contribute to its attributes of OUV and improve their condition.

- Policy 3c – Maintain and enhance the setting of monuments and sites in the landscape and their inter-relationships and astronomical alignments with particular attention given to achieving an appropriate landscape setting for the monuments and the WHS itself.
- Policy 3d – Improve the WHS landscape by the removal, redesign or screening of existing intrusive structures such as power lines, fences and unsightly buildings where opportunities arise.
- Policy 3f – Encourage land management activities and measures to maximise the protection of archaeological monuments and sites as well as their settings, and the setting of the WHS itself.
- Policy 3g – Maintain, enhance and extend existing areas of permanent grassland where appropriate.
- Policy 3i – Sustain and enhance the attributes of OUV through woodland management while taking into account the WHS's ecological and landscape values.

12.3.5 The Scheme seeks to protect and enhance the WHS and its Attributes of OUV through removal of the existing surface A303 and placing the road in a tunnel over 3km of its length, and through relocation of the Longbarrow Junction outside the WHS, in line with Policies 3a, 3c and 3d. The Scheme would provide opportunities for enhancement in line with Policies 3f, 3g and 3i.

*Aim 4: Optimise physical and intellectual access to the WHS for a range of visitors and realise its social and economic benefits while at the same time protecting the WHS and its attributes of OUV.*

- Policy 4a – Management of visitors to the WHS should be exemplary and follow relevant national and international guidance on sustainable tourism.
- Policy 4b – Spread the economic benefits from tourism related to the WHS throughout the wider community.
- Policy 4c – Encourage access and circulation to key archaeological sites within the WHS landscape. Maintain appropriate arrangements for managed open access on foot (taking into account archaeological, ecological and community sensitivities) to increase public awareness and enjoyment.

12.3.6 The Scheme would reconnect the WHS landscape, currently severed by the surface A303, in line with Policies 4a, 4b and 4c. This would provide the opportunity to widen public access and circulation to key archaeological sites within the wider WHS landscape (taking into account

archaeological, ecological and community sensitivities) and to increase public awareness and enjoyment.

*Aim 5: Improve the interpretation of the WHS to increase understanding and enjoyment of its special characteristics and maximise its educational potential. Engage the local community in the stewardship and management of the WHS.*

- Policy 5a – Improve the interpretation both on and off site to enhance enjoyment and appreciation of the WHS.

12.3.7 The Scheme would deliver opportunities for improved interpretation through both improved accessibility and through direct engagement with the local community during the delivery of the Scheme and through legacy and benefits projects.

*Aim 6: Reduce significantly the negative impacts of roads and traffic on the WHS and its attributes of OUV and increase sustainable access to the WHS.*

- Policy 6a – Identify and implement measures to reduce the negative impacts of roads, traffic and parking on the WHS and to improve road safety and the ease and confidence with which residents and visitors can explore the WHS.
- Policy 6b – Manage vehicular access to byways within the WHS to avoid damage to archaeology, improve safety and encourage exploration of the landscape on foot whilst maintaining access for emergency, operational and farm vehicles and landowners.
- Policy 6c – Take measures through sustainable transport planning to encourage access to the WHS other than by car.

12.3.8 The Scheme would substantially reduce the negative impacts of roads, traffic and parking on the WHS in line with Policy 6a through removal of trunk road traffic from much of the landscape and downgrading of the existing A303. The Scheme would encourage exploration of the landscape on foot through improved accessibility in line with Policy 6b. The downgrading of the A303 through the WHS and redundant sections of the A360 to a restricted byway, together with the introduction of new rights of way for NMUs would help to deliver Policies 6b and 6c.

12.3.9 Although the Scheme would introduce significant elements of infrastructure within the WHS, the location and design of infrastructure has been carefully selected to limit intrusion in the landscape in order to protect the WHS and its OUV.

*Aim 7 – Encourage and promote sustainable research to improve understanding of the archaeological, historic and environmental value of the*

*WHS necessary for its appropriate management. Maximise the public benefit of this research.*

- Policy 7a – Encourage sustainable archaeological research of the highest quality in the WHS, informed by the WHS Research Framework.

- 12.3.10 All archaeological work conducted in connection with Scheme route identification, design and impact assessment and mitigation would deliver archaeological research informed by the WHS Research Framework, in line with Policy 7a. Archaeological evaluation and mitigation work would be accompanied by post-excavation assessment, publication, dissemination and public outreach.
- 12.3.11 In conclusion, the design of the Scheme has been developed with consideration to relevant aims and policies set out in the 2015 WHS Management Plan.

## 12.4 Effects on the Outstanding Universal Value of the WHS

- 12.4.1 The Scheme would bring substantial benefits to large parts of the WHS, in particular the tunnel section where Very Large Beneficial effects would be experienced by Stonehenge itself (Attribute 1) and Large Beneficial effects would be experienced by its solstitial alignment (Attribute 4).
- 12.4.2 Slight Beneficial effects would be experienced in relation to the siting of monuments in relation to each other (Attribute 5), within the landscape without parallel (Attribute 6), and with regards to the influence that the monuments and their landscape setting have on architects, artists, historians, archaeologists and others (Attribute 7).
- 12.4.3 Slight Adverse effects would be experienced by physical archaeological remains (Attribute 2). There would be Slight Adverse effects upon the siting of monuments in relation to the landscape (Attribute 3) due to the positioning of new cuttings within the WHS (western and eastern approach roads and portals), which avoid known archaeological remains that contribute to the OUV of the WHS, but partially introduce new severance and impacts on the setting of assets and Asset Groups that contribute to OUV.
- 12.4.4 The Scheme is assessed to have a Slight Beneficial effect on the Integrity of the WHS as a whole and a Slight Beneficial effect on the Authenticity of the WHS as a whole.
- 12.4.5 Overall, the Scheme is assessed to have a **Slight Beneficial** effect on the OUV of the WHS as a whole.
- 12.4.6 The Scheme has sought to avoid or minimise adverse impacts on Attributes of OUV, Integrity and Authenticity wherever feasible. There are

no Large or Very Large Adverse effects on Attributes of OUV.

- 12.4.7 The OUV of the WHS would therefore be sustained overall by the construction of the Scheme and would create opportunities for greater public access, appreciation and enjoyment of the WHS, through increased connectivity of key monuments and monument groups north and south of the existing A303. The Scheme would enable beneficial opportunities for the transmission of OUV and increasing public awareness, understanding and perception of the OUV of the WHS in a local, regional, national and international context.

## 12.5 Risk to the inscription of the site as a World Heritage property

- 12.5.1 This assessment demonstrates that the Scheme would have both adverse and beneficial effects.
- 12.5.2 The inscription of the WHS is based on three criteria:
- *‘Criterion (i): The monuments of the Stonehenge, Avebury and Associated Sites demonstrate outstanding creative and technological achievements in prehistoric times.*
  - *Criterion (ii): The World Heritage property provides an outstanding illustration of the evolution of monument construction and of the continual use and shaping of the landscape over more than 2000 years, from the Early Neolithic to the Bronze Age. The monuments and landscape have had an unwavering influence on architects, artists, historians and archaeologists, and still retain a huge potential for future research.*
  - *Criterion (iii): The complexes of monuments at Stonehenge and Avebury provide an exceptional insight into the funerary and ceremonial practices in Britain in the Neolithic and Bronze Age. Together with their settings and associated sites, they form landscapes without parallel.’*
- 12.5.3 It is assessed that the Scheme would not impact upon the continuing relevance and application of the WHS inscription criteria in relation to the Stonehenge, Avebury and Associated Sites WHS. The OUV of the WHS is expressed in the SoOUV which justifies inscription of the WHS under the above criteria.
- 12.5.4 Overall, it is assessed that the effects of the Scheme on OUV, Integrity and Authenticity would be Slight Beneficial.
- 12.5.5 The impacts of the Scheme have been minimised by iterative, heritage-led design such that effects on Attributes of OUV are Slight Adverse at worst and Very Large Beneficial at best.

- 12.5.6 The Scheme is assessed to have a Slight Beneficial effect on the Integrity and Authenticity of the WHS as a whole.
- 12.5.7 Although parts of the Scheme would have a Slight Adverse effect on certain assets and Asset Groups and certain Attributes of the OUV of the WHS, none of these effects are deemed significant overall, and they would not erode the OUV of the WHS, its Integrity or Authenticity.

## 12.6 Additional beneficial measures

- 12.6.1 Aspirational measures which would have additional beneficial outcomes include:
- Further chalk grassland creation;
  - Benefits realised through Environmental Designated Funds rather than under the powers of the DCO;
  - Any works proposed to be undertaken by agreement, and not under the powers of the DCO.
- 12.6.2 WHS Policy 59 in the Wiltshire Core Strategy requires that any development demonstrates due consideration of opportunities for enhancing the WHS and its OUV. In addition, development should support and maintain the positive management of the WHS improving its conservation, presentation and interpretation.
- 12.6.3 These include actions on which Highways England might not be the lead partner but which should either be built into the Scheme or delivered as part of a planned legacy aimed at achieving the full benefits of any Scheme for the WHS, its visitors and local communities.
- 12.6.4 Work would need to be undertaken on the evolving identity and image of the WHS following this major change in the landscape and how people relate to and access it, in the context of the ongoing Partnership Plan for National Trust and English Heritage Trust land. This work should also consider the relationship between Stonehenge and Avebury, the two parts of the WHS.
- 12.6.5 Relevant lead organisations should work with key partners, stakeholders and the community to implement the policies and actions related to access (physical, intellectual and emotional), sustainable transport, interpretation, sustainable development and community engagement set out in the 2015 WHS Management Plan.

## 13 Bibliography

Abbott, M., and Anderson-Whymark, H., 2012. Stonehenge Laser Scan: Archaeological Analysis Report. English Heritage / ArcHeritage Report No. 2012.124.

Adam, N. and Valentin, J. 2003. The Construction of a New Byway on Land South of the A303, Between the Former Amesbury Road and Allington Road, Amesbury, Wiltshire. AC Archaeology Report 2003.036.

Adcock, J., Robertson, F., Saunders, M., Stephens, C., Urmston, B., Weston, D., and Wood, E., 2002. Stonehenge Visitor Centre, Wiltshire. Geophysical Surveys of Bradford Prospection Report 2002.130.

Allen, M. J., 2017. The southern English chalklands: molluscan evidence for the nature of postglacial woodland cover. In: Allen, M. J. (ed.) *Molluscs in Archaeology; Methods, Approaches and Applications*. Studying Scientific Archaeology 3. Oxford: Oxbow Books, pp. 144–164.

Allen, M.J. 1997 Environment and Land-use: the Economic Development of the Communities Who Built Stonehenge (an economy to support the stones). *Proceedings of the British Academy*, Volume 92, pp. 115–44.

Allen, M. J., Chan, B., Cleal, R., French, C., Marshall, P., Pollard, J., Pullen, R., Richards, C., Ruggles, C., Robinson, D., Rylatt, J., Thomas, J., Welham, K. and Parker Pearson, M., 2016. Stonehenge's Avenue and 'Bluestonehenge'. *Antiquity*, Volume 90, Issue 352, pp. 991–1008.

Allen, M. J. and Scaife, R., 2007. A New Downland Prehistory: Long Term Environmental Change on the Southern English Chalklands. In: A. Fleming and R. Hingley eds *Prehistoric and Roman Landscapes. Landscape History after Hoskins 1*. Macclesfield: Windgather.

Allen, M. J. and Scaife, R., 2007. A New Downland Prehistory: Long Term Environmental Change on the Southern English Chalklands. In: A. Fleming and R. Hingley eds, *Prehistoric and Roman Landscapes. Landscape History after Hoskins 1*. Macclesfield: Windgather.

Allen, M.J., Heaton, M., and Richards, J., nd. The Salvage Excavation of Round Barrow, Durrington G3. Wessex Archaeology Report 32622.

Almond, P.C., 2000. Druids, Patriarchs, and the Primordial Religion. *Journal of Contemporary Religion*. Volume 15, Issue 3, pp. 379–394.

ALVA 2017 *Visits Made in 2017 to Visitor Attractions in Membership With ALVA*. Association of Leading Visitor Attractions. Available at [www.alva.org.uk/details.cfm?p=608](http://www.alva.org.uk/details.cfm?p=608).

Amadio, L. and Bishop, S., 2010. Stonehenge World Heritage Site Landscape Project The Cursus Barrows and Surrounding Area Archaeological Survey Report. English Heritage: Research Department Report Series no. 85-2010.

Anon, 2011. *Discoveries Provide Evidence of a Celestial Procession at Stonehenge*, University of Birmingham Press Release, 26 November 2011. Available at [www.birmingham.ac.uk/news/latest/2011/11/25Nov-Discoveries-provide-evidence-of-a-celestial-procession-at-Stonehenge.aspx](http://www.birmingham.ac.uk/news/latest/2011/11/25Nov-Discoveries-provide-evidence-of-a-celestial-procession-at-Stonehenge.aspx).

Anon., 1968 Excavation and Fieldwork in Wiltshire, 1967. *Wiltshire Archaeological and Natural History Magazine*. Volume 63, pp. 107–115.

ASAHRG 2014 Avebury and Stonehenge Archaeological and Historical Research Group. Terms of Reference and Procedures. February 2014.

Ashbee, P., 1981. Amesbury Barrow 39: Excavation 1960. *Wiltshire Archaeological Magazine*. Volumes 74/75, pp. 3–39.

Ashbee, 1975-1976. Amesbury Barrow 51: Excavations 1960. In: *Wiltshire Archaeological and Natural History Magazine*. Volumes 70/71, pp. 1–60.

Ashbee, P., Bell, M. and Proudfoot, E. 1989 Wilsford Shaft: Excavations 1960-2. English Heritage Archaeological Report No. 11.

Atkins, 2015. Avebury World Heritage Site Transport Strategy. March 2015. Atkins for WHS Steering Committee and Wiltshire Council. Available at <http://www.stonehengeandaveburywhs.org/avebury-whs-transport-strategy/>.

Atkinson, R.J.C., Piggott, S. and Stone, J.F.S., 1952. The Excavation of Two Additional Holes at Stonehenge, 1950, and New Evidence for the Date of the Monument. *Antiquaries Journal*, Volume 32, pp. 14–20.

Australia ICOMOS 2013 Australia ICOMOS Charter for Places of Cultural Significance, The Burra Charter, 2013. Australia ICOMOS Incorporated/International Council on Monuments and Sites, Burwood. Available at <https://australia.icomos.org/publications/charters/>.

Aveni, A.F. 2008. *People and the Sky : Our ancestors and the cosmos*. London: Thames and Hudson.

Banfield.S. ed., 2009. *The Sounds of Stonehenge*. Oxford: British Archaeological Reports No. 504.

Barber, M., 2014. Stonehenge World Heritage Site Landscape Project: 'Restoring' Stonehenge 1881-1939. English Heritage Research Report Series No. 06-2014.

- Barber, M., 2014. Stonehenge World Heritage Site Landscape Project Stonehenge Aerodrome and the Stonehenge Landscape. English Heritage Research Report Series no. 07-2014.
- Barret, J., 1997. Stonehenge, Land, Sky and Seasons. *British Archaeology* Volume 29, pp. 8–9.
- Barrett, K. and Bowden, M., 2010. Stonehenge World Heritage Site Landscape Project - Normanton Down: Archaeological Survey Report. English Heritage Research Report Series no. 90-2010.
- Barrie, T. 2010. *The Sacred In-between: The mediating roles of architecture*. London: Routledge.
- Bartlett, A., 1993. Stonehenge, Wiltshire. Report on Archaeogeophysical Survey of Western Approach Corridors. A.D.H. Bartlett and Associates Report No. 1993.055.
- Batchelor, D. 1997 Mapping the Stonehenge landscape. *Proceedings of the British Academy*. Volume 92, pp. 61–72.
- Bax, S., Bowden, M., Komar, A., and Newsome, S., 2010. Stonehenge World Heritage Site Landscape Project. Winterbourne Stoke Crossroads. English Heritage Report No. 2010.061.
- Bayer, O., 2016. *Geophysical Surveys at Robin Hood's Ball 2015*. Oxford University Department for Continuing Education.
- Bayliss, A. and Whittle, A. (eds.), 2007. Histories of the Dead: Building Chronologies for Five Southern British Long Barrows. *Cambridge Archaeological Journal*. Volume 17, Issue 1.
- BBC News, 22 June 2012, Stonehenge was built to unify Britain, researchers conclude. Available at <http://www.bbc.co.uk/news/uk-england-wiltshire-18550513>.
- Bender, B. 1999. *Stonehenge: Making Space (Materializing Culture)*. Oxford: Berg.
- Bender, B. 1998. Time and Landscape. *Current Anthropology*. Volume 43, Issue 4.
- Bender, B. 1993. 'Stonehenge: Contested Landscape'. In: B. Bender ed. *Landscape, Politics and Perspectives*. Oxford and Providence RI: Berg.
- Bender, B. 1992. Theorising Landscapes, and the Prehistoric Landscapes of Stonehenge. *Man*. Volume 27, pp. 735–55.

Bishop, S., 2011. Stonehenge World Heritage Site Landscape Project Level 1 Field Investigations Archaeological Survey Report. English Heritage Research Report Series 82-2011.

Bishop, S., 2011. Stonehenge World Heritage Site Landscape Project King Barrow Ridge Archaeological Survey Report. English Heritage: Research Department Report Series 83-2011.

Blore, F., Hitchen, M. and Vallender, J. 1995. *Archaeological Assessment of the Stonehenge World Heritage Site and Its Surrounding Landscape*. English Heritage Central Archaeology Service, London.

Blundell Jones, P. 2016. *Architecture and Ritual: How buildings shape society*. London: Bloomsbury Academic.

Bowden, M., 2016 Stonehenge Southern WHS Project: Vespasian's Camp, Amesbury, Wiltshire: Analytical Earthwork Survey. Historic England Research Report Series 49-2016.

Bowden, M., Soutar, S., Field, D. and Barber, M., 2015. *The Stonehenge Landscape. Analysing the Stonehenge World Heritage Site*. Swindon: Historic England.

