

By email to: A303Stonehenge@highwaysengland.co.uk

23rd April 2018

Dear Sir or Madam

Consultation Response: A303 Stonehenge Public Consultation (February – April 2018)

We are a team of archaeologists and specialists who carry out internationally recognised research within the Stonehenge World Heritage Site at the Mesolithic site at Blick Mead, just over 2km to the east of Stonehenge (“**Blick Mead**”). This consultation response has been submitted because, as a team, we are concerned that Highway England’s preferred route for the A303, announced in September 2017, will do serious and irreparable damage to the Stonehenge World Heritage Site – one of the wonders of the world and the best-known prehistoric landscape in Europe. The World Heritage Site is itself of truly unique historical and archaeological value.

We address each of the consultation questions in turn and in depth below. We note at this early stage four key points in respect of the proposed route.

1. **Damage to Blick Mead:** while we are concerned with the impact of the A303 proposals on the World Heritage Site generally, we are of course particularly concerned about the potential damage to Blick Mead itself. For the reasons outlined further below, Blick Mead is a truly unique archaeological site, which relies on an underlying water table to preserve the artefacts therein. Despite this, **there has been no assessment at Blick Mead of the impact** that an 800m flyover and 400m cutting to the Eastern Portal of the tunnel will have on its water table and thus on Blick Mead. Such an approach risks losing the stories the site has to tell of past lives for future generations forever.
2. **Destruction of archaeological sites more generally:** the World Heritage Site is a treasure trove of undiscovered archaeology. Blick Mead itself, for example, is a relatively recent discovery. This result suggests that there is almost no part of the World Heritage Site that can safely be re-developed. 3.
3. Highway England’s proposal will **increase the area of road surface at the western portal and to the west of it.** The new stretch of road will destroy important prehistoric features that formed Bronze Age field boundaries. There seems to have been a network of enclosure around Stonehenge, and the area around the monument was in this era apparently devoid of fields, creating a cordon sanitaire around the monument at this time. We can show a similar and fitting respect today by not having a tunnel portal and deep approach cuttings in

this area of the World Heritage Site. Both the Western Portal and approach road will be a visual blemish when seen from round barrows right along the flanks of Wilsford Down valley and including parts of the Lake and Winterbourne Stoke groups.

4. **Alternative options:** the result of all this is that the very idea of placing tunnel portals and new sections of road within the World Heritage Site is misconceived. It is for this reason that we strongly encourage Highways England to consider the long tunnel option, which would take the portals of the tunnel outside the World Heritage Site. While this may be the more expensive option, that increased cost must be viewed in light of the truly unique historic value of Stonehenge and its surroundings which, once lost, will be lost forever. If the long tunnel option is out of the question, Highways England has offered no proper explanation as to why the southern route round Stonehenge is not its preferred option. This route is not only cheaper, but also avoids the World Heritage Site altogether. It is unclear (and at this stage unexplained) the features of the landscape that would be disturbed by the southern route that are considered to be more valuable than Stonehenge itself. We would therefore welcome a proper explanation as to why the southern route is not Highways England's preferred option.

Who we are

As noted above, the team is comprised of archaeologists and specialists carrying out research in the World Heritage Site at Blick Mead. Blick Mead is a chalkland spring, which never freezes. Our team has discovered huge amounts of Mesolithic material from this site, which is preserved by its so-called 'water table'.

Led by the University of Buckingham, the team has been responsible for some of the most important discoveries in the World Heritage Site in recent times. These include the discovery of:

- the oldest dwelling and occupation area in the WHS, tightly dated by five radio carbon dates to c. 4000 BC;
- the earliest example of a recorded journey in Great Britain, dated to c. 5500 BC;
- the place the communities lived in who built the first monuments on the Stonehenge Knoll just after the Ice Age. This is something which has evaded detection by archaeologists for over two centuries; and
- the longest dated sequence for a settlement of Mesolithic date (the era before the time of Stonehenge) in Great Britain, spanning the 8th and 5th millennia BC, and a potential contact between the first farmers and last hunter gatherers in the Stonehenge landscape around 4000BC.