Bowden, M., Field, D. and Soutar, S., 2012. Stonehenge World Heritage Site Landscape Project - Lake Barrows, The Diamond and Normanton Gorse: Archaeological Survey Report. English Heritage Research Report Series 29-2012.

Boyd Haycock, D., 2017. William Stukeley (1687-1765) Antiquary and Natural Philosopher. Oxford Dictionary of National Biography. Available at <http://www.oxfordnd.com>.

Bradley, R. 2016. The dark side of the sky: the orientations of earlier prehistoric monuments in Ireland and Britain. In: M. Dowd and R. Hensey (eds) *The Archaeology of Darkness*. Oxford: Oxbow Books, pp. 51–61.

Brophy, K., 2015. *Reading Between the Lines: The Neolithic cursus monuments of Scotland*. London: Routledge.

Bryan, P. and Clowes, M., 1997. Surveying Stonehenge by Photogrammetry. *Photogrammetric Record*, Volume 15.

Burl, A. 2000. *The Stone Circles of Britain, Ireland and Brittany*. New Haven; London: Yale University Press.

Burl, A. 1999. *Great Stone Circles: Fables, fiction, facts*. New Haven; London: Yale University Press.

Butterworth, C., 1992. Fieldwalking Survey and Environmental Sampling between Stonehenge Down and Parsonage Down. Wessex Archaeology Report 1992.036.

Butterworth, C., Harding, P., and Mildred, A., 1992. A303 Amesbury - Berwick Down: Pink and Grey Routes. Wessex Archaeology Report 1992.038.

Chadburn, A and Ruggles, C., 2017. Stonehenge World Heritage Property, United Kingdom. In: C. Ruggles and M. Cotte (eds) *Heritage Sites of Astronomy and Archaeoastronomy in the Context of the UNESCO World Heritage Convention*. Thematic Study, vol. 2. Bognor Regis: Ocarina Books Ltd. / International Council on Monuments and Sites / International Astronomical Union, pp. 41–62. Available at [https://www3.ocarinabooks.com/downloads/ocarinabooks.com/heritage-of-astronomy\\_thematic-study\\_2ndedition.pdf](https://www3.ocarinabooks.com/downloads/ocarinabooks.com/heritage-of-astronomy_thematic-study_2ndedition.pdf).

Chadburn, A. and Ruggles, C., 2015. Category of Astronomical Heritage: Tangible Immovable. Stonehenge World Heritage Property, United Kingdom. Portal to the Heritage of Astronomy. UNESCO's Astronomy and World Heritage Initiative / International Working Group on Astronomy and World Heritage / International Astronomical Union. Available at <https://www3.astronomicalheritage.net/index.php/show-entity?idunescowhc=373>.

Chadburn, A., 2010. 'Case Study 2.1 Stonehenge World Heritage Site, United Kingdom. In: C. Ruggles and M. Cotte (eds) *Heritage Sites of Astronomy and Archaeoastronomy in the Context of the UNESCO World Heritage Convention*. Thematic Study, vol. 1. Paris: International Council on Monuments and Sites and International Astronomical Union. Available at <http://whc.unesco.org/uploads/activities/documents/activity-631-1.pdf>.

Chan, B, and Parker Pearson, M., 2014. Past, Present and Future at Stonehenge: Research into the World's Most Famous Stone Circle. In: C. von Carnap-Bornheim, ed. *Quo vadis? Status and Future Perspectives of Long-Term Excavations in Europe*. Neumünster and Hamburg: Wachholtz Verlag – Murmann Publishers, pp. 41–56.

Chippindale, M.C., 2004. *Stonehenge Complete, New and Expanded Edition*. London: Thames and Hudson.

Chris Blandford Associates, 2016. Stonehenge Visitor Enhancement Project: Planning Submission for Permanent Coach Visitor Facilities and Visitor Transit System Improvements. Heritage Impact Assessment. Chris Blandford Associates for English Heritage, April 2016. Available at <https://unidoc.wiltshire.gov.uk/UniDoc/Document/File/MTYvMDM5ODgvRlVMLDcyMTYzMw==>.

Chris Blandford Associates, 2015. Stonehenge and Avebury WHS Woodland Strategy 2015. Unpublished report.

Chris Blandford Associates, 2014. Stonehenge Visitor Enhancement Project Temporary Coach Park Planning Application Planning Statement. Chris Blandford Associates for English Heritage, December 2014. Available at <https://unidoc.wiltshire.gov.uk/UniDoc/Document/File/MTQvMTIxMDYvRIVMLDU3MzEwNA==>.

Chris Blandford Associates, 2014. Stonehenge Visitor Enhancement Project Temporary Coach Park Planning Application. Updated Planning Statement. Chris Blandford Associates for English Heritage, December 2014. Available at <https://unidoc.wiltshire.gov.uk/UniDoc/Document/File/MTQvMTIxMDYvRIVMLDU5MDExMA==>.

Chris Blandford Associates, 2014. Stonehenge Visitor Enhancement Project Temporary Coach Park Planning Application. Heritage Impact Assessment. Chris Blandford Associates for English Heritage, December 2014.

Chris Blandford Associates, 2009. Planning Submission for New Visitor Facilities and Decommissioning Works. Chris Blandford Associates for English Heritage, Environmental Statement. September 2009. Available at <https://unidoc.wiltshire.gov.uk/UniDoc/Document/File/MTYvMDM5ODgvRIVMLDcyMTYzMw>.

Christie, P. M., 1970. A Round Barrow on Greenland Farm, Winterbourne Stoke. *Wiltshire Archaeological and Natural History Magazine*. Volume 65, pp. 64–73.

Christie, P. M., 1967. A Barrow-Cemetery of the Second Millennium BC in Wiltshire, England: excavation of a round barrow, Amesbury, G.71 on Earl's Farm Down, Wilts. *Proceedings of the Prehistoric Society*. Volume 33, pp. 336–366.

Christie, P. M., 1963. The Stonehenge Cursus. *Wiltshire Archaeological and Natural History Magazine*. Volume 58, pp. 370–82.

CIfA, 2014. *Standard and Guidance for Historic Environment Desk-based Assessment*. Chartered Institute for Archaeologists, Reading. Available at <http://www.archaeologists.net/codes/cifa>.

CIfA, 2014. *Standard and Guidance for Archaeological Field Evaluation*. Chartered Institute for Archaeologists, Reading. Available at <http://www.archaeologists.net/codes/cifa>.

CIHT, 2010. *Manual for Streets 2. Wider application of the principles*. Chartered Institution of Highways and Transportation, September 2010. Available at: <http://www.ciht.org/>.

Cleal, R.M.J. and Allen, M.J., 1995. The Visual Envelope. In: R.M.J. Cleal, K.E. Walker and R. Montague (eds) *Stonehenge in Its Landscape: Twentieth century Excavations*. English Heritage Archaeological Report 10. London: English Heritage, pp. 34–40.

Cleal, R.M.J., Allen, M.J. and Newman, C., 2004. An Archaeological and Environmental Study of the Neolithic and Later Prehistoric Landscape of the Avon Valley and Durrington Walls Environs. *Wiltshire Archaeological and Natural History Magazine*. Volume 97, pp. 218–48.

Cole, M., 1995. Vespasian's Camp, Amesbury, Wiltshire. Report on Geophysical Survey. English Heritage Ancient Monuments Laboratory. Report 1995.075.

Cooke, N., Chadwick, A. and Fairclough, T., 2002. A303 Stonehenge Archaeological Surveys. Stage 2 Fieldwalking Survey. Wessex Archaeology Report 2002.055.

Cooke, N. and Moore, C., 2002. A303 Stonehenge. Archaeological Surveys. Archaeological Evaluation Report: Area C1. Wessex Archaeology Report 2002.054.

Council of Europe, 2005. *Framework Convention on the Value of Cultural Heritage for Society (Faro Convention)*. Council of Europe Treaty Series 199, Strasbourg. Available at <https://rm.coe.int/1680083746>.

Council of Europe, 2000. *European Landscape Convention (2006) (Florence Convention)*. Florence, 20 October 2000. Council of Europe Treaty Series 176, Strasbourg. Available at <https://rm.coe.int/1680080621> .

Council of Europe, 1992. *European Convention on the Protection of the Archaeological Heritage (Revised) (Valletta Convention)*. Council of Europe Treaty Series 143, Strasbourg. Available at <https://rm.coe.int/168007bd25>.

Council of Europe, 1985. *Convention for the Protection of the Architectural Heritage of Europe (Granada, 3 October 1985)*. Council of Europe Treaty Series 121. Available at <https://rm.coe.int/168007a087>.

Cox, P. and Richards, J., 1998. Proposed Amesbury Business Park, Amesbury. AC Archaeology Report 1998.122.

Crawford, O.G.S., 1924. The Stonehenge Avenue. *Antiquaries Journal*, Volume 4, pp. 57–59.

Crockett, A. and Davies, S., 1993. Stonehenge Visitor Centre, Wiltshire. Site 12: A303 Footbed, Archaeological Evaluation. Wessex Archaeology Report 1993.048.

Curwen, E.C., 1930. Neolithic camps. *Antiquity*. Volume 4, pp. 22–54.

Cunnington, M.E., 1929. Woodhenge: a Description of the Site as Revealed by Excavations Carried Out There by Mr and Mrs B. H. Cunnington, 1926–8. Devizes, Wilts.: George Simpson and Co.

Cunnington, M.E., 1914. List of the long barrows of Wiltshire. *Wiltshire Archaeological and Natural History Magazine*. Volume 38, pp. 379–414.

Darvill, T., 2012. A Research Framework for the Stonehenge, Avebury and Associated Sites World Heritage Site: Research in the Stonehenge WHS 2005-2012. Historic England and Wessex Archaeology Ltd. Available at <http://www.stonehengeandaveburywhs.org/assets/Stonehenge-Update.pdf>.

Darvill, T., 2006. *Stonehenge, the Biography of a Landscape*. Stroud: Tempus.

Darvill, T. (ed.), 2005. *Stonehenge WHS. An Archaeological Research Framework*. English Heritage and Bournemouth University: London and Bournemouth. Available at <http://www.stonehengeandaveburywhs.org/assets/stonehenge-research-framework.pdf>.

Darvill, T., 2001. *Introduction to the Stonehenge Research Framework Project: Setting the scene*. School of Conservation Sciences, Bournemouth University. Available at <https://csweb.bournemouth.ac.uk/stonehenge/intro.htm>.

Darvill, T. (ed.), 1991. *Stonehenge Conservation and Management Project: Environmental Statement*. London: Debenham Tewson and Chinnocks.

Darvill, T., 1997. Ever increasing circles: the sacred geographies of Stonehenge and its landscape. In: B. Cunliffe and C. Renfrew (eds) *Science and Stonehenge. Proceedings of the British Academy* Volume 92, pp. 167–202.

Darvill, T., Luth, F., Rassmann, K., Fischer, A. and Winkelmann, K., 2013. Stonehenge, Wiltshire, UK: High Resolution Geophysical Surveys in the Surrounding Landscape, 2011. *European Journal of Archaeology*, Volume 16, pp. 63–93.

Darvill, T., Marshall, P., Parker Pearson, M. and Wainwright, G., 2012. Stonehenge remodelled. *Antiquity*. Volume 86, pp. 1021–40.

Darvill, T. and Wainwright, G., 2009. Stonehenge Excavations 2008. *The Antiquaries Journal*. Volume 89, pp.1–19.

Darvill, T., with Constant, V. and Milner, E., (eds) 2005. *Stonehenge World Heritage Site. An Archaeological Research Framework*. London and Bournemouth: English Heritage and Bournemouth University. Available at

<https://historicengland.org.uk/images-books/publications/stonehenge-whs-research-framework/>.

David, A. and Payne, A., 1997. Geophysical Surveys within the Stonehenge Landscape: A Review of Past Endeavour and Future Potential. In: B. Cunliffe and C. Renfrew eds *Science and Stonehenge*. Oxford: Oxford University Press, pp. 73–113.

DCLG, 2014. *Planning Practice Guidance. Conserving and Enhancing the Historic Environment*. London: Department for Communities and Local Government. Available at <https://www.gov.uk/guidance/conserving-and-enhancing-the-historic-environment>.

DCLG, 2009. *Circular 07/09 on the Protection of World Heritage Sites. July 2009*. Department for Communities and Local Government, Communities and Local Government Circular 07/2009. London. Available at <https://www.gov.uk/government/publications/protection-of-world-heritage-sites-circular-07-2009>.

DCLG and DfT, 2007. *Manual for Streets*. Department for Communities and Local Government and Department for Transport. Available at [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/341513/pdfmanforstreets.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/341513/pdfmanforstreets.pdf).

DCMS, 2018. *Stonehenge, Avebury and Associated Sites, United Kingdom of Great Britain and Northern Ireland: State of Conservation Report*. Department for Digital, Culture, Media and Sport. April 2018. Available at <https://whc.unesco.org/document/167381>.

DCMS, 2017. *Impact assessment. Tourism Action Plan - One Year On. October 2017*. Department for Digital, Culture, Media and Sport. Available at <https://www.gov.uk/government/publications/tourism-action-plan-one-year-on>.

DCMS, 2016. *Tourism Action Plan: Policy Paper*. August 2016 Department for Digital, Culture, Media and Sport. Available at <https://www.gov.uk/government/publications/tourism-action-plan>.

DCMS, 2016. *The Tourism Landscape*. May 2016. Department for Digital, Culture, Media and Sport. Available at [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/528930/Tourism\\_Landscape.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/528930/Tourism_Landscape.pdf).

DCMS, 2015. *Backing the Tourism Sector: A Five Point Plan*. Department for Culture, Media and Sport. Available at [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/446167/Tourism - A Five Point Plan.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/446167/Tourism_-_A_Five_Point_Plan.pdf).

DCMS, 2011. *Government Tourism Policy. March 2011*. Department for Culture, Media and Sport. Available at [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/78416/Government2\\_Tourism\\_Policy\\_2011.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/78416/Government2_Tourism_Policy_2011.pdf).

DCMS, 2011. *Protecting, conserving and providing access to the historic environment in England*. Department for Culture, Media and Sport, London. Available at <https://www.gov.uk/government/policies/protecting-conserving-and-providing-access-to-the-historic-environment-in-england>.

DCMS, 2006. World Heritage Site Periodic Reporting (Cycle 1) Section II Summary. Department for Culture, Media and Sport. Available at <https://whc.unesco.org/document/163423>.

Defra, 2018. *Local Air Quality Management Technical Guidance (TG16)*. Department for Food Environment and Rural Affairs, London, February 2018 <https://laqm.defra.gov.uk/technical-guidance/>.

Denard, H., (ed.) 2009. *The London Charter for the Computer-Based Visualisation of Cultural Heritage*. February 2009. King's College London. Available at <http://www.londoncharter.org/>.

De Smedt, P., Garwood, P., and Chapman, H., 2017a. Geoarchaeological Investigations at Stonehenge: Phase 1 - Borehole Sampling. Ghent University and University of Birmingham Report 2017.087.

De Smedt, P., Garwood, P., and Chapman, H., 2017b. Section 42 Interim Report of Geophysical Survey: Frequency Domain EMI Prospection in September 2012, June 2013, July and November 2014, July 2015. Ghent University and University of Birmingham Report 2017.092.

DfT, 2015. A303, A358 and A30 Corridor Feasibility Study: Technical Report. Department for Transport. Available at <https://www.gov.uk/government/publications/a303-a358-and-a30-corridor-feasibility-study-technical-report>.

DfT, 2014. National Networks National Policy Statement: Road and Rail Infrastructure. 17 December 2014. Department for Transport. Available at [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/387222/npsnn-print.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/387222/npsnn-print.pdf).

DfT, 2013. The Transport Business Cases. Department for Transport, London, January 2013. Available at [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/85930/dft-transport-business-case.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/85930/dft-transport-business-case.pdf).

DfT, 2013. Reducing sign clutter. Traffic Advisory Leaflet (TAL) 01/13. Department for Transport. Available at <https://www.gov.uk/government/publications/reducing-sign-clutter>.

DfT and Highways Agency, 2014. Road Investment Strategy: 2015 to 2020. Department for Transport and Highways Agency. Available at <https://www.gov.uk/government/publications/road-investment-strategy-for-the-2015-to-2020-road-period>.

DfT 2010 *Manual for Streets 2: Wider application of the principles*. Chartered Institution of Highways and Transportation, 2010. Available at <https://www.gov.uk/government/publications/manual-for-streets-2>.

DfT (various dates) *The Traffic Signs Manual*. Department for Transport. Available at <https://www.gov.uk/government/publications/traffic-signs-manual>.

Ely, K., McConnell, R., Marter, P. and Jones, K., 2001. 20-22 High Street, Amesbury, Wiltshire. Context One Archaeological Services Report 2001.101.

English, P., 2002. Disputing Stonehenge: Law and Access to a National Symbol. *Entertainment Law*. Volume 1, Issue 2, pp. 1–22.

English Heritage, n.d. *Stonehenge Welcome Leaflet*. Issued to visitors in 2018.

English Heritage, 2012. *Sites of Early Human Activity. Scheduling Selection Guide*. English Heritage, Swindon. <https://content.historicengland.org.uk/images-books/publications/dssg-sites-early-human-activity/early-human-activity-ssg.pdf/>.

English Heritage, 2011. *Stonehenge World Heritage Site: A Strategy for Interpretation, Learning and Participation 2010–15*. London: English Heritage. Available at <http://www.stonehengeandaveburywhs.org/assets/SH-WHS-Interpretation-Learning-Participation.pdf>.

English Heritage, 2011. *Introductions to Heritage Assets Prehistoric Avenues and Alignments*. Available at <https://historicengland.org.uk/images-books/publications/iha-prehistoric-avenues-alignments/>.

English Heritage, 2011. *Introductions to Heritage Assets: Causewayed Enclosures*. Available at <https://content.historicengland.org.uk/images-books/publications/iha-causewayed-enclosures/causewayedenclosures.pdf/>.