The discoveries at Blick Mead have the potential to transform our understanding of the pre-Stonehenge landscape and inform our understanding of the establishment of its later

ritual character. In 2018 it was awarded ‘Research Project of the Year’ by ‘*Current Archaeology*’ and our book about the site sold out in the first day.

This submission has been endorsed by every member of our team -

- Professor David Jacques (Professorial Research Fellow in Archaeology at the University of Buckingham)
- Dr Barry Bishop (Senior Research Fellow in Archaeology at the University of Buckingham)
- Professor Nick Branch (Head of the School of Archaeology, Geography & Environmental Science at the University of Reading)
- Professor Tony Brown (Professor of Physical Geography at Southampton University)
- Dr Sophy Charlton (Postdoctoral researcher in the Earth Sciences department of the Natural History Museum)
- Professor Vincent Gaffney (Anniversary Chair in Landscape Archaeology Bradford University)

- Dr Nick James (Director of Studies in Social Anthropology at Magdalene College, University of Cambridge)
- Professor David John (Scientific Associate in the Life Sciences Department of the Natural History Museum)
- Tom Lyons (Project Officer Blick Mead Project)
- Simon Parfitt (Principal Research Associate at University College London)
- Professor Peter Rowley-Conwy (Professor in the Department of Archaeology at Durham University)

Q1. Please provide us with any comments you may have on our proposals for the viaduct crossing of the River Till valley.

General

We raise two concerns in respect of the proposals for the viaduct crossing.

- The first concerns the risks that may arise from the very particular geology at Stonehenge (and specifically its “phosphatic chalk” geology).

- The second concerns the potential loss of archaeology that may well result from the proposed change.

We consider each below in turn.

Phosphatic chalks: We are concerned about the deposition of chalk spoil from the tunnel excavation over the area to the east of Parsonage Down nature reserve. Ground

investigations for the A303 tunnel revealed a unique and complex chalk geology, including the presence of the thickest so-called “phosphatic chalks” in England. This in turn means there is a risk of radon gas from radioactive minerals in the phosphatic chalks being released, as well as a risk of ground water contamination

The procedure and methodology involved in neutralising such chalk have not been made clear and we fear the seepage of contaminants into both the river Till itself and the groundwater and the underground layers of water-bearing permeable rocks (so-called “aquifer channels”), some of which feed into the River Avon Special Area of Conservation. The potential damage this may cause has to be seen in light of the fact that the River Avon is one of the UK’s most biodiverse chalk streams – hence why it was one of the first candidates in the UK for designation as a “Special Area of Conservation” in the first place. The seepage that is likely to cause any damage may be from the deposited chalk itself and or, additionally/alternatively, from whatever plant is involved in stabilising/neutralising this chalk spoil.

Lost archaeology: Additionally, we consider that there is potential for archaeology along the 90m contour in the Till Valley to be lost as a result of the creation of this new artificial "chalk downland" (an area of open chalk hills). As far as we are aware: (1) no timescales have been proposed for the investigation and excavation of these sites before huge quantities of chalk is dumped upon them; (2) no contingency plans have been made for the storage of the chalk spoil should any investigation uncover anything of archaeological significance.

The proposed new chalk grassland project does not detail how the microbiology and macroscopic biodiversity of the existing grassland will be preserved and migrated to the new ground surface from the vast area that will be buried. We are unsure whether any such project has ever been successfully carried out before.

Q2. Please provide us with any comments you may have on our proposals for the A303/A360 Longbarrow junction.

General

To date, there has been no full archaeological assessment of the relevant area. It is not understood how Highways England can have chosen a preferred route without carrying out such an assessment. In the absence of such an assessment, it is impossible to know the extent of any archaeology in the area that may be lost forever once construction begins.

Not only are the current plans not based on any proper assessment of the potential archaeology in this area, but the detailed design even fails to take account of the archaeology which is already known to us. The value and importance of the archaeology at this particular site is discussed further below, at question 11. To give an indication of that value, however, we note that:

- Bronze Age settlement occurred around the junction, and damage of any kind to the surface will require comprehensive excavation.