English Heritage, 2009. The Protection and Management of World Heritage Sites in England. English Heritage Guidance Note to Circular for England on the Protection of World Heritage Sites. (Cancelled document). July 2009. Available at <https://content.historicengland.org.uk/images-books/publications/protection-management-of-world-heritage-sites-in-england/ehwhsplanningcircularguidance.pdf/>.

English Heritage, 2002. Stonehenge World Heritage Site Mapping Project. Historic England Report 133-2002. Available at <https://research.historicengland.org.uk/Report.aspx?i=15669>.

English Heritage, 2000. *Stonehenge World Heritage Site: Management Plan*. London: English Heritage.

English Heritage and The National Trust, 1998. *Stonehenge: The Master Plan*. London: English Heritage and The National Trust.

Exon, S., Gaffney, V., Woodward, A. and Yorston, R., 2000. *Stonehenge Landscapes: Journeys Through Real-and-Imagined Worlds*. Oxford: Archeopress.

Fergusson, J., 1872. *Rude Stone Monuments in All Countries; Their Age and Uses*. London: John Murray.

Fernie, E.C., 1994. Stonehenge as architecture. *Art History*. Volume 17, pp. 147–159.

Field, D., 2011. Introduction to Heritage Assets: Prehistoric Barrows and Burial Mounds. London: English Heritage. Available at <https://content.historicengland.org.uk/images-books/publications/iha-prehistoric-barrows-burial-mounds/prehistoricbarrowsandburialmounds.pdf>.

Field, D., 2009. Airman's Corner, Winterbourne Stoke, Wiltshire Investigation of Earthworks Archaeological Survey Report. English Heritage Research Department Report Series 40-2009.

Field, D., 2008. *Use of Land in Central Southern England During the Neolithic and Early Bronze Age*. BAR British Series 458. Oxford: Archaeopress.

Field, D. J., 2006. *Earthen Long Barrows*. Stroud: Tempus.

Field, D., 1998. Round Barrows and the Harmonious Landscape: Placing Early Bronze Age Monuments in South East England. *Oxford Journal of Archaeology*. Volume 17, pp. 309–26.

Field, D. and McOmish, D., 2017. *The Making of Prehistoric Wiltshire*. Stroud: Amberley.

Field, D., Linford, N., Barber, M., Anderson-Whymark, H., Bowden, M., Topping, P. and Linford, P., 2014a. Analytical Surveys of Stonehenge and its Immediate Environs, 2009-2013: Part 1 – the Landscape and Earthworks. *Proceedings of the Prehistoric Society*, Volume 80, pp. 1–32.

Field, D., Linford, N., Barber, M., Anderson-Whymark, H., Bowden, M., Topping, P. and Linford, P., 2014b. Analytical Surveys of Stonehenge and its

Immediate Environs, 2009-2013: Part 2 – the Stones. *Proceedings of the Prehistoric Society*, Volume 82.

Field, D., Bowden, M., and Soutar, S., 2012. Stonehenge World Heritage Site Landscape Project. The Avenue and Stonehenge Bottom. English Heritage Report 2012.077.

Field, D. and Pearson, T., 2011. Stonehenge World Heritage Site Landscape Project – Stonehenge Down and The Triangle: Archaeological Survey Report. English Heritage Research Report Series 105-2011.

Field, D., and Pearson, T., 2010. Stonehenge World Heritage Site Landscape Project: Stonehenge, Amesbury, Wiltshire. English Heritage Report 2010.112.

Findley, D.C., Colbourne, G.J.N., Cope, D.W., Harrod, T.R., Hogan, D.V., and Staines, S.J., 1984. *Soils and Their Use in South-West England. Soil Survey of England and Wales Bulletin 14*. Rothamsted.

Fitzpatrick, A. P., 2013. The Amesbury Archer and the Boscombe Bowmen - Bell Beaker burials at Boscombe Down, Amesbury, Wiltshire. Wessex Archaeology Monograph.

Fleming, A., 1971. Territorial patterns in Bronze Age Wessex. *Proceedings of the Prehistoric Society*, Volume 37, pp. 138–166.

Gaffney, C., Gaffney, V., Neubauer, W., Baldwin, E., Chapman, H., Garwood, P., Moulden, H., Sparrow, T., Bates, R., Löcke, K., Hinterleitner, A., Trinks, I., Nau, E., Zitz, T., Floery, S., Verhoeven, G., and Doneus, M., 2012. Short Report: The Stonehenge Hidden Landscapes Project. *Archaeological Prospection*. Volume 19, pp. 147–155.

Gaffney, V. et al., 2012. *The Stonehenge Hidden Landscapes Project. Archaeological Prospection*. University of Birmingham Report 2012.121.

Gibson, A., 2005. *Stonehenge and Timber Circles*. Stroud: Tempus.

Gingell, C., 1988. Excavations of twelve Wiltshire round barrows. *Wiltshire Archaeological and Natural History Magazine*. Volume 82, pp. 19–76.

Goddard, E. H., 1914. A list of prehistoric, Roman and pagan Saxon antiquities in the County of Wiltshire. *Wiltshire Archaeological and Natural History Magazine*. Volume 38, pp. 153–378.

Green, C. and Rollo-Smith, S., 1984. The Excavation of Eighteen Round Barrows near Shrewton, Wiltshire. *Proceedings of the Prehistoric Society*. Volume 50, pp. 255–318.

Grove, J., and Croft, B., eds 2012. *The Archaeology of South West England. South West Archaeological Research Framework. Research Strategy 2012–2017.* Somerset County Council.

GSB Prospection, 2003. A303 Road Improvement Scheme, Wiltshire. Geophysical Surveys of Bradford Prospection Report 2003.098.

GSB Prospection, 2002. A303 Wiltshire. Geophysical Surveys of Bradford Prospection Report 2002.114.

GSB Prospection, 2001a. A303 Stonehenge VI. Geophysical Survey Report. Geophysical Surveys of Bradford Prospection Report 2001.078.

GSB Prospection, 2001b. Geophysical Survey of A303 Stonehenge VII. Geophysical Surveys of Bradford Prospection Report. 2001.075.

GSB Prospection, 2001c. Amesbury Business Park II. Geophysical Surveys of Bradford Prospection Report 2001.089.

GSB Prospection, 1999. A303 Stonehenge V Preferred route incorporating the Winterbourne Stoke Bypass. Geophysical Surveys of Bradford Prospection Report 1999.087.

GSB Prospection, 1994. A303 IV, Brown Route Options. Geophysical Surveys of Bradford Prospection Report 1994.054.

GSB Prospection, 1993. A303 Amesbury to Berwick Down, Survey III, Yellow and Grey Route Options. Geophysical Surveys of Bradford Prospection Report 1993.077.

GSB Prospection, 1992a. A303 Amesbury to Berwick Down. Geophysical Surveys of Bradford Prospection Report 1992.040.

GSB Prospection, 1992b. A303 Amesbury to Berwick Down Survey II. Geophysical Surveys of Bradford Prospection Report 1992.039.

Harding, P., and Farr, S., 2014. *Stonehenge Environmental Improvements Project.* Longbarrow Crossroads, Winterbourne Stoke, Wiltshire. Wessex Archaeology Report 2014.197.

Harding, P., and Crockett, A., 2006. *National Trust Fieldwalking Survey at Stonehenge and Avebury WHS: Stonehenge Down.* Wessex Archaeology Report 2006.126.

Hawkins, G.S., and White, J.B., 1965. *Stonehenge Decoded.* Garden City, NY: Doubleday.

HBMCE, 1985. *World Heritage Convention Cultural Properties: UK Nomination. Stonehenge, Avebury and Associated Sites.* Prepared by the

Historic Buildings and Monuments Commission for England on behalf of the Department of the Environment. Available at <http://www.stonehengeandaveburywhs.org/assets/Nomination-Document-COMplete.pdf>.

Highways Agency, 2010. *Interim Advice Note 135/10: Landscape and Visual Effects Assessment*. November 2010, Highways Agency. Available at <http://www.standardsforhighways.co.uk/ha/standards/ians/pdfs/ian135.pdf>.

Highways Agency, 2008. *Design Manual for Roads and Bridges*. Volume 10 Environmental Design and Management. Section 6 Archaeology. Part 2 HA 117/08 Cultural Heritage Asset Management Plans. Available at <http://www.standardsforhighways.co.uk/ha/standards/dmr/vol10/section6/ha11708.pdf>.

Highways Agency, 2007. *Design Manual for Roads and Bridges*. Volume 11 Environmental Assessment. Section 3 Environmental Topics. Part 2 HA 208/07 Cultural Heritage. Available at <http://www.standardsforhighways.co.uk/ha/standards/dmr/vol11/section3/ha20807.pdf>.

Highways Agency, 2007. *Design Manual for Roads and Bridges*. Volume 11 Environmental Assessment. Section 3 Environmental Assessment Techniques. Part 1 HA 207/07 Air Quality. Available at <http://www.standardsforhighways.co.uk/ha/standards/dmr/vol11/Section3/ha20707.pdf>

Highways England, 2018. A303 Stonehenge, Amesbury to Berwick Down: Public Consultation Booklet – February 2018. Available at [https://highwaysengland.citizenspace.com/he/a303-stonehenge-2018/supporting\\_documents/Digital%20consultation%20booklet\\_v2.pdf](https://highwaysengland.citizenspace.com/he/a303-stonehenge-2018/supporting_documents/Digital%20consultation%20booklet_v2.pdf).

Highways England, 2018. A303 Stonehenge. Heritage Impact Assessment Scoping Report. HE551506-AMW-EHR-SW\_GN\_000\_Z-SW-LH-002. March 2018. AECOM, Mace, WSP (AmW) for Highways England. Available at [http://assets.highwaysengland.co.uk/roads/road-projects/A303+Stonehenge/Heritage\\_Impact\\_Assessment\\_Scoping\\_Report1.pdf](http://assets.highwaysengland.co.uk/roads/road-projects/A303+Stonehenge/Heritage_Impact_Assessment_Scoping_Report1.pdf).

Highways England, 2018. Chapter 6, Cultural Heritage. A303 Stonehenge Amesbury to Berwick Down. Preliminary Environmental Information Report. February 2018. Available at [https://highwaysengland.citizenspace.com/he/a303-stonehenge2018/supporting\\_documents/Preliminary%20Environmental%20Information%20Report\\_report%20only.pdf](https://highwaysengland.citizenspace.com/he/a303-stonehenge2018/supporting_documents/Preliminary%20Environmental%20Information%20Report_report%20only.pdf).

Highways England, 2018. *The road to good design: Highways England's design vision and principles*. Highways England, January 2018. Available at

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/672822/Good\\_road\\_design\\_Jan\\_18.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/672822/Good_road_design_Jan_18.pdf).

Highways England, 2018. Overarching Written Scheme of Investigation (OWSI) for Archaeological Evaluation. Report HE551506-AMW-EHR-SW\_GN\_000\_Z-SP-LH-001. February 2018. Highways England, Bristol. Available at [http://assets.highwaysengland.co.uk/roads/road-projects/A303+Stonehenge/Overarching Written Scheme of Investigation for Archaeological Evaluation.pdf](http://assets.highwaysengland.co.uk/roads/road-projects/A303+Stonehenge/Overarching_Written_Scheme_of_Investigation_for_Archaeological_Evaluation.pdf).

Highways England, 2018. A303 Amesbury to Berwick Down. Geophysical Survey Report. A303 AAJV (Wessex Archaeology) Multi-channel GPR Survey Report 113225-03. January 2018. Arup Atkins Joint Venture for Highways England, Bristol.

Highways England, 2018. A303 Amesbury to Berwick Down. Archaeological Evaluation Report: Eastern Portal. Report HE551506-AMW-HER-Z4-GN\_000\_Z-RP-LH-0001. July 2018. AECOM, Mace, WSP for Highways England, Bristol.

Highways England, 2018. A303 Stage 1: Western Portal (SW4): Phase 1 Rapid Draft Statement. Archaeological Test-Pitting and Evaluation. Report 201760.01. June 2018. Wessex Archaeology for AECOM, Mace, WSP on behalf of Highways England, Bristol.

Highways England, 2018. A303 Amesbury to Berwick Down. Ploughzone Artefact Collection and Trial Trench Evaluation: Longbarrow Junction. Report 201740.01. July 2018. Wessex Archaeology for AECOM, Mace, WSP on behalf of Highways England, Bristol.

Highways England, 2018. A303 Stonehenge SWRTM (DCO): Transport Forecasting Package: Traffic Forecasting Report. AECOM, Mace, WSP. Report HE551506-AMW-GEN-SW\_GN\_000\_Z-RP-TR-0003. AECOM, Mace, WSP for Highways England, Bristol.

Highways England, 2018. A303 Stonehenge SWRTM (DCO): Transport Model Package: Local Model Validation Report. AECOM, Mace, WSP. Report HE551506-AMW-GEN-SW\_GN\_000\_Z-RP-TR-0002. AECOM, Mace, WSP for Highways England, Bristol.

Highways England, 2018. A303 Amesbury to Berwick Down. Combined Modelling and Appraisal Report. AECOM, Mace, WSP for Highways England, Bristol.

Highways England, 2017. Archaeological Evaluation Strategy Report (AESR). Report HE551506-AMW-EHR-SW\_GN\_000\_ZMS-0001. December 2017. Highways England, Bristol.

Highways England, 2017. A303 Stonehenge Amesbury to Berwick Down. Report on Public Consultation. Vols. 1-4, HE551506. Highways England. Available at <https://highwaysengland.citizenspace.com/cip/a303-stonehenge/>.

Highways England, 2017. *A303 Stonehenge Amesbury to Berwick Down - Moving forward - the preferred route*. Highways England, January 2017. Available at <https://highwaysengland.citizenspace.com/cip/a303-stonehenge/results/moving-forward---the-preferred-route.pdf>.

Highways England, 2017. *A303 Stonehenge Amesbury to Berwick Down: Public Consultation Booklet – January 2017*. Available at [https://highwaysengland.citizenspace.com/cip/a303-stonehenge/supporting\\_documents/s160536%20A303%20STONEHENGE%20CONSULTATION%20DOCUMENTS.pdf](https://highwaysengland.citizenspace.com/cip/a303-stonehenge/supporting_documents/s160536%20A303%20STONEHENGE%20CONSULTATION%20DOCUMENTS.pdf).

Highways England, 2017. A303 Stonehenge Amesbury to Berwick Down Technical Appraisal Report. January 2017. Available at [https://highwaysengland.citizenspace.com/cip/a303-stonehenge/supporting\\_documents/Volume%201%20%20TAR%20red%201.pdf](https://highwaysengland.citizenspace.com/cip/a303-stonehenge/supporting_documents/Volume%201%20%20TAR%20red%201.pdf).

Highways England, 2017. A303 Stonehenge. Summary of the Detailed Assessment of F010 (Southern Surface Route). Highways England, December 2017.

Highways England, 2017. A303 Stonehenge Amesbury to Berwick Down. Lichen Survey Report 2017. Arup Atkins Joint Venture Report HE551506-AA-EBD-SWI-SU-YE-000009.P01, November 2017.

Highways England, 2016. Heritage Impact Assessment in relation to the Outstanding Universal Value of the Stonehenge, Avebury and Associated Sites WHS Undertaken in accordance with the 2011 ICOMOS “Guidance on Heritage Impact Assessments for Cultural World Heritage Properties” Iteration 2. Report No. HE551506-AA-GEN-SWI-RP-YE-000005. Atkins Arup Joint Venture (AAJV) for Highways England.

Highways England, 2016. A303 Amesbury to Berwick Down. Heritage Impact Assessment in relation to the Outstanding Universal Value of the Stonehenge, Avebury and Associated Sites WHS Undertaken in accordance with the 2011 ICOMOS “Guidance on Heritage Impact Assessments for Cultural World Heritage Properties” Iteration1 Report. Report No. HE551506-AA-GEN-SWI-RP-YE-000003. Atkins Arup Joint Venture (AAJV) for Highways England.

Highways England, 2016. DMRB Volume 1 Highway Structures: Approval Procedures and General Design, Section 3 General Design, Part 19 BD 100/16 The Use of Eurocodes for the Design of Highway Structures.

Available at  
<http://www.standardsforhighways.co.uk/ha/standards/dmrb/vol1/section3/bd10016.pdf>.

Historic England, 2018. *Streets for All: Advice for Highway and Public Realm Works in Historic Places*. Historic England, Swindon, May 2018. Available at <https://historicengland.org.uk/images-books/publications/streets-for-all/>.

Historic England, 2018. *Streets for All: South West*. Historic England, Swindon, May 2018. Available at <https://historicengland.org.uk/images-books/publications/streets-for-all-south-west/>.

Historic England, 2017. *Exploring the Landscape of Stonehenge*. Historic England Research Issue 6, Summer 2017. Available at <https://content.historicengland.org.uk/images-books/publications/historic-england-research-6/he-research-6.pdf/>.

Historic England, 2017. *Historic Environment Good Practice Advice in Planning Note 3. The Setting of Heritage Assets*. Second edition. Historic England. Available at <https://historicengland.org.uk/images-books/publications/gpa3-setting-of-heritage-assets/>.

Historic England, 2017. *Understanding the Archaeology of Landscapes*. 2<sup>nd</sup> edition. Historic England. Available at <https://historicengland.org.uk/advice/technical-advice/recording-heritage/>.

Historic England, 2017. *Protocol for the Care of the Government Historic Estate 2017*. Historic England Government Historic Estates Unit (GHEU). Available at <https://historicengland.org.uk/images-books/publications/protocol-for-the-care-of-the-government-historic-estate/>.

Historic England, 2016. *Stonehenge Southern WHS Survey: West Amesbury, Wiltshire*. Report on geophysical surveys, October 2015. Historic England Report 2016.009.

Historic England, 2016. *Preserving Archaeological Remains. Decision-taking for Sites under Development*. Historic England. Available at <https://historicengland.org.uk/images-books/publications/preserving-archaeological-remains/>.

Historic England, 2015. *Historic Environment Good Practice Advice in Planning Note 2. Managing Significance in Decision Taking in the Historic Environment*. Historic England. Available at <https://historicengland.org.uk/images-books/publications/gpa2-managing-significance-in-decision-taking/>.

Historic England, 2015. *Easy Access to Historic Landscapes. June 2015*. Historic England. Available at

<http://historicengland.org.uk/images-books/publications/easy-access-historic-landscapes/>.

Historic England, 2015. *Streets for All, Advice for Highway Engineers and Designers*. Available at <https://historicengland.org.uk/advice/caring-for-heritage/streets-for-all/regional-documents/>.

Historic England, 2015. *Management of Research Projects in the Historic Environment. The MoRPHE Project Manager's Guide*. Historic England. Available at <https://www.historicengland.org.uk/images-books/publications/morphe-project-managers-guide/>.

HMSO, 2017. *Infrastructure Planning (Environmental Impact Assessment) Regulations 2017*. 2017 no. 572. Available at <http://www.legislation.gov.uk/ukpga/2017/20/contents/enacted>.

HMSO, 2015. *The Town and Country Planning (General Permitted Development) (England) Order 2015*. 2015 no. 596. Available at <http://www.legislation.gov.uk/uksi/2015/596/contents/made>.

HMSO, 2011. *Localism Act 2011*. 2011 c. 20. Available at <http://www.legislation.gov.uk/ukpga/2011/20/contents/enacted>.

HMSO, 2010 *Infrastructure Planning (Decisions) Regulations 2010*. Available at <https://www.legislation.gov.uk/ukdsi/2010/9780111490266/contents>.

HMSO, 2008. *Planning Act 2008*. 2008 c. 29. Available at <https://www.legislation.gov.uk/ukpga/2008/29/contents>.

HSMO, 1997. *The Stonehenge Regulations 1997. Statutory Instrument 1997 No. 2038*. Available at <http://www.legislation.gov.uk/uksi/1997/2038/made>.

HMSO, 1992. *The Transport and Works Applications (Listed Buildings, Conservation Areas and Ancient Monuments Procedure) Regulations 1992*. Available at <http://www.legislation.gov.uk/uksi/1992/3138/schedule/1/made>.

HMSO, 1990. *Town and Country Planning Act 1990*. Available at <https://www.legislation.gov.uk/ukpga/1990/8/contents>.

HMSO, 1990. *The Planning (Listed Buildings and Conservation Areas) Act 1990*. Available at <https://www.legislation.gov.uk/ukpga/1990/9/contents>.

HMSO, 1979. *The Ancient Monuments and Archaeological Areas Act 1979 (as amended)*. 1979 c. 46. Available at <https://www.legislation.gov.uk/ukpga/1979/46>.

HM Treasury, 2014. *National Infrastructure Plan 2014*. 2<sup>nd</sup> edition. HM Treasury and Infrastructure UK. Available at

<https://www.gov.uk/government/publications/national-infrastructure-plan-2014>.

HoCL, 2016. *Tourism: Statistics and Policy. Annex 8: Industry response to the EU referendum result*. Briefing Paper Number 06022, 30 June 2016. House of Commons Library Research Service. Available at <http://researchbriefings.files.parliament.uk/documents/SN06022/SN06022.pdf>.

Hunter-Mann, K., 1999. Excavations at Vespasian's Camp Iron Age hillfort. *Wiltshire Archaeological and Natural History Magazine*. Volume 92, pp. 39–52.

ICOMOS, 2011. *Guidance on Heritage Impact Assessments for Cultural World Heritage Properties*. Paris: International Council on Monuments and Sites. Available at [https://www.icomos.org/world\\_heritage/HIA\\_20110201.pdf](https://www.icomos.org/world_heritage/HIA_20110201.pdf).

ICOMOS, 2005. Xi'an Declaration on the Conservation of the Settings of Heritage Structures, Sites and Areas. Adopted in Xi'an, China by the 15<sup>th</sup> General Assembly of ICOMOS, 21 October 2005. Xi'an: International Council on Monuments and Sites. Available at <https://www.icomos.org/xian2005/xian-declaration.htm>.

ICOMOS, 2004. The Nara Document on Authenticity. International Council on Monuments and Sites, Nara Conference on Authenticity in Relation to the World Heritage Convention, held at Nara, Japan, 1-6 November 1994. Available at <https://www.icomos.org/charters/nara-e.pdf>.

ICOMOS, 1994. The Nara Document on Authenticity. Adopted in Nara, Japan at the Nara Conference on Authenticity in Relation to the World Heritage Convention, 1-6 November 1994. Nara: International Council on Monuments and Sites. Available at <https://www.icomos.org/charters/nara-e.pdf>.

ICOMOS, 1986. World Heritage List No. 373 Recommendation for inclusion. International Council on Monuments and Sites. Available at <https://whc.unesco.org/archive/repcom86.htm>.

ICOMOS, 1964. Venice Charter. International Charter for the Conservation and Restoration of Monuments and Sites (The Venice Charter 1964). 2<sup>nd</sup> International Congress of Architects and Technicians of Historic Monuments, Venice, 1964. Available at [https://www.icomos.org/charters/venice\\_e.pdf](https://www.icomos.org/charters/venice_e.pdf).

International Forum of Virtual Archaeology, 2011. International Principles of Virtual Archaeology. The Seville Principles 2011. Final Draft. Available at <http://smartheritage.com/seville-principles/seville-principles>.

Jacques, D., Phillips, T. and Clarke, M., 2010. A Reassessment of the Importance of Vespasian's Camp in the Stonehenge Landscape. *PAST, The Newsletter of the Prehistoric Society*, Volume 66, pp. 11–13.

Jacques, D. and Phillips, T., 2013. Discovery of a Mesolithic homebase at Blick Mead, to the north-east of Vespasian's Camp, Amesbury, Wiltshire. University of Buckingham Report 2013.132.

Jacques, D., Phillips, T., Hoare, P., Legge, B. T., Bishop, B. and Parfitt, S., 2014. Mesolithic settlement near Stonehenge: excavations at Blick Mead, Vespasian's Camp, Amesbury. *Wiltshire Archaeological and Natural History Magazine*. Volume 107, pp. 7–27.

Jacques, D., Phillips, T., Lyons, T. and Bishop, B., 2015. Excavations at Blick Mead, to the north-east of Vespasian's Camp, Amesbury, Wiltshire: 2014 fieldwork results. University of Buckingham Report 2015.110.

Jacques, D., Phillips, T. and Lyons, T., 2018. *Blick Mead: Exploring the 'first place' in the Stonehenge landscape. Archaeological excavations at Blick Mead, Amesbury, Wiltshire 2005–2016*. Studies in the British Mesolithic and Neolithic 1. Oxford: Peter Lang.

Kellaway, G.A., 2002. Glacial and tectonic factors in the emplacement of the bluestones of Salisbury Plain. *The Survey of Bath and District*. Volume 17, pp. 57–71.

Kellaway, G.A., 1991. The older Plio-Pleistocene glaciations of the region around Bath. In: G.A. Kellaway (ed.), *Hot Springs of Bath*. Bath: Bath City Council, pp.243–73.

Kinnes, I., 1992. Non-megalithic long barrows and allied structures in the British Neolithic. *British Museum Occasional Papers* 52.

Komar, A. and Bishop, S., 2010. Stonehenge World Heritage Site Landscape Project Fargo South Archaeological Survey Report. English Heritage: Research Department Report Series 96-2010.

Lambarde, W., 1730. *Angliae Topographicum and Historiarum*. An Alphabetical Description of the Chief Places in England and Wales. London: Fletcher Gyles.

Lawson, A., 2007. *Chalkland: An Archaeology of Stonehenge and its Region*. Salisbury: The Hobnob Press.

Leivers, M., 2017. The Army Basing Programme: new discoveries at Larkhill and Bulford. In: *Exploring the landscape of Stonehenge*. Historic England Research Issue 06 Summer 2017, pp. 36–40.

Leivers, M. and Powell, A., 2016. *A Research Framework for the Stonehenge, Avebury and Associated Sites World Heritage Site. Research Agenda and Strategy*. Wessex Archaeology Monograph 39. Salisbury: Wessex Archaeology. Available at <http://www.stonehengeandaveburywhs.org/assets/Research-Agenda-and-Strategy-1.pdf>.

Leivers, A. and Moore, C., 1994. A303 Amesbury to Berwick Down, Brown and Brown Alternative Routes. Wessex Archaeology Report 1994.060.

Landscape Institute, 2017. Landscape Institute Technical Guidance Note 02/17: Visual Representation of Development Proposals, 2017. March 2017. Landscape Institute.

Landscape Institute, 2011. Landscape Institute Advice Note 01/11. Photography and photomontage in landscape and visual impact assessment. February 2011. Landscape Institute.

Landscape Institute and Institute of Environmental Management and Assessment, 2013. *Guidelines for Landscape and Visual Impact Assessment*. 3<sup>rd</sup> edition. April 2013. Landscape Institute and Institute of Environmental Management and Assessment.

Linford, N., Linford, P. and Payne, A., 2015. Stonehenge Southern WHS Survey: Normanton Down, Wiltshire, Report on Geophysical Surveys, October and November 2015. Historic England Research Report Series 96-2015.

Linford, N., Linford, P. and Payne, A., 2015. Stonehenge Southern WHS Survey, West Amesbury, Wiltshire: Report on Geophysical Surveys, October 2015. Historic England Research Report Series 95-2015.

Linford, N., Linford, P. and Payne, A., 2015. Stonehenge Southern WHS Survey, Diamonds Field, Druid's Lodge, Wiltshire: Report on Geophysical Surveys, October 2015. Historic England Research Report Series 94-2015.

Linford, N., Linford, P. and Payne, A., 2015. Stonehenge Southern WHS Survey, Diamonds Field, Boreland Farm: Report on Geophysical Surveys, August 2015. Historic England Research Report Series 93-2015.

Linford, N., Linford, P. and Payne, A., 2012. Stonehenge Monument Field and Barrows, Wiltshire. English Heritage Research Report Series 34-2012.

Linford, N. and Martin, L., 2009. Airman's Corner, Winterbourne Stoke, Wiltshire. English Heritage Report 2009.065.

Lockyer, N., 1906. *Stonehenge and Other British Stone Monuments Astronomically Considered*. London: Macmillan and Co. Ltd. Available at <https://babel.hathitrust.org>.

- Long, W., 1876. *Stonehenge and its Barrows*. London: H. F. and E. Bull.
- Loveday, R., 2012. The Greater Stonehenge Cursus – the long view. *Proceedings of the Prehistoric Society* Volume 78, pp341–350.
- Lukis, W. C., 1864. Danish cromlechs and burial customs. *Wiltshire Archaeological and Natural History Magazine*. Volume 8, pp.145–69.
- Marshall, P., Darvill, T., Parker Pearson, M. and Wainwright, G., 2012. Stonehenge, Amesbury, Wiltshire: Chronological Modelling: Scientific Dating Report. Research Report Series 1-2012. Portsmouth: English Heritage.
- Mason, P. and Kuo, I.L., 2008. Visitor Attitudes to Stonehenge: International Icon or National Disgrace? *Journal of Heritage Tourism*. Volumes 2/3, pp. 168–183.
- Mason, P., 2006. Visitor management at Stonehenge. In: A. Leask and A. Fyall eds *Managing World Heritage Sites*. Amsterdam and Boston: Elsevier/Butterworth-Heinemann, pp. 181–194.
- MHCLG, 2018. National Planning Policy Framework. July 2018. Ministry of Housing, Communities and Local Government, London. Available at [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/728643/Revised\\_NPPF\\_2018.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/728643/Revised_NPPF_2018.pdf).
- Milward, J., Mephram, L. and Higbee, L., 2010. Druids Lodge Polo Club, Salisbury, Wiltshire. Wessex Archaeology Report 2010.138.
- MI5, 2018. *Threat Levels*. MI5 security Service. Available at <https://www.mi5.gov.uk/threat-levels>.
- National Trust, 2017. Visiting figures. National Trust Annual Report 2016 / 17. Available at <https://www.nationaltrust.org.uk/documents/annual-report-201617.pdf>.
- National Trust, 2001. *Stonehenge Estate Land Use Plan*. National Trust, July 2001. Available at [http://www.tourisminsights.info/ONLINEPUB/NATIONAL%20TRUST/REPORT/NATIONAL%20TRUST%20\(2001\),%20Stonehenge%20Estate%20-%20Land%20Use%20Plan,%20NT,%20London.pdf](http://www.tourisminsights.info/ONLINEPUB/NATIONAL%20TRUST/REPORT/NATIONAL%20TRUST%20(2001),%20Stonehenge%20Estate%20-%20Land%20Use%20Plan,%20NT,%20London.pdf)
- Needham, S., Lawson, A. J. and Woodward, A. 2010. A Noble Group of Barrows: Bush Barrow and the Normanton Down Early Bronze Age Cemetery Two Centuries On. *The Antiquaries Journal*. Volume 90, pp. 1–39.
- Nilsson, S., 1866. Stonehenge; an attempt to explain the above monument. *Transactions of the Ethnological Society of London* Volume 4, pp. 244–263.

North, J. D., 1996. *Stonehenge: A new interpretation of prehistoric man and the cosmos*. London: Simon and Schuster.

Oswald, A., Dyer, C. and Barber, M., 2001. *The Creation of Monuments: Neolithic causewayed enclosures in the British Isles*. Swindon: English Heritage.

Ozanne, P., 1972. The excavation of a round barrow on Rollestone Down, Winterbourne Stoke Wiltshire. *Wiltshire Archaeological and Natural History Magazine*. Volume 67, pp. 43–60

Papworth, M., 2009. Stonehenge Estate Geophysical Survey of Seven Barrows on Countess Farm and King Barrow Ridge in January 2009. National Trust Report 2009.051.

Parker Pearson, M., 2006. A new avenue at Durrington Walls. *PAST, The Newsletter of the Prehistoric Society*, Volume 52, pp. 1–2.

Parker Pearson, M., 2013. Researching Stonehenge: theories past and present. *Archaeology International*. Volume 16, pp. 72–83.

Parker Pearson, M., 2012. *Stonehenge: exploring the greatest Stone Age mystery*. London: Simon and Schuster.

Parker Pearson, M., 2012. Stonehenge and the beginning of the British Neolithic. In: A. M. Jones, J. Pollard, M. J. Allen and J. Gardiner eds *Image, Memory and Monumentality. Archaeological Engagements with the Material World: A Celebration of the Academic Achievements of Professor Richard Bradley*. Prehistoric Society Research Paper 5. Oxford: Oxbow Books, pp. 18–28.

Parker Pearson, M., 2007. The Stonehenge Riverside Project: excavations at the east entrance of Durrington Walls. In Larsson and M. Parker Pearson eds *From Stonehenge to the Baltic*. Oxford: British Archaeological Report International Series No. 1692, pp. 125–145.

Parker Pearson, M., Chamberlain, A., Jay, M., Richards, M., Sheridan, A., Curtis, N., Evans, J., Gibson, A., Hutchison, M., Mahoney, P., Marshall, P., Montgomery, J., Needham, S., O'Mahoney, S., Pellegrini, M., and Wilkin, N., 2016. Bell Beaker people in Britain : migration, mobility and diet. *Antiquity*. Volume 90, Issue 351, pp. 620–637.

Parker Pearson, M., Pollard, J., Richards, C., Thomas, J., and Welham, K., 2015. *Stonehenge: making sense of a prehistoric mystery*. Archaeology for All. York: Council for British Archaeology.

Parker Pearson, M., Chamberlain, A., Jay, M., Marshall, P., Pollard, J., Richard, C., Thomas, J., Tilley, C. and Welham, K., 2009. Who was buried at Stonehenge? *Antiquity*. Volume 83, pp. 23–39.

Parker Pearson, M. et al., 2009. Excavations at the Riverside End of the Stonehenge Avenue. Stonehenge Riverside Project 2009 (incorporating 2008). Report 2009.094.

Parker Pearson, M., Pollard, J., Richards, C., Thomas, J., Tilley, C., and Welham, K., 2008. The Stonehenge Riverside Project: exploring the Neolithic landscape of Stonehenge. *Documenta Praehistorica*. Volume 35, pp. 153–166.

Parker Pearson, M., Allen, M., Bayer, O., Casswell, C., Chan, B., French, C., Garwood, P., Nunn, B., Pitts, M., Pollard, J., Pullen, B., Richards, C., Richards, J., Robinson, D., Rylatt, J., Shaw, D., Teather, A. and Thomas, J., 2008. Stonehenge Riverside Project 2008. Interim Report. Report 2008.095.

Parker Pearson, M., Allen, M., Garwood, P., Pollard, J., Richards, C., Robinson, D., Thomas, J., Tilley, C. and Welham, K., 2008. Stonehenge Riverside Project 2008. Research Design. Proposals for Fieldwork in 2008.

Parker Pearson, M., Cleal, R., Marshall, P., Needham, S., Pollard, J., Richards, C., Ruggles, C., Sheridan, A., Thomas, J., Tilley, C., Welham, K., Chamberlain, A., Chenery, C., Evans, J., Knüsel, C., Lindford, N., Martin, L., Montgomery, J., Payne, A. and Richards, M., 2007. The age of Stonehenge. *Antiquity*. Volume 81, Issue 313, pp. 617–639.

Parker Pearson, M., Allen, M., French, C., Pollard, J., Richards, C., Robinson, D., Thomas, J., Tilley, C. and Welham, K., 2007a. The Stonehenge Riverside Project 2007. Summary Interim Report. Report 2007.141.

Parker Pearson, M., Allen, M., Pollard, J., Richards, C., Robinson, D., Thomas, J., Welham, K. and Wickstead, H., 2007b. The Stonehenge Riverside Project 2007. Full Interim Report. Report 2007.142.

Parker Pearson, M., Pollard, J., Richards, C., Thomas, J., Tilley, C., Welham, K., and Albarella, U., 2006. Materializing Stonehenge: the Stonehenge Riverside Project and new discoveries. *Journal of Material Culture*. Volume 11, Issue 1, pp. 227–261.