- The archaeology here in fact pre-dates Stonehenge. A significant Early Neolithic focal point pre-dates Stonehenge and the area then continues in importance through the Early and Middle Bronze Age (that is, also post-dating Stonehenge). The archaeology here is subtle and fragile and at present little understood.

Q3. Do you have any other comments about our proposals for the western section of the scheme (Winterbourne Stoke bypass to Longbarrow junction)?

General

We are concerned about the lighting proposals for the new junction which may be more intrusive than the existing "at grade" junction. It is unclear what will happen to the tarmac surface along the line of the existing A303 once the project is completed, nor is it clear how and where traffic will queue if this junction becomes congested, especially traffic within the tunnel itself.

Q4: Please provide us with any comments you may have on our proposals for the green bridge (No.4) at or near the western boundary of the World Heritage Site.

See above.

Q5: Please provide us with any comments you may have on our proposals for the cutting on the western approach to the tunnel.

The approach cutting to a western portal - 700m wide and 10m deep, tapering to the tunnel entrance, itself around 75m wide - will inflict a vast gash on the landscape. With the western portal here too, this new gash is not in a peripheral or archaeology-free zone, but in one which is as genuinely unique as Stonehenge itself (as discussed further at question 11 below).

Q6. Please provide us with any comments you may have on our proposals for the western entrance to the tunnel

The western entrance to the tunnel is likely to have a significant impact on part of the World Heritage Site which, like Stonehenge, is irreplaceable and of unique value. This particular part of the site is discussed further at question 11 below.

Q7. Do you have any other comments about our proposals for the central section of the scheme within the World Heritage Site?

A detailed study on changes to local hydrology and drainage flow to inform the detailed design stage to ensure that there is no impact on water-logged deposits alongside the River Avon is required. There are sensitive peat deposits in the valley of the River Avon as well as nationally significant sites, including Blick Mead.

Q8: Please provide us with any comments you may have on our proposals for the A303 flyover at Countess Roundabout

There is not adequate information on the survival of archaeological deposits along the flyover area which runs east of the proposed portal as far as the Countess junction. Insufficient information is known about the flanks of the Avon valley either at this point. The result is that there is a real risk that the proposed flyover will result in the loss of unique archaeology, which will be gone for generations to come.

We are of course particularly interested in the potential impact of the proposals on Blick Mead. For the reasons outlined below, the weight of the proposed flyover may have an unforeseen impact on the 'water table' which preserves the unique archaeology at Blick Mead, and thus risks endangering one of the most promising excavation sites within the World Heritage Site.

Taking each proposition in turn:

Blick Mead is of truly unique archaeological value. Situated on the eastern edge of the UNESCO World Heritage Site, Blick Mead is adjacent to the A303 to the south and arguably lies to the north of it close to Countess Farm (see below). It will thus be adjacent to the proposed flyover. This area is one which has started to yield extraordinary findings, including the following.

- The site has uncovered records of both early post Ice Age human society in the UK and a place of 'contact' between the last hunter gatherers in England and the first farmers to arrive in this part of Salisbury Plain from the continent.
- Recent excavations have revealed substantial Mesolithic deposits that provide evidence for the people who built the first monuments on the Stonehenge knoll in the 8th and 7th millennia BC and for Mesolithic people continuing to live there around 4000BC. Before Blick Mead there were no dates for people living in the Stonehenge landscape over that 4000 year period at all. No other Mesolithic site in Great Britain or North Western Europe has provided evidence for people coming back to the same place for over four millennia.
- Blick Mead has also returned Neolithic dates from some of the upper layers from the Mesolithic occupation site which date to the time of the building the Greater Cursus, and a key artefact which suggests ritual activity was taking place there at the time of the building of Stonehenge. It has been argued by Professor Mike Parker-Pearson to be understood as a "point of origin" in the landscape at that time. The unusually long-term use of the area by Mesolithic hunters may well explain why the Stonehenge area became a pivotal focus for the Neolithic people who built Stonehenge just over the ridge from Blick Mead.