Parker Pearson, M., Pollard, J., Richards, C., Thomas, J., Tilley, C., and Welham, K. 2006. Stonehenge, its river and its landscape: unravelling the mysteries of a prehistoric sacred place. *Archäologischer Anzeiger*. Volume 1, pp. 237–258.

Parker Pearson, M., Pollard, J., Richards, C., Thomas, J., Tilley, C. and Welham, K., 2006. The Stonehenge Riverside Project: Summary Interim Report on the 2006 Season. Unpublished interim report, University of Sheffield.

Parker Pearson, M., Pollard, J., Richards, C., Thomas, J., Tilley, C., Richards, C. and Welham, K., 2005. The Stonehenge Riverside Project: Interim Report 2005. Unpublished interim report, University of Sheffield.

Parker Pearson, M. and Ramiasonina, 1998. Stonehenge for the ancestors: the stones pass on the message. *Antiquity* Volume 72, pp. 308–326.

Parker Pearson, M. and Richards, C., 1994. Architecture and order: spatial representation and archaeology. In: M. Parker Pearson and C. Richards (eds) *Architecture and Order: Approaches to social space*. London: Routledge, pp. 38–72.

Parsons Brinckerhoff, 2012. A303 A358 A30: Corridor Improvement Programme Economic Impact Study. Report 2855333CP-HLT/4/3. October 2012. Prepared for Somerset County Council. Available at [https://www.southsomerset.gov.uk/media/455618/background\\_papers\\_to\\_motion\\_economicimpactstudy\\_draftv1\\_9i1\\_1.pdf](https://www.southsomerset.gov.uk/media/455618/background_papers_to_motion_economicimpactstudy_draftv1_9i1_1.pdf).

Passmore, A.D., 1942. A disc barrow containing curious flints near Stonehenge. *Wiltshire Archaeological and Natural History Magazine*. Volume 49, p. 238.

Payne A., 2006. Stonehenge Riverside Project, West Amesbury and Greater Cursus, Wiltshire: Report on Geophysical Surveys, July 2006. Research Department Report Series 41/2007, English Heritage, London.

Payne, A., 1995. Geophysical Surveys at Stonehenge 1993-4. In: R. M. J. Cleal, K. E. Walker and R. Montague (eds.) *Stonehenge in its Landscape: twentieth century excavations*. English Heritage Archaeological Report 10. London: English Heritage, pp. 495–510

Pearson, T. and Field, D., 2011. Stonehenge World Heritage Site Landscape Project. Stonehenge Cursus Amesbury, Wiltshire. English Heritage Research Department Report Series 103-2011

Pearson, T. and Field, D., 2011. Stonehenge World Heritage Site Landscape Project: Stonehenge Down and the Triangle. Archaeological Survey Report. English Heritage Research Report Series 105-2011.

Peters, F., 2000. Two Traditions of Bronze Age Burial in the Stonehenge Landscape. *Oxford Journal of Archaeology*. Volume 19, Issue 4, pp. 343–58.

Pitts, M., 2018. Stonehenge without borders. *British Archaeology*. Volume 160, pp. 2–17.

Pitts, M., 2010. How significant is the 'new henge'? Available at <http://www.bbc.co.uk/news/science-environment-10726307>.

Pitts, M.W., 1982. On the road to Stonehenge: report on the investigations beside the A344 in 1968, 1979 and 1980. *Proceedings of the Prehistoric Society*. Volume 48, pp. 75–132.

Planning Inspectorate, 2017. Scoping Opinion: Proposed A303 Stonehenge – Amesbury to Berwick Down Case Reference: TR010025. November 2017. Available at <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR010025/TR010025-000039-STON%20-%20Scoping%20Opinion.pdf>.

Pollard, J., 2011. The Neolithic: 50 years work on nearly two millennia. In: R. Whimster ed. *The New Antiquarians: 50 years of archaeological innovation in Wessex*. York: Council for British Archaeology, pp. 38–49.

Pollard, J., 2009. The materialization of religious structures in the time of Stonehenge. *Material Religion*. Volume 5, Issue 3, pp. 332–353.

Pollard, J. and Ruggles, C. 2001. Shifting perceptions: spatial order, cosmology, and patterns of deposition at Stonehenge. *Cambridge Archaeological Journal* Volume 11 (1), pp. 69–90.

Pomeroy-Kellinger, M., 2005. *Avebury World Heritage Site Management Plan*. English Heritage, August 2005. Available at <http://www.wiltshire.gov.uk/corestrategydocument?directory=County%20Planning%20Policyandfileref=9>.

Postins, M.W., 1982. *Stonehenge: sun, moon, wandering stars*. Kenilworth: M.W. Postins.

Powell, A., 2014. Stonehenge Environmental Improvements Project, Wiltshire. Wessex Archaeology Report 2014.222.

Powell, A., 2017. A303 Amesbury to Berwick Down, Archaeological Trial Trench Evaluation. Wessex Archaeology Report 2017.091.

Powell, A. and Farr, S., 2016. Stonehenge Environmental Improvements Project, Wiltshire. Assessment Report on Archaeological Mitigation. Wessex Archaeology Report 2016.020.

Powell, E.A., 2003. Solstice at the stones. *Archaeology*. Volume 56, Issue 5, pp. 36–41.

Prendergast, F., 2014. Boyne Valley tombs. In: C.L.N. Ruggles ed. *Handbook of Archaeoastronomy and Ethnoastronomy*. New York: Springer, pp. 1263–1276.

Prendergast, F. 2019 (in press). The dark sky character of archaeological landscapes: cultural meaning and conservation strategies. In L. Henty (ed.) *Visualising Skyscapes*. London: Routledge.

Prendergast, F. 2015. An architectural perspective on structured sacred space—recent evidence from Iron Age Ireland." In F. Silva and N. Campion (eds) *Skyscapes in Archaeology: The role and importance of the sky*, Oxford and Philadelphia: Oxbow Books, pp. 87–105.

Raj, R., Griffin, K. and Blackwell, R., 2015. Motivations for Religious Tourism, Pilgrimage, Festivals and Events. In: R. Raj and K. Griffin eds *Religious Tourism and Pilgrimage Management: An International Perspective*. 2<sup>nd</sup> edition. Wallingford: CABI (Centre for Agriculture and Biosciences International), pp. 103–117.

RCHME, 1979. *Stonehenge and its Environs: Monuments and Land Use*. Edinburgh: Edinburgh University Press.

Richards, C. and Thomas, J., 2012. The Stonehenge Landscape before Stonehenge'. In: A. M. Jones, J. Pollard, M. J. Allen and J. Gardiner eds *Image, Memory and Monumentality. Archaeological Engagements with the Material World: A Celebration of the Academic Achievements of Professor Richard Bradley*. Prehistoric Society Research Paper 5. Oxford: Oxbow Books, pp. 18–28.

Richards, J., 1990. *The Stonehenge Environs Project*. HBMCE Archaeological Report 16. London: English Heritage.

Richards, J., 1991. *English Heritage Book of Stonehenge*. London: BCA.

Richards, J., 2017. *Stonehenge, the Story so Far*. 2<sup>nd</sup> edition. Swindon: Historic England.

Roberts, D. and Everton, M. 2002 Romancing the stones. *Smithsonian* Volume 33, Issue 4, pp. 86–96.

Roberts, D., Valdez-Tullett, A., Marshall, P., Last, J., Oswald, A., Barclay, A., Bishop, B., Dunbar, E., Forward, A., Law, M., Linford, N., Linford, P., López-Dóriga, I., Manning, A., Payne, A., Pelling, R., Powell, A., Reimer, P., Russell, M., Small, F., Soutar, S., Vallender, J. and Worley, F. 2018. Recent Investigations at Two Long Barrows and Reflections on their Context in the Stonehenge World Heritage Site and Environs. *Internet Archaeology* 47. Available at <https://doi.org/10.11141/ia.47.7>.

Roberts, D., Valdez-Tullett, A. and Forward, A., 2016. HE7238 - Stonehenge Southern WHS Survey: Assessment Report. Historic England Report.

Ruggles, C.L.N., 2014. Stonehenge and its landscape. In: C.L.N. Ruggles ed. *Handbook of Archaeoastronomy and Ethnoastronomy*. New York: Springer., pp. 1223–1238.

Ruggles, C.L.N., 2012. Archaeoastronomical interests in Avebury and its landscape. In: N. Cook ed. *Revised Avebury Resource Assessment 2012*. Salisbury: Wessex Archaeology.

Ruggles, C.L.N., 2006. Interpreting solstitial alignments in Late Neolithic Wessex. *Archaeoastronomy. The Journal of Astronomy in Culture.*, Volume 20, pp. 1–27.

Ruggles, C.L.N., 1997. Astronomy and Stonehenge. In: B. W. Cunliffe and A. C. Renfrew eds *Science and Stonehenge*. London: British Academy/Oxford University Press, pp. 203–229.

Ruggles, C.L.N. and Cotte, M., eds 2010. *Heritage Sites of Astronomy and Archaeoastronomy in the context of the UNESCO World Heritage Convention: A Thematic Study*. International Council on Monuments and Sites/International Astronomical Union.

Simmonds, S. and Thomas, B., 2015. *Stonehenge, Avebury and Associated Sites World Heritage Site Management Plan 2015*. Chippenham: World Heritage Site Coordination Unit on behalf of the Stonehenge and Avebury WHS Steering Committees. Available at <http://www.stonehengeandaveburywhs.org/management-of-whs/stonehenge-and-avebury-whs-management-plan-2015/>.

Sims, L. 2006. The 'solarization' of the moon: manipulated knowledge at Stonehenge. *Cambridge Archaeological Journal* Volume 16 (02), pp191–207.

Snashall, N. and Young, C., 2018. Stonehenge A303 Improvement: assessment of aspects of the preferred route as at 4<sup>th</sup> December 2017. Historic England and the National Trust.

Snashall, N. and Young, C., 2017. Stonehenge A303 Improvement: Outline Assessment of the Impacts on the Outstanding Universal Value of the World Heritage Property of Potential Route Options presented by Highways England for January 2017. Historic England and the National Trust.

Snashall, N. and Young, C., 2017. Stonehenge A303 Improvement: Addendum to Outline Assessment of the Impacts on the Outstanding Universal Value of the World Heritage Property (assessing impacts of D081C), March 2017. Historic England and the National Trust.

Snashall, N. and Young, C., 2014. Preliminary Outline Assessment of the impact of A303 improvements on the Outstanding Universal Value of the Stonehenge Avebury and Associated Sites World Heritage property. English Heritage and the National Trust.

Somerville, B.T., 1925. Reviewed work: The stones of Stonehenge: a full description of the structure and its out-Works by E.H. Stone. *Man* Volume 25, pp. 61–63.

Somerville, B.T., 1922. Remarks on Mr. Stone's paper on the date of Stonehenge, and on the dating of megalithic structures by astronomical means generally. *Man* Volume 22, pp. 33–137.

Souden, D., 1997. Stonehenge, Mysteries of the Stones and Landscape. London: English Heritage.

Soutar, S., 2012. Stonehenge World Heritage Site Landscape Project. Larkhill Barrows, Durrington. Archaeological Survey Report. English Heritage Research Report Series 3-2012

Stone, J.F.S., 1939. An Early Bronze Age Grave in Fargo Plantation near Stonehenge. *Wiltshire Archaeological and Natural History Magazine* Volume 48, pp. 357–70.

Stone, E.H. 1924. *The stones of Stonehenge : a full description of the structure and of its outworks*. London: R. Scott.

Stone, E.H., 1922. Stonehenge. Notes on the Midsummer Sunrise. *Man* Volume 22, pp. 114–118.

Stonehenge Riverside Project. Seeing Beneath Stonehenge viewer. Available at <https://microsites.bournemouth.ac.uk/seeing-beneath-stonehenge/>.

Stonehenge Hidden Landscapes Project Team, 2015a. Stonehenge Hidden Landscapes: Field Season 2 (2011). University of Birmingham Report 2015.073.

Stonehenge Hidden Landscapes Project Team, 2015b. Stonehenge Hidden Landscapes: Field Season 3 (2012-13). University of Birmingham Report 2015.074.

Stonehenge Hidden Landscapes Project Team, 2015c. Stonehenge Hidden Landscapes: Field Season 4 (2013-14). University of Birmingham Report 2015.075.

Stukeley, W., 1740. *Stonehenge: A temple restor'd to the British druids*. London: Innys and Manby.

Soutar, S., 2012. Stonehenge World Heritage Site Landscape Project. Larkhill Barrows, Durrington. Archaeological Survey Report. English Heritage Research Report 3-2012.

Stratascan, 2013. Land at Rollestone, Wiltshire. Geophysical Survey Report. Unpublished Client Report J3345.

Sunley, T., 2016. Wiltshire and Swindon Historic Landscape Characterisation. Case Study 3: HLC Data for the World Heritage Site. Wiltshire Council/Swindon Borough Council/Historic England. Available at <http://wshc.eu/images/Archaeology/6---HLC-Case-Studies-WSHLCpt2.pdf>.

Symonds, M., 2017. The Larkhill causewayed enclosure: Rethinking the early Neolithic Stonehenge landscape. *Current Archaeology*. Volume 326. Available at <https://www.archaeology.co.uk/articles/larkhill-causewayed-enclosure.htm>.

The Independent, Summer Solstice 2018: Thousands celebrated longest day of the year at Stonehenge. 21 June 2018. Available at <https://www.independent.co.uk/news/uk/home-news/summer-solstice-stonehenge-celebrations-pagans-druids-a303-longest-day-a8409301.html>.

Thom, A. and Thom, A.S., 1974. Stonehenge. *Journal for the History of Astronomy* Volume 5, pp. 71–90.

Thom, A., 1971. *Megalithic Lunar Observatories*. Oxford: Oxford University Press.

Thom, A., 1967. *Megalithic Sites in Britain*. Oxford: Oxford University Press.

Thomas, B., 2012. *Minor Boundary Modification of the WHS Report*. Unpublished Report for Stonehenge WHS Committee.

Thomas, H.H., 1923. The Source of the Stones of Stonehenge. *Antiquaries Journal*, Volume 3, pp. 239–260.

Thomas, J., 1999. *Understanding the Neolithic*. London: Routledge.

Thomas, J., Marshall, P., Parker Pearson, M., Pollard, J., Richards, C., Tilley, C. and Welham, K., 2009. The date of the Greater Stonehenge Cursus. *Antiquity*. Volume 83, Issue 319, pp. 40–53.

Thomas, N., 1964. The Causewayed Enclosure Robin Hood's Ball, Shrewton. *Wiltshire Archaeological and Natural History Magazine*. Volume 59, pp. 1–27.

Thompson, S., 2009. Land at Airman's Corner, Wiltshire. Archaeological Evaluation Report. Wessex Archaeology Report 2009.067.

Thorpe, L., 1966. *The History of the Kings of Britain*. London: Penguin Books.

Thurnam, J., 1869. On leaf-shaped javelin heads of flint. *Wiltshire Archaeological and Natural History Magazine*. Volume 11, pp. 42–44.

Tilley C., Richards C., Bennett, W. and Field, D., 2007. Stonehenge – its landscape and architecture: a reanalysis. In: M. Larsson and M. Parker Pearson (eds.), *From Stonehenge to the Baltic: living with cultural diversity in the 3<sup>rd</sup> Millennium BC*. BAR International Series 1692. Oxford: Archaeopress.

Timothy, D.J. and Conover, P.J., 2006. Nature religion, self-spirituality and New Age tourism. In: D.H. Olsen and D.J. Timothy eds *Tourism, Religion and Spiritual Journeys*. 1<sup>st</sup> edition. London: Routledge, pp. 139–155.

Tourism Alliance, 2016. Leisure industry reacts after UK votes to leave EU. 24 June 2016. Available at <http://www.tourismalliance.com/details.cfm?p=nwands=indandid=325070>.

Trotter, A.P. 1927. Stonehenge as an astronomical instrument. *Antiquity* Volume 1, pp42–53.

UNESCO, 2018. *UNESCO World Heritage Sustainable Tourism Toolkit*. Available at <http://whc.unesco.org/sustainabletourismtoolkit/>.

UNESCO, 2018. *UNESCO World Heritage Sustainable Tourism Toolkit. Guide 1: Understanding tourism at your destination*. Available at <http://whc.unesco.org/sustainabletourismtoolkit/sites/default/files/UNESCO%20toolkit%20PDFs%20guide%201C.pdf>.

UNESCO, 2017. *Operational Guidelines for the Implementation of the World Heritage Convention*. WHC 17/01. Paris: United Nations Educational, Scientific and Cultural Organization / Intergovernmental Committee for the Protection of the World Cultural and Natural Heritage / World Heritage Centre. Available at <https://whc.unesco.org/en/guidelines/>.

UNESCO, 2015. *Policy Document for the Integration of a Sustainable Development Perspective into the Processes of the World Heritage Convention as adopted by the General Assembly of States Parties to the World Heritage Convention at its 20th session*. Paris: General Assembly of the States Parties to the Convention, United Nations Educational, Scientific and Cultural Organisation. Available at <https://whc.unesco.org/document/139146>.

UNESCO, 2013. *Adoption of retrospective Statements of Outstanding Universal Value. Stonehenge, Avebury and Associated Sites*. WHC-12/37.COM/8E. Thirty-seventh Session, Phnom Penh, Cambodia: World Heritage Committee, United Nations Educational, Scientific and Cultural Organisation. Available at <https://whc.unesco.org/archive/2013/whc13-37com-8E-en.pdf>.

UNESCO, 2011. *Strategic Action Plan for the Implementation of the World Heritage Convention 2012 -2022*. WHC-11/18.GA/11. Paris: World Heritage Committee and World Heritage Centre. Available at <https://whc.unesco.org/archive/2011/whc11-18ga-11-en.pdf>.

UNESCO, 2008. *Revision of Statements of Significance and Statements Outstanding Universal Value - Stonehenge, Avebury, and Associated Sites (UK)*. World Heritage Committee Decision 32 COM 8B.93. Paris: World Heritage Centre, United Nations Educational, Scientific and Cultural Organization. Available at <http://whc.unesco.org/en/decisions/1539>.

UNESCO, 2007. *UNESCO regrets U.K. government's decision to cancel A303 road improvement scheme for Stonehenge World Heritage property*. Paris: United Nations Educational, Scientific and Cultural Organization. Available at <https://whc.unesco.org/en/news/400/>.

UNESCO, 2005. *Decision : 29 COM 7B.88 Stonehenge, Avebury and Associated Sites (United Kingdom of Great Britain and Northern Ireland)*. Durban: World Heritage Committee, United Nations Educational, Scientific and Cultural Organization. Available at <http://whc.unesco.org/en/decisions/445>.

UNESCO, 2004. Conservation issues presented to the World Heritage Committee in 2004. Available at <http://whc.unesco.org/en/soc/1494>.

UNESCO, 2002. *The Budapest Declaration on World Heritage*. Budapest: World Heritage Committee. Available at <http://whc.unesco.org/en/documents/1334>.

UNESCO, 1972. *Convention Concerning the Protection of the World Cultural and Natural Heritage*. 17<sup>th</sup> Session of the UNESCO General Conference, United Nations Educational, Scientific and Cultural Organization. Available at <https://whc.unesco.org/en/conventiontext/>.

UNESCO/ICCROM/ICOMOS/IUCN, 2013. *Managing Cultural World Heritage. World Heritage Resource Manual*. Paris: United Nations Educational, Scientific and Cultural Organization. Available at <https://whc.unesco.org/document/125839>.

UNESCO/ICCROM/ICOMOS/IUCN, 2011. *Preparing World Heritage Nominations. World Heritage Resource Manual*. Paris: United Nations Educational, Scientific and Cultural Organization. Available at <https://whc.unesco.org/document/116069>.

UNESCO/ICOMOS, 2018. Report on the joint World Heritage Centre/ICOMOS Advisory Mission to Stonehenge, Avebury and Associated Sites (c.373bis), 5-7 March 2018. <https://whc.unesco.org/document/168265>.

UNESCO/ICOMOS, 2017. Report on the joint World Heritage Centre/ICOMOS Advisory Mission to Stonehenge, Avebury and Associated sites (UK), 31 January–3 February 2017. Available at <http://whc.unesco.org/document/158727>.

UNESCO/ICOMOS, 2016. Report on the Joint World Heritage Centre/ICOMOS Advisory Mission to Stonehenge, Avebury and Associated Sites, 27–30 October 2015. Available at <http://whc.unesco.org/document/141037>.

Urmston, B., 2009. Airman's Corner, Wiltshire. Detailed Gradiometer Survey. Wessex Archaeology Report 2009.066.

Valentin, J., 2004. The Excavation of Seven Ring-ditches and Other Prehistoric Features at Earl's Farm Down and New Barn Down, Amesbury, Wiltshire. AC Archaeology Report 2004.064.

Valentin, J. and Robinson, S., 2002. Amesbury Business Park, Folly Bottom, Amesbury. AC Archaeology Report 2002.021.

Vatcher, F. de M., 1961. The Excavation of the Long Mortuary Enclosure on Normanton Down. *Wiltshire Proceedings of the Prehistoric Society*. Volume 28, pp. 160–173.

VisitBritain, 2017. 2018 Inbound Tourism Forecast. Available at <https://www.visitbritain.org/forecast>.

Visit England, 2016a. Visitor Attraction Trends in England 2016. Full Report. British Tourist Authority (trading as VisitBritain). Available at [https://www.visitbritain.org/sites/default/files/vb-corporate/Documents-Library/documents/England-documents/annual\\_attractions\\_trend\\_report\\_2016.pdf](https://www.visitbritain.org/sites/default/files/vb-corporate/Documents-Library/documents/England-documents/annual_attractions_trend_report_2016.pdf)

Visit England, 2016b. Most visited paid attractions – South West 2016. British Tourist Authority (trading as VisitBritain). Available at [https://www.visitbritain.org/sites/default/files/vb-corporate/Documents-Library/documents/England-documents/most\\_visited\\_paid\\_sw\\_2016.pdf](https://www.visitbritain.org/sites/default/files/vb-corporate/Documents-Library/documents/England-documents/most_visited_paid_sw_2016.pdf)

Visit England, 2016c. The Visit England Action Plan. Available at [https://www.visitbritain.org/sites/default/files/vb-corporate/Documents-Library/documents/England-documents/ve\\_england\\_action\\_plan\\_-\\_200516.pdf](https://www.visitbritain.org/sites/default/files/vb-corporate/Documents-Library/documents/England-documents/ve_england_action_plan_-_200516.pdf).

Visit England, 2016d. Annual Survey of Visits to Visitor Attractions. 2016 Full Attractions Listing. Available at <https://www.visitbritain.org/annual-survey-visits-visitor-attractions-latest-results>.

Visit England, 2013. Annual Survey of Visits to Visitor Attractions. Available at [http://www.visitengland.org/insight-statistics/major-tourism-surveys/attractions/Annual\\_Survey/](http://www.visitengland.org/insight-statistics/major-tourism-surveys/attractions/Annual_Survey/).

VisitEngland, 2013. Domestic Leisure Tourism Trends for the Next Decade. December 2013. Trajectory Global Foresight for VisitEngland. Available at [https://www.visitengland.com/sites/default/files/visit\\_england\\_report\\_print\\_to\\_m30-39493.pdf](https://www.visitengland.com/sites/default/files/visit_england_report_print_to_m30-39493.pdf).

VisitEngland, 2011. England: a strategic framework for tourism 2010-2020 (revised edition 2011). Available at [https://www.visitengland.com/sites/default/files/downloads/strategic\\_framework\\_for\\_tourism\\_document\\_1.pdf](https://www.visitengland.com/sites/default/files/downloads/strategic_framework_for_tourism_document_1.pdf).

VisitWiltshire, 2015. Economic Impact of Wiltshire's Visitor Economy 2015. Swindon and Wiltshire Economic Impact Study. South West Research Company. Available at <https://www.visitwiltshire.co.uk/dbimgs/Economic%20Impact%20Study%202015.pdf>.

Visit Wiltshire, 2015. *Wiltshire and Swindon Destination Management and Development Plan 2015-2020. Final Report for VisitWiltshire, January 2015*. Blue Sail. Available at <https://www.visitwiltshire.co.uk/dbimgs/Wiltshire%20and%20Swindon%20Destination%20Management%20%20and%20Development%20Plan%20January%202015.pdf>.

VisitWiltshire, 2014. Swindon and Wiltshire's Visitor Economy. Headline Economic Impact Results 2014. Economic Impact of Swindon and Wiltshire's Visitor Economy 2014. South West Research Company. Available at <https://www.visitwiltshire.co.uk/dbimgs/Economic%20Impact%202014%20Headline%20results.pdf>.

Wakeham, G., 2004. Oatlands Dairy Unit, Druid's Lodge Estate, Wiltshire. Wessex Archaeology Report 2004.054.

Wainwright, G. J., 1971. The excavation of prehistoric and Romano-British Settlements near Durrington Walls, Wiltshire, 1970. *Wiltshire Archaeological and Natural History Magazine* Volume 66, pp. 76–128.

Wainwright, G.J. and Longworth, I. H., 1971. *Durrington Walls Excavations, 1966–1968*. Reports of the Research Committee of the Society of Antiquaries of London 29. London: Society of Antiquaries.

Wallis, R.J. and Blain, J., 2003. Sites, sacredness, and stories: interactions of archaeology and contemporary paganism. *Folklore* Volume 114, Issue 3, pp. 307–321.

Watson, A. 2006 (Un)intentional sound: acoustics and Neolithic monuments. In: G. Lawson and C. Scarre (eds), *Acoustics, space and intentionality: identifying intentionality in the ancient use of acoustic spaces and structures*. Cambridge: McDonald Institute for Archaeological Research Monograph.

Webb, J., 1655. *The Most Notable Antiquity of Great Britain, Vulgarly Called Stone-heng, on Salisbury Plain. Restored by Inigo Jones Esquire, Architect Generall to the late King*. London: Daniel Pakeman and Laurence Chapman. Available at <http://gallica.bnf.fr>.

Wessex Archaeology, 2018. A303 Amesbury to Berwick Down. Geophysical Survey Report. Wessex Archaeology Report.

Wessex Archaeology, 2018. A303 Stonehenge Detailed Gradiometer Survey: Preliminary Results (Winterbourne Stoke). Unpublished client report ref. A303 AmW (Wessex Archaeology) Preliminary Geophysical Survey Results: NW10 201734.02.

Wessex Archaeology, 2017. A303 Amesbury to Berwick Down, Wiltshire: Geophysical Survey, Phase 2. Unpublished client report ref. A303 AAJV (Wessex Archaeology) Evaluation Report 113223.05.

Wessex Archaeology, 2017. A303 Amesbury to Berwick Down: Geophysical Survey Report – Phase 3. Unpublished client report ref. A303 AAJV (Wessex Archaeology) Evaluation Report 113224-11.

Wessex Archaeology, 2017. A303 Amesbury to Berwick Down: Archaeological Trial Trench Evaluation. Unpublished client report ref. A303 AAJV (Wessex Archaeology) Evaluation Report 113221-01.

Wessex Archaeology, 2017. Larkhill SFA Haul Road, Larkhill, Wiltshire: Detailed Gradiometer Survey Report. Unpublished report ref. 115980.01.

Wessex Archaeology, 2016. A303 Amesbury to Berwick Down: Geophysical Survey Report. Unpublished Arup Atkins Joint Venture Document Reference HE551506-AA-EHR-SWI-RP-YE-000003. Salisbury: Wessex Archaeology.

Wessex Archaeology, 2016. A303 Amesbury to Berwick Down, Wiltshire: Geophysical Survey. Unpublished client report ref. 113220.12. Salisbury: Wessex Archaeology

Wessex Archaeology, 2016. Stonehenge Environmental Improvements Project. Assessment Report on Archaeological Mitigation. Unpublished client report ref. 76862.04.

Wessex Archaeology, 2015. Stonehenge environmental improvements project: assessment report on archaeological mitigation. Wessex Archaeology report 76862.03.

Wessex Archaeology, 2014. The Old Dairy, London Road, Amesbury, Wiltshire. Wessex Archaeology Report 2014.181.

Wessex Archaeology, 2012. Stonehenge and Avebury World Heritage Site, Wiltshire. Monument Condition Survey. Unpublished report 74080.06, January 2012. Salisbury: Wessex Archaeology.

Wessex Archaeology, 2010a. Land at Druid's Lodge Polo Club, Salisbury, Wiltshire. Detailed Gradiometer Survey Report. Wessex Archaeology Report.

Wessex Archaeology, 2010b. Land at Druid's Lodge Polo Club, Salisbury, Wiltshire. Detailed Gradiometer Survey Report (Phase 2). Wessex Archaeology Report.

Wessex Archaeology, 2009. Airman's Corner, Winterbourne Stoke, Wiltshire: Detailed Gradiometer Survey. Unpublished Client Report 71420.01.

Wessex Archaeology, 2009. Stonehenge Environmental Improvements Project. Archaeology and the Historic Environment Baseline Assessment. Wessex Archaeology for English Heritage, September 2009. Available at <https://services.wiltshire.gov.uk/UniDoc/Document/File/Uy8yMDA5LzE1MjcsMTM1OTU1>.

Wessex Archaeology, 2008. Wiltshire Grain Ltd., Rolleston Camp, Shrewton, Wiltshire. Archaeological Evaluation Report. Unpublished client report 70190.03.

Wessex Archaeology, 2007. *Land off Salisbury Street, Amesbury, Wiltshire*. Wessex Archaeology Report 2007.153.

Wessex Archaeology, 2004. Stonehenge and Avebury World Heritage Site: Archaeological Fieldwalking Survey Report. Unpublished client report 52535.505

Wessex Archaeology, 2004. Stonehenge Visitor Centre, Countess East, Amesbury, Wiltshire. Further archaeological evaluation. Wessex Archaeology Report.

Wessex Archaeology, 2003a. A303 Stonehenge Ground Investigation 2002. Wessex Archaeology Report 2003.097.

Wessex Archaeology, 2003b. A303 Stonehenge Archaeological Surveys. Archaeological Evaluation Report. Areas 1, 2, 3 and 4. Wessex Archaeology Report 2003.096.

Wessex Archaeology, 2003c. A303 Stonehenge Archaeological Surveys. Archaeological Evaluation Report. Drainage Treatment Areas 2 and 6. Wessex Archaeology Report 2003.113.

Wessex Archaeology, 2002a. A303 (T) Amesbury Bypass, Wiltshire. Wessex Archaeology Report 2002.007.

Wessex Archaeology, 2002b. A303 Stonehenge. Archaeological Surveys. Archaeological Evaluation Report: Areas A, B, C and D. Wessex Archaeology Report 2002.057.

Wessex Archaeology, 2002c. A303 Stonehenge Archaeological Surveys. Archaeological Evaluation Report: Areas L and O. Wessex Archaeology Report 2002.058.

Wessex Archaeology, 2002d. A303 Stonehenge Archaeological Surveys. Archaeological Evaluation Report: Area P. Wessex Archaeology Report 2002.059.

Wessex Archaeology, 2002e. A303 Stonehenge Archaeological Surveys. Archaeological Evaluation Report: Areas R and T. Wessex Archaeology Report 2002.060.

Wessex Archaeology, 2002f. A303 (T) Amesbury Bypass, Wiltshire Archaeological Watching Brief. Unpublished report 50335.1.

Wessex Archaeology, 1999. Global Crossing Communications Cable Trench Near Stonehenge. Wessex Archaeology Report 1999.060.

Wessex Archaeology, 1999. Global Crossing Communications Cable Trench, Near Stonehenge, Wiltshire: Archaeological Watching Brief. Unpublished report 46666.

Wessex Archaeology, 1998. Stonehenge Military Installations: A Desk-Based Study. Unpublished report 44411.

Wessex Archaeology, 1997. Hunters Hill, West Amesbury, Wiltshire. Wessex Archaeology Report 1997.078.

Wessex Archaeology, 1994. Stonehenge: Limited test augering. Wessex Archaeology Report 1994.078.

Wessex Archaeology, 1993. A303 Amesbury to Berwick Down, Wiltshire - Alternative Routes. Unpublished report W580.

Wessex Archaeology, 1993. Stonehenge Visitor Centre, Wiltshire. Site 12: A303 footbed archaeological evaluation. Wessex Archaeology for English Heritage Report reference W639a.

Wessex Archaeology, 1993. A303 Amesbury to Berwick Down, Wiltshire – Alternative Routes. Wessex Archaeology Report 1993.076.

Wessex Archaeology, 1991. Avon Valley Gas Pipeline. Wessex Archaeology Report 1991.013.

Wessex Archaeology / AAJV, 2017a. A303 Amesbury to Berwick Down. Geophysical Survey Report. Wessex Archaeology / AAJV Report No. 2017.100.

Wessex Archaeology / AAJV, 2017b. A303 Amesbury to Berwick Down. Archaeological Evaluation. Wessex Archaeology Report No. Not known.

Wessex Archaeology / AAJV, 2016. A303 Amesbury to Berwick Down. Geophysical Survey Report. Wessex Archaeology / AAJV Report No. Not Known.

Whelan, J. and Valentin, J., 2000. Proposed Amesbury Business Park, Amesbury, Wiltshire. AC Archaeology Report 2000.111.

Whittle, A.W.R., 1997. Remembered and imagined belongings: Stonehenge in its traditions and structures of meaning. In: B.W. Cunliffe and C. Renfrew (eds) *Science and Stonehenge*. London: British Academy and Oxford University Press, pp. 145–66. Available at <https://www.britac.ac.uk/sites/default/files/92p145.pdf>.

Whittle, A., Bayliss, A. and Healy F., 2011. *Gathering Time: Dating the Early Neolithic Enclosures of Southern Britain and Ireland*. Volume I. Oxford: Oxbow Books.

Wightman, G.J., 2007. *Sacred Spaces: Religious architecture in the ancient world*. Ancient Near Eastern Studies Supplement, Series 22. Leuven: Peeters.

Wiltshire Council, 2016. Wiltshire Local Transport Plan 2011- 2026. Strategic Environmental Assessment Environmental Report consultation draft. February 2016. Trowbridge: Wiltshire Council.

Wiltshire Council, 2015. Wiltshire Core Strategy Development Plan Document. Trowbridge: Wiltshire Council. Available at <https://pages.wiltshire.gov.uk/adopted-local-plan-jan16-low-res.pdf>.

Woodward A., 2000 *British Barrows: A matter of life and death*. Stroud: Tempus.

Woodward, A. B. and Woodward, P. J., 1996. The topography of some barrow cemeteries in Bronze Age Wessex. *Proceedings of the Prehistoric Society*. Volume 62, pp. 275–291.

Young, C., Chadburn, A. and Bedu, I., 2009. *Stonehenge World Heritage Site Management Plan 2009*. London: English Heritage on behalf of the Stonehenge World Heritage Site Committee. Available at

<http://www.stonehengeandaveburywhs.org/assets/Full-MP-2009-low-res-pdf.pdf>.

## 14 Glossary of terms used

<p>Aesthetic Value</p>	<p>Value deriving from the ways in which people draw sensory and intellectual stimulation from a place. (p. 72, Conservation Principles, English Heritage, 2008)</p>
<p>Archaeological interest</p>	<p>There will be archaeological interest in a heritage asset if it holds, or potentially may hold, evidence of past human activity worthy of expert investigation at some point. Heritage assets with archaeological interest are the primary source of evidence about the substance and evolution of places, and of the people and cultures that made them. (Annex 2: Glossary, National Planning Policy Framework, Ministry of Housing, Communities and Local Government, 2012)</p>
<p>Attribute / Attributes of Outstanding Universal Value</p>	<p>Attributes are a direct tangible expression of the Outstanding Universal Value of the property. At the Stonehenge, Avebury and Associated Sites World Heritage Site, all these attributes are ultimately derived from the 2008 Statement of Significance and the nomination and evaluation documentation of 1985. Taken together the attributes define the reasons for the Outstanding Universal Value of the Stonehenge and Avebury WHS.</p> <p>Attributes are aspects of a property which are associated with or express the Outstanding Universal Value. Attributes convey that value and allow an understanding of it. Attributes can be tangible or intangible.</p> <p>The WHS Operational Guidelines indicate a range of types of attribute which might convey Outstanding Universal Value, including:</p> <ul style="list-style-type: none"> <li>▪ form and design;</li> <li>▪ materials and substance;</li> <li>▪ use and function;</li> <li>▪ traditions, techniques and management systems;</li> <li>▪ location and setting;</li> <li>▪ language, and other forms of intangible heritage; and</li> <li>▪ spirit and feeling (Operational Guidelines, Paragraph 82).</li> </ul> <p>It is essential that the attributes identified for a property should flow</p>

	<p>from the Statement of Outstanding Universal Value and the justification for the criteria. Attributes must be identified as they are vital to understanding authenticity and integrity, and are the focus of protection, conservation and management.</p> <p>(UNESCO, ICCROM, ICOMOS and IUCN 2011 Preparing World Heritage Nominations. World Heritage Resource Manual. 2<sup>nd</sup> ed., 31-32)</p>
Associations	<p>"...means the special connections that exist between people and a place."</p> <p>(The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance 2013)</p>
Authenticity	<p>The ability to understand the value attributed to the heritage depends on the degree to which information sources about this value may be understood as credible or truthful. Knowledge and understanding of these sources of information, in relation to original and subsequent characteristics of the cultural heritage, and their meaning, are the requisite bases for assessing all aspects of authenticity.</p> <p>(Paragraph 80, Operational Guidelines for Implementation of the World Heritage Convention, UNESCO, 2017)</p> <p>Depending on the type of cultural heritage, and its cultural context, properties may be understood to meet the conditions of authenticity if their cultural values (as recognised in the nomination criteria proposed) are truthfully and credibly expressed through a variety of attributes including:</p> <ul style="list-style-type: none"> <li>– form and design;</li> <li>– materials and substance;</li> <li>– use and function;</li> <li>– traditions, techniques and management systems;</li> <li>– location and setting;</li> <li>– language, and other forms of intangible heritage;</li> <li>– spirit and feeling; and</li> <li>– other internal and external factors.</li> </ul> <p>(Paragraph 80, Operational Guidelines for Implementation of the World Heritage Convention, UNESCO, 2017)</p>

	<p>Attributes such as spirit and feeling do not lend themselves easily to practical applications of the conditions of authenticity, but nevertheless are important indicators of character and sense of place, for example, in communities maintaining tradition and cultural continuity.</p> <p>(Paragraph 83, Operational Guidelines for Implementation of the World Heritage Convention, UNESCO, 2017)</p> <p>The use of all these sources permits elaboration of the specific artistic, historic, social, and scientific dimensions of the cultural heritage being examined. "Information sources" are defined as all physical, written, oral, and figurative sources, which make it possible to know the nature, specificities, meaning, and history of the cultural heritage.</p> <p>(Paragraph 84, Operational Guidelines for Implementation of the World Heritage Convention, UNESCO, 2017)</p> <p>Authenticity is about the link between attributes and potential Outstanding Universal Value. That link needs to be truthfully expressed so that the attributes can fully convey the value of the property. Authenticity is therefore a measure of how well attributes convey potential Outstanding Universal Value. In the case of archaeological sites, authenticity is judged according to the ability of the archaeological remains to truthfully convey their meaning. In many cases, conjectural reconstruction might hinder this process and compromise authenticity. Similarly, while reconstruction of incomplete buildings and structures can be justified in some circumstances, this can also impact on their ability to truthfully convey meaning.</p> <p>(UNESCO, ICCROM, ICOMOS and IUCN 2011 Preparing World Heritage Nominations. World Heritage Resource Manual. 2<sup>nd</sup> ed., 61)</p>
Bell barrows	<p>Bell barrows, the most visually impressive form of round barrow, are funerary monuments dating from 1600-1200 BC. They occur either in isolation or in round barrow cemeteries. They were constructed as single or multiple mounds covering burials often in pits and surrounded by an enclosure ditch. The burials in bell barrows appear to be those of aristocratic individuals and are also frequently accompanied by weapons, personal ornaments and pottery vessels.</p>

	<p>Bell barrows are rare nationally with only 250 examples known of which thirty are located within the Stonehenge area. (Historic England – National Heritage List for England).</p>
Bowl barrows	<p>Bowl barrows, the most numerous form of round barrow, are funerary monuments dating from the late Neolithic period to the late Bronze Age, with most examples belonging to the period 2400-1500 BC. They were constructed as earthen or rubble mounds, normally ditched, which covered single or multiple burials. They occur either in isolation or grouped as cemeteries and often acted as a focus for burials in later periods. Often superficially similar, although differing widely in size, they exhibit regional variations in form and a variety of burial practices. The burials, either inhumations or cremations, are sometimes accompanied by pottery vessels, tools and personal ornaments. There are over 10,000 surviving bowl barrows recorded nationally and at least 320 in the Stonehenge area. (Historic England – National Heritage List for England)</p>
Conservation	<p>All operations designed to understand a property, know its history and meaning, ensure its material safeguard, and, if required, its restoration and enhancement. (Definitions, Nara Document on Authenticity, ICOMOS, 1994)</p> <p>The process of maintaining and managing change to a heritage asset in a way that sustains and, where appropriate, enhances its significance. (Annex 2: Glossary, National Planning Policy Framework, Ministry of Housing, Communities and Local Government, 2012)</p> <p>The process of managing change to a significant place in its setting in ways that will best sustain its heritage values, while recognising opportunities to reveal or reinforce those values for present and future generations. (p. 71, Conservation Principles, English Heritage, 2008)</p>
Communal Value	<p>Value deriving from the meanings of a place for the people who relate to it, or for whom it figures in their collective experience or memory.</p>

	(p. 71, Conservation Principles, English Heritage, 2008)
Context	Any relationship between a place and other places, relevant to the values of that place. (Conservation Principles, English Heritage (now Historic England), 2008)
Convention Concerning the Protection of the World Cultural and Natural Heritage (World Heritage Convention)	The Convention Concerning the Protection of the World Cultural and Natural Heritage was adopted by the General Conference of UNESCO at its seventeenth session in Paris on 16 November 1972 (UNESCO 1972). The Convention provides for the identification, protection, presentation and transmission to future generations of cultural and natural heritage around the world considered to be of Outstanding Universal Value.
Criteria for the assessment of Outstanding Universal Value	The [World Heritage] Committee considers a property as having Outstanding Universal Value [...] if the property meets one or more of the following criteria. Nominated properties shall therefore: <ul style="list-style-type: none"> <li>– represent a masterpiece of human creative genius;</li> <li>– exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning or landscape design;</li> <li>– bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared;</li> <li>– be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history;</li> <li>– be an outstanding example of a traditional human settlement, land-use, or sea-use which is representative of a culture (or cultures), or human interaction with the environment especially when it has become vulnerable under the impact of irreversible change;</li> <li>– be directly or tangibly associated with events or living traditions, with ideas, or with beliefs, with artistic and literary works of outstanding universal significance. (The Committee</li> </ul>

	<p>considers that this criterion should preferably be used in conjunction with other criteria);</p> <ul style="list-style-type: none"> <li>– contain superlative natural phenomena or areas of exceptional natural beauty and aesthetic importance;</li> <li>– be outstanding examples representing major stages of earth's history, including the record of life, significant on-going geological processes in the development of landforms, or significant geomorphic or physiographic features;</li> <li>– be outstanding examples representing significant on-going ecological and biological processes in the evolution and development of terrestrial, fresh water, coastal and marine ecosystems and communities of plants and animals;</li> <li>– contain the most important and significant natural habitats for in-situ conservation of biological diversity, including those containing threatened species of Outstanding Universal Value from the point of view of science or conservation.</li> </ul> <p>(Paragraph 77, Operational Guidelines for Implementation of the World Heritage Convention, UNESCO, 2017)</p> <p>To be deemed of Outstanding Universal Value, a property must also meet the conditions of integrity and / or authenticity and must have an adequate protection and management system to ensure its safeguarding.</p> <p>(Paragraph 78, Operational Guidelines for Implementation of the World Heritage Convention, UNESCO, 2017)</p>
<p>Cultural heritage</p>	<p>Cultural heritage is defined in Article 1 of the World Heritage Convention: For the purpose of this Convention, the following shall be considered as "cultural heritage":</p> <ul style="list-style-type: none"> <li>– monuments: architectural works, works of monumental sculpture and painting, elements or structures of an archaeological nature, inscriptions, cave dwellings and combinations of features, which are of outstanding universal value from the point of view of history, art or science;</li> <li>– groups of buildings: groups of separate or connected buildings which, because of their architecture, their homogeneity or their place in the landscape, are of outstanding universal value from the point of view of history, art or science;</li> </ul>

	<ul style="list-style-type: none"> <li>– sites: works of man or the combined works of nature and man, and areas including archaeological sites which are of outstanding universal value from the historical, aesthetic, ethnological or anthropological point of view. (Convention Concerning the Protection of the World Cultural and Natural Heritage, UNESCO, 1972)</li> </ul> <p>Inherited assets which people identify and value as a reflection and expression of their evolving knowledge, beliefs and traditions, and of their understanding of the beliefs and traditions of others. (p. 71, Conservation Principles, English Heritage, 2008)</p>
Cultural property	Properties inscribed in the World Heritage List after having met at least one of the cultural heritage criteria and the test of authenticity are referred to as cultural properties.
Cultural Heritage Site	A place, locality, natural landscape, settlement area, architectural complex, archaeological site, or standing structure that is recognized and often legally protected as a place of historical and cultural significance. (ICOMOS Charter for the Interpretation and Presentation of Cultural Heritage Sites, ICOMOS, 2008)
Cursus monuments	A cursus is an elongated rectilinear earthwork, the length of which is normally greater than 250m, with its length usually more than ten times its width. The sides are usually defined by a bank and external ditch, as in this example, but occasionally by a line of closely-set pits. The two long sides run roughly parallel and may incorporate earlier monuments of other classes. Access to the interior was restricted to a small number of entranceways, usually near the ends of the long sides. Cursus monuments vary in length, from 250m at the lower end of the range up to 5.6km in the case of the Dorset Cursus. The width is normally in the range 20m-60m, and in no case greater than 130m. The greatest variations in the ground-plan occur at the terminals, which feature both round-ended and square-ended earthworks. Datable finds from cursus monuments are few. Early Neolithic pottery has been found in the primary silting of some ditches, but re-cutting or extending of the ditches at some sites suggests that the monument type was in use over a long period.

	<p>Cursus monuments have been interpreted in various ways since their initial identification. The name itself is the Latin term for race-track and this is one of the functions suggested by Stukeley in the 18<sup>th</sup> century. More recently a ritual or ceremonial role has been assigned, particularly in the light of evidence of the burning of animal carcasses and the association with burial monuments of various classes. Cursus monuments are widely scattered across central and southern England. The majority lie on the flat, well-drained gravel terraces of major river valleys, but a number are known on the chalk downlands of Dorset and Wiltshire. There are several examples in northern England. About 40 are known in England.</p> <p>(Historic England – National Heritage List for England).</p>
<p>Department for Digital, Culture, Media and Sport (DCMS)</p>	<p>The Department for Digital, Culture, Media and Sport acts as the State Party for the whole of the United Kingdom and is responsible for the United Kingdom’s general compliance with the World Heritage Convention.</p> <p>The department has responsibility for listing and scheduling sites and for making scheduled monument consent decisions.</p>
<p>Department for Transport (DfT)</p>	<p>Government department responsible for the transport network in England, and for aspects of the transport network in the devolved administrations.</p>
<p>Design Manual for Roads and Bridges (DMRB)</p>	<p>The Design Manual for Roads and Bridges (DMRB) contains information about current standards, advice notes and other published documents relating to the design, assessment and operation of trunk roads, including motorways. The DMRB was introduced in 1992 in England and Wales, and following that in Scotland and Northern Ireland.</p>
<p>Designated heritage asset</p>	<p>A World Heritage Site, Scheduled Monument, Listed Building, Protected Wreck Site, Registered Park and Garden, Registered Battlefield or Conservation Area designated under the relevant legislation.</p> <p>(Annex 2: Glossary, National Planning Policy Framework, Ministry of Housing, Communities and Local Government, 2012)</p>

Designation	<p>The recognition of particular heritage value(s) of a significant place by giving it formal status under law or policy intended to sustain those values.</p> <p>(p. 71, Conservation Principles, English Heritage, 2008)</p>
Development Consent Order (DCO)	<p>The means of applying for consent to undertake a Nationally Significant Infrastructure Project (NSIP). NSIPs include, for example, major energy and transport projects.</p>
Hengiform monuments	<p>Hengiform monuments are generally understood to have been ritual or ceremonial monuments dating to the late Neolithic / early Bronze Age period (2900-2000 BC). They were constructed as roughly circular enclosures, usually comprising a flat area between 5m and 20m in diameter enclosed by a ditch and external bank. Typically, either a single entrance or two opposed entrances provided access to the interior of the monument which, in excavated examples, have sometimes been demonstrated to contain a variety of features including pits, post-holes, cremation pits and burials. Hengiform monuments occur throughout England with the exception of the south-western and south-eastern counties. They are generally situated on gravel terraces or on hill slopes. They are rare nationally with about 40-50 known examples.</p> <p>(Historic England – National Heritage List for England).</p>
English Heritage (the English Heritage Trust)	<p>The English Heritage Trust is a registered charity (Charity no. 1140351) that manages the National Heritage Collection of over 400 state-owned historic sites and monuments across England, under licence from Historic England. The English Heritage Trust promotes the conservation and enhancement of Historic England's properties and collections as well as promoting public knowledge, enjoyment and education at and about Historic England's properties and collections. Stonehenge is part of the National Heritage Collection. It is owned by the Crown and managed by English Heritage on behalf of the state.</p>
Expressway / Expressway Standard	<p>A road with high quality performance and safety standards, as described in the July 2013 Action for Roads: A network for the 21<sup>st</sup> century report published by the Department for Transport.</p>

Evidential Value	Value deriving from the potential of a place to yield evidence about past human activity. (p71, Conservation Principles, English Heritage, 2008)
Geographic(al) Information Systems (GIS)	Any system that captures, stores, analyses, manages, and presents all types of spatial and geographical data location. GIS merges cartography and database technology.
Heritage	Heritage is a broad concept and includes the natural as well as the cultural environment. It encompasses landscapes, historic places, sites and built environments, as well as bio-diversity, collections, past and continuing cultural practices, knowledge and living experiences. It records and expresses the long processes of historic development, forming the essence of diverse national, regional, indigenous and local identities and is an integral part of modern life. It is a social dynamic reference point and positive instrument for growth and change. The particular heritage and collective memory of each locality or community is irreplaceable and an important foundation for development, both now and into the future. (International Cultural Tourism Charter, ICOMOS, 2002)
Heritage asset	A building, monument, site, place, area or landscape identified as having a degree of significance meriting consideration in planning decisions, because of its heritage interest. Heritage asset includes designated heritage assets and assets identified by the local planning authority (including local listing). (Annex 2: Glossary, National Planning Policy Framework, Ministry of Housing, Communities and Local Government, 2012)
Historic England	The Historic Buildings and Monuments Commission for England, more commonly known as Historic England, established in 1984 by the National Heritage Act 1983. (Historic England is the Government's adviser on the historic environment in England)
Historic interest	To be of special historic interest a building must illustrate important aspects of the nation's social, economic, cultural, or military history and / or have close historical associations with nationally important

	<p>people. There should normally be some quality of interest in the physical fabric of the building itself to justify the statutory protection afforded by listing.</p> <p>(p. 4, Principles of Selection for Listed Buildings, 2010, DCMS)</p>
<p>ICOMOS (International Council of Monuments and Sites)</p>	<p>The International Council on Monuments and Sites (ICOMOS), a non-governmental organisation dedicated to the conservation of the world's monuments and sites. Its work is based on the principles in the 1964 International Charter on the Conservation and Restoration of Monuments and Sites (The Venice Charter) with ICOMOS created in 1964.</p> <p>In order to promote the doctrine and the techniques of conservation. ICOMOS is the advisory body of the World Heritage Committee which reviews nominations of properties with cultural values proposed for inscription on the World Heritage List, as well as with comparative studies, technical assistance and reports on the state of conservation of inscribed properties.</p>
<p>Integrity</p>	<p>Integrity is a measure of the wholeness and intactness of the natural and / or cultural heritage and its attributes. Examining the conditions of integrity, therefore requires assessing the extent to which the property:</p> <ul style="list-style-type: none"> <li>a) includes all elements necessary to express its outstanding universal value;</li> <li>b) is of adequate size to ensure the complete representation of the features and processes which convey the property's significance;</li> <li>c) suffers from adverse effects of development and / or neglect.</li> </ul> <p>(Paragraph 88, Operational Guidelines for Implementation of the World Heritage Convention, UNESCO, 2017)</p> <p>For properties nominated under criteria (i) to (vi), the physical fabric of the property and / or its significant features should be in good condition, and the impact of deterioration processes controlled. A significant proportion of the elements necessary to convey the totality of the value conveyed by the property should be included. Relationships and dynamic functions present in cultural landscapes, historic towns or other living properties essential to their distinctive</p>

	<p>character should also be maintained. (Paragraph 89, Operational Guidelines for Implementation of the World Heritage Convention, UNESCO, 2017)</p> <p>Integrity is a measure of the completeness or intactness of the attributes that convey Outstanding Universal Value. The key words are ‘wholeness’, ‘intactness’ and ‘absence of threats’. These can be understood as follows:</p> <ul style="list-style-type: none"> <li>– Wholeness: all the necessary attributes are within the property.</li> <li>– Intactness: all the necessary attributes are still present – none are lost or have been significantly damaged or have decayed.</li> <li>– Absence of threats: none of the attributes are threatened by development, deterioration or neglect.</li> </ul> <p>In the case of natural and cultural properties, human use is both permissible and compatible with World Heritage listing, provided it is sustainable, and compatible with the values of the property. It is important to critically evaluate the condition of the property within the nomination document, and to explain honestly and openly any areas where there are human or other impacts on the condition of the property. Integrity and authenticity are different aspects of the Outstanding Universal Value of a property. (UNESCO, ICCROM, ICOMOS and IUCN 2011 Preparing World Heritage Nominations. World Heritage Resource Manual. 2<sup>nd</sup> ed.,pp. 65-67)</p>
Interpretation	<p>The full range of potential activities intended to heighten public awareness and enhance understanding of cultural heritage site. These can include print and electronic publications, public lectures, on-site and directly related off-site installations, educational programmes, community activities, and ongoing research, training, and evaluation of the interpretation process itself. (ICOMOS Charter for the Interpretation and Presentation of Cultural Heritage Sites, 2008)</p>
Linear boundaries	<p>Linear boundaries are substantial earthwork features comprising single or multiple ditches and banks which may extend over distances varying between less than 1km to more than 10km. They</p>

	<p>survive as earthworks or as linear features visible as cropmarks on aerial photographs or as a combination of both. The evidence of excavation and study of associated monuments demonstrate that their construction spans the millennium from the middle Bronze Age, although they may have been reused later. The scale of many linear boundaries has been taken to indicate that they were constructed by large social groups and were used to mark important boundaries in the landscape, their impressive scale displaying the corporate prestige of their builders. They would have been powerful symbols, often with religious associations, used to define and order the territorial holdings of those groups which constructed them. Linear earthworks are of considerable importance for the analysis of settlement and land use in the Bronze Age. All well preserved examples will normally merit statutory protection.</p> <p>(Historic England – National Heritage List for England).</p>
<p>Long barrows</p>	<p>Long barrows were constructed as earthen or drystone mounds often with flanking ditches and acted as funerary monuments during the early and middle Neolithic periods (3400-2400 BC). They represent the burial places of Britain's early farming communities and, as such, are amongst the oldest field monuments surviving visibly in the present landscape. Where investigated, long barrows appear to have been used for communal burial, often with only parts of the human remains having been selected for interment. Certain sites provide evidence for several phases of funerary monument preceding the barrow and it is probable that long barrows acted as important ritual sites for local communities over a considerable period of time. Some 500 long barrows are recorded in England.</p> <p>(Historic England – National Heritage List for England).</p>
<p>National Trust</p>	<p>The National Trust for Places of Historic Interest or Natural Beauty (charity number 205846) is an independent charity that cares for historic houses, gardens, ancient monuments, countryside and other sites across England, Wales and Northern Ireland, including parts of the Stonehenge landscape.</p> <p>The Charity was founded for the preservation for the benefit of the nation of lands and tenements, including buildings, of beauty or historic interest and, as regards lands, for the preservation as far as practicable of their natural aspect, features and animal and plant life, also for the preservation of furniture, pictures and chattels of any</p>

	<p>description having national and historic or artistic interest.</p> <p>The National Trust Acts grant the trust the unique statutory power to declare land inalienable. This prevents the land from being sold or mortgaged against the trust's wishes without special parliamentary procedure. The Acts also give the trust the power to make bylaws to regulate the activities of people when on its land.</p>
<p>Nationally Significant Infrastructure Project</p>	<p>A project of a type and scale defined under the Planning Act 2008 and by order of the Secretary of State relating to energy, transport, water, waste water and waste generally. These projects require a single development consent. Planning permission, listed building consent and scheduled monument consent amongst others are not required for Nationally Significant Infrastructure Projects.</p> <p>(Planning Act 2008 c.29)</p>
<p>Operational Guidelines for the Implementation of the World Heritage Convention</p>	<p>The Operational Guidelines for the Implementation of the World Heritage Convention are prepared by the World Heritage Committee for the purpose of informing States Parties to the Convention of the principles which guide the work of the World Heritage Committee in establishing the World Heritage List, the List of World Heritage in Danger and in granting international assistance under the World Heritage Fund.</p>
<p>Outstanding Universal Value</p>	<p>Outstanding Universal Value means cultural and / or natural significance which is so exceptional as to transcend national boundaries and to be of common importance for present and future generations of all humanity. As such, the permanent protection of this heritage is of the highest importance to the international community as a whole.</p> <p>(Paragraph 49, Operational Guidelines for Implementation of the World Heritage Convention, UNESCO, 2017)</p> <p>Nominations presented to the Committee shall demonstrate the full commitment of the State Party to preserve the heritage concerned, within its means. Such commitment shall take the form of appropriate policy, legal, scientific, technical, administrative and financial measures adopted and proposed to protect the property and its Outstanding Universal Value.</p> <p>(Paragraph 53, Operational Guidelines for Implementation of the</p>

	World Heritage Convention, UNESCO, 2017)
Pond barrows	<p>Pond barrows are a rare and poorly understood class of prehistoric monument, sometimes encountered in association with barrow cemeteries formed of more conventional monument types. They typically comprise a circular depression of c.5-30m diameter, enclosed by an embanked rim formed of upcast material. The enclosed central areas may contain pits and or shafts, some of which may be of substantial depth. Though evidence for funerary associations has been demonstrated amongst excavated examples, ceremonial functions are more commonly ascribed to them.</p> <p>(Historic England – National Heritage List for England)</p>
Project Control Framework	<p>A joint Department for Transport and Highways England approach to managing major projects. The Framework comprises a standard project lifecycle; standard project deliverables; project control processes and governance arrangements.</p>
Round barrows	<p>Round barrow cemeteries date to the Bronze Age (2000-700 BC). They comprise closely spaced groups of up to 30 round barrows - rubble or earthen mounds covering single or multiple burials. Most cemeteries developed over a considerable period of time, often many centuries, and in some cases acted as a focus for burials as late as the early medieval period. They exhibit considerable diversity of burial rite, plan and form, frequently including several different types of round barrow and occasionally associated with earlier long barrows. Where investigation beyond the round barrows has occurred, contemporary or later 'flat' burials between the barrow mounds have often been revealed. Round barrow cemeteries occur across most of lowland England with a marked concentration in Wessex. In some cases they are clustered around other important contemporary monuments, as is the case both here and at Avebury. Often occupying prominent positions, they are a major historic element in the modern landscape, while their diversity and their longevity as a monument type provide important information on the variety of beliefs and social organisation amongst early prehistoric communities.</p> <p>(Historic England – National Heritage List for England)</p>

<p>Saucer barrows</p>	<p>Saucer barrows are funerary monuments of the early Bronze Age. They occur either in isolation or, as in this case, in round barrow cemeteries. They were constructed as a circular area of level ground defined by a bank and internal ditch and largely occupied by a single low, squat mound covering one or more burials, usually in a pit. The burials, either inhumations or cremations, are sometimes accompanied by pottery vessels, tools and personal ornaments. Saucer barrows are one of the rarest recognised forms of round barrow, with about 60 examples nationally, most of which are in Wessex. At least ten examples are known from the Stonehenge area.</p> <p>(Historic England – National Heritage List for England).</p>
<p>Scheduled monument</p>	<p>[...] ‘Ancient monument’ means any scheduled monument and any other monument which in the opinion of the Secretary of State is of public interest by reason of the historic, architectural, traditional, artistic or archaeological interest attaching to it.</p> <p>(s61(12) Ancient Monuments and Archaeological Areas Act 1979)</p> <p>[...] ‘Scheduled monument’ means any monument which is for the time being included in the schedule [compiled and maintained by the Secretary of State for Culture, Media and Sport].</p> <p>(s1(11) Ancient Monuments and Archaeological Areas Act 1979)</p>
<p>Setting of a heritage asset</p>	<p>The surroundings in which a heritage asset is experienced. Its extent is not fixed and may change as the asset and its surroundings evolve. Elements of a setting may make a positive or negative contribution to the significance of an asset, may affect the ability to appreciate that significance or may be neutral.</p> <p>(Annex 2: Glossary, National Planning Policy Framework, Ministry of Housing, Communities and Local Government, 2012)</p> <p>The surroundings in which a place is experienced, its local context, embracing present and past relationships to the adjacent landscape.</p> <p>(p. 72, Conservation Principles, English Heritage, 2008)</p> <p>The setting of a heritage structure, site or area is defined as the immediate and extended environment that is part of, or contributes to, its significance and distinctive character. Beyond the physical</p>

	<p>and visual aspects, the setting includes interaction with the natural environment; past or present social or spiritual practices, customs, traditional knowledge, use or activities and other forms of intangible cultural heritage aspects that created and form the space as well as the current and dynamic cultural, social and economic context.</p> <p>(Xi'an Declaration on the Conservation of the Setting of Heritage Structures, Sites and Areas, ICOMOS, 2005)</p>
Significance (for heritage policy)	<p>The value of a heritage asset to this and future generations because of its heritage interest. That interest may be archaeological, architectural, artistic or historic. Significance derives not only from a heritage asset's physical presence, but also from its setting.</p> <p>(Annex 2: Glossary, National Planning Policy Framework, Ministry of Housing, Communities and Local Government, 2012)</p>
Statement of Outstanding Universal Value	<p>A Statement of Outstanding Universal Value is the official statement adopted by the World Heritage Committee at the time of inscription of a property on the World Heritage List. When the World Heritage Committee agrees to inscribe a property on the World Heritage List, it also agrees on a Statement of Outstanding Universal Value that encapsulates why the property is considered to be of Outstanding Universal Value, how it satisfies the relevant criteria, the conditions of integrity and (for cultural properties) authenticity, and how it meets the requirements for protection and management in order to sustain Outstanding Universal Value in the long-term [...] They should help to raise awareness regarding the value of the property, guide the assessment of its state of conservation and inform protection and management.</p> <p>(Annex 5, Section 3.3, Operational Guidelines for Implementation of the World Heritage Convention, UNESCO, 2017)</p>
United Nations Educational, Scientific and Cultural Organisation (UNESCO)	<p>UNESCO works to create the conditions for dialogue among civilizations, cultures and peoples, based upon respect for commonly shared values. It is through this dialogue that the world can achieve global visions of sustainable development encompassing observance of human rights, mutual respect and the alleviation of poverty, all of which are at the heart of UNESCO'S mission and activities.</p> <p>The Constitution of UNESCO (the United Nations Educational,</p>

	<p>Scientific and Cultural Organization) was signed in London on 16 November 1945 and came into force with the 20<sup>th</sup> ratification on 4 November 1946. The purposes of UNESCO as stated in the Constitution are: '[...] to contribute to peace and security by promoting collaboration among nations through education, science and culture in order to further universal respect for justice, for the rule of law and for the human rights and fundamental freedoms which are affirmed for the peoples of the world, without distinction of race, sex, language or religion, by the Charter of the United Nations'.</p>
UNESCO World Heritage Centre, Secretariat	<p>Article 14 of the World Heritage Convention notes that the World Heritage Committee 'shall be assisted by a Secretariat appointed by the Director-General' of UNESCO. Since 1992 the UNESCO World Heritage Centre, located at UNESCO Headquarters in Paris, has functioned as this Secretariat to the World Heritage Committee and its Bureau. The Secretariat is responsible for the daily administrative and technical management of the Convention. The World Heritage Centre prepares the documentation for the Committee and its Bureau and has the responsibility for the implementation of their decisions.</p>
Value; heritage value(s)	<p>An aspect of the worth or importance attached by people to qualities of places, categorised as aesthetic, evidential, communal or historical value. (Conservation Principles, English Heritage, 2008)</p>
World Heritage Committee	<p>The intergovernmental World Heritage Committee meets once a year, and consists of representatives from 21 of the States Parties to the Convention elected by their General Assembly in accordance with Article 8 (1) of the World Heritage Convention (UNESCO 1972).</p>
World Heritage Convention	<p>See Convention Concerning the Protection of the World Cultural and Natural Heritage (World Heritage Convention)</p>
World Heritage List	<p>Article 11 (2) of the 1972 UNESCO World Heritage Convention refers to the World Heritage List as: [...] a list of properties forming part of the cultural heritage and natural heritage, as defined in Articles 1 and 2 of this, as defined in Articles 1 and 2 of this</p>

	<p>Convention, which it considers as having outstanding universal value in terms of such criteria as it shall have established. An updated list shall be distributed at least every two years.</p>
<p>World Heritage Site</p>	<p>A site on a list of properties maintained by the World Heritage Committee of UNESCO and called the World Heritage List 'forming part of the cultural heritage and natural heritage...which it considers as having outstanding universal value in terms of such criteria as it shall have established'.</p> <p>(UNESCO World Heritage Convention 1972)</p> <p>Governments of countries that have ratified the Convention (States Parties) identify and nominate suitable sites to the World Heritage Committee for inscription on the list, which is maintained by UNESCO.</p>

## 15 Abbreviations

AESR	Archaeological Evaluation Strategy Report
ALVA	Association of Leading Visitor Attractions
AR	Augmented Reality
ASAHRG	Avebury and Stonehenge Archaeological and Historical Research Group
BOAT	Byways Open to All Traffic
CEMP	Construction Environmental Management Plan
CHAMP	Cultural Heritage Asset Management Plan
ComMA	Combined Modelling and Appraisal. A report which documents the transport modelling and economic assessment process for transport schemes.
CSR	Client Scheme Requirement
DCO	Development Consent Order
DCMS	Department for Culture Media and Sport
DfT	Department for Transport
DMRB	Design Manual for Roads and Bridges
EIA	Environmental Impact Assessment
ES	Environmental Statement
FAD	Further Archaeological Design
GIS	Geographical Information Systems
GPR	Ground penetrating radar
HIA	Heritage Impact Assessment
HMAG	A303 Heritage Management and Advisory Group
IAN	Interim Advice Note
ICOMOS	International Council on Monuments and Sites

LiDAR	Light Detection and Ranging
LOAEL	Lowest Observable Adverse Effect Level
NHLE	National Heritage List for England
NMP	National Mapping Programme
NMU	Non-Motorised Users
NNR	National Nature Reserve
NSIP	Nationally Significant Infrastructure Project
NT	National Trust
OASIS	Online AccesS to the Index of Archaeological InvestigationS
OBC	Outline Business Case
OEMP	Outline Environmental Management Plan
OSL	Optically Stimulated Luminescence
OUV	Outstanding Universal Value
OWSI	Overarching Written Scheme of Investigation
PEIR	Preliminary Environmental Information Report
PCF	Project Control Framework
PMA	Private Means of Access
PRA	Preferred Route Alignment
PRoW	Public Right of Way
RCHME	The Royal Commission on the Historical Monuments of England (merged with English Heritage in 1999)
rmse	root mean square error. rmse is a global indicator of the quality of the output Digital Terrain Model.
RSPB	Royal Society for the Protection of Birds
SAC	Special Area of Conservation
SOAEL	Significant Observed Adverse Effect Level

SOBC	Strategic Outline Business Case
SoCC	Statement of Community Consultation
SoOUV	Statement of Outstanding Universal Value
SP	State Party (to the 1972 World Heritage Convention)
SSSI	Site of Special Scientific Interest
SSWSI	Site Specific Written Scheme of Investigation
TAR	Technical Appraisal Report
TBM	Tunnel Boring Machine
TWAO	Transport and Works Act Order
UID	Unique identifier
UNESCO	United Nations Educational, Scientific and Cultural Organization
VEM	Visual Envelope Map
VFR	Visiting Friends and Relatives
WCAS	Wiltshire Council Archaeology Service
WCS	Wiltshire Core Strategy
WebTAG	Web-based Transport Analysis Guidance
WHS	World Heritage Site
WSHER	Wiltshire and Swindon Historic Environment Record
VVM	Visually Verifiable Montages
ZTV	Zone of Theoretical Visibility

## 16 Acknowledgements and authorship

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## 16.2 Authorship

- 16.2.1 This HIA has been undertaken by competent experts with relevant and appropriate experience. The technical lead for the cultural heritage assessment is Neil Macnab; his professional qualifications and experience are summarised in ES Appendix 1.1. This HIA has been authored by AmW (a joint venture between AECOM, mace and WSP) on behalf of Highways England, by Neil Macnab BA MCIfA, Heritage Lead A303 Amesbury to Berwick Down Scheme Technical Partner; Chris Moore BA MCIfA, Deputy Heritage Lead A303 Amesbury to Berwick Down Technical Partner; and Leonora O'Brien MA (Hons) MA MCIfA, AECOM Principal Cultural Heritage Consultant.
- 16.2.2 Baseline archaeological data and initial setting assessments were researched and compiled by Tom Wells BA, Heritage Consultant, Wessex Archaeology; Naomi Brennan BSc (Hons) ACIfA, Senior Heritage Consultant, Wessex Archaeology; and Abby Bryant BA MA MCIfA, Consultancy Director, Wessex Archaeology.
- 16.2.3 Evaluation fieldwork undertaken to inform the A303 Amesbury to Berwick Down Scheme has been undertaken by staff of Wessex Archaeology, with fieldwork directed by Andy Manning BSc MA PGCE MCIfA, Senior Project Manager, Wessex Archaeology and Dr Matt Leivers ACIfA, Senior Specialist Services Manager.
- 16.2.4 The HIA draws on elements of the cultural heritage chapter of the ES for

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- 16.2.5 Tourism impact assessment elements were prepared by Olga Kondaurova, AECOM Senior Consultant, Economics in coordination with Dr Ricardo Gomez, Regeneris Consulting.
- 16.2.6 GIS and report figures have been compiled by Gerwyn Macey BSc (Hons) MSc ACIAT, AECOM GIS Consultant; Selena Masnikosa BSc (Hons) MSc, AECOM GIS Consultant; Emma Clark BSc (Hons) MSc, AECOM GIS Graduate; Thomas L. Dhanji BSc MSc, AECOM GIS Graduate; Kenna Dallaway BSc (Hons) MSc, AECOM Deputy GIS Lead; and Cathy Coldrey BSc MSc, AECOM GIS Lead.

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