Being a Mesolithic and early Neolithic ‘contact’ site around 4000 BC makes Blick Mead even more exceptional and precious, as it potentially provides the missing link between the Britons who returned to the area just after the last Ice Age through to the first farmers coming to the British Isles in the late 5th millennium BC. Through its unique chain of twenty radiocarbon dates, Blick Mead has the potential to illuminate the transition from a hunter-gatherer society to one which utilised animal husbandry and farming. This is an archaeological archive without parallel nationally.

The archaeology at Blick Mead may be lost forever if the ‘water table’ in which it is preserved is not maintained. This water table is an important reason why the archaeology at Blick Mead is so well preserved and consequently so valuable. This is because the water table keeps organic matter in a deoxygenated state preventing decay.

The changes to local drainage caused by the proposed flyover may alter the water table at Blick Mead irreparably. In particular, we are deeply concerned that the huge amount of additional weight that is placed on the road as a result of the flyover, as well as the changes in slope gradient, will cause changes to drainage flow and speed. Both need to be measured locally as they are crucial for the maintenance for the water table. We note in this respect that the flyover, on current plans, is going to be at least 8m high, 45m wide, and 800m long (extending from the roundabout to the Eastern Portal). To make matters worse, a massive and deep cutting by the Eastern Portal to the tunnel is planned to be situated about 500m west of Blick Mead. At 400m long, 75m wide at the entrance of the Eastern Portal, and 10m deep, it is likely to add to the changes to the local drainage and cause compaction.

Astonishingly, no assessment of the local water table has occurred at Blick Mead during either consultation period. In those circumstances, it is not understood how a leading Highways England representative, Mr Derek Parody, can safely or confidently assert (as he did on BBC Radio 4 ‘Today’ programme on 8/2/18) that there will be "no impact on Blick Mead". Such emphatic statements require prior assessment of local conditions and evidence.

The example of another Mesolithic site, “Star Carr”, is a cautionary tale. Star Carr is a nationally important Mesolithic site in North Yorkshire. It was irreparably and badly damaged by infrastructure approved by English Heritage in 2000. The development there caused the local water table to drop leading to irretrievable archaeological loss (see further [Lessons from Star Carr on the vulnerability of organic archaeological remains to environmental change](#)). To prevent a repeat of this occurring at Blick Mead any possible effect on the local water table must be evaluated before the impact of the flyover (and thus the preferred route) can be properly assessed.

It is incumbent upon our generation to protect our ancient environment for future generations so that it may be better understood. Blick Mead is starting to tell us the story of the earliest phases of civilisation in Britain and the Stonehenge landscape after the Ice Age through to the advent of farming. We can expect that the fast-evolving techniques of field archaeology will lead to major revelations here, *if* Blick Mead is not destroyed. If we damage it, that story will never be told. We can only

hope to avoid this if we properly assess the impact of the proposed flyover on the water table at Blick Mead.

The proposed flyover will also badly damage the visual setting of Amesbury Abbey, the prehistoric hill-fort of Vespasian's Camp and affect its archaeological deposits in the area of the hill-fort that is adjacent to the A303. The hill-fort and a substantial portion of Amesbury Abbey face north, so any works on the southern flank of the A303 will impinge on them.

Q9: Do you have any other comments about our proposals for the eastern section of the scheme (Countess junction to just beyond the Solstice Park junction).

This infrastructure is highly likely to create drainage changes, both in flow and speed, which will affect the local water table. It will also cause further compaction. Insufficient assessment of the local water table here compounds the problem as there is no idea of impacts.

Q10: Do you have any comments on the preliminary environmental information provided for the scheme?

The opening up of the landscape to the south of the current A303 as a result of the short tunnel scheme is likely to lead to disturbance of the RSPB reserve and to the Normanton Down barrow cemetery and other monuments. Again, there has been insufficient assessment of the need for land management in order to protect these sensitive areas.

As noted above, it is likely that there will be a need to neutralise radioactive materials in the phosphatic chalk in the landscape, to prevent the release of radon gas. There is insufficient information about the procedure and methodology involved in doing so. We fear the seepage of contaminants into the Till, Avon and the groundwater and aquifer channels. This seepage may be from the deposited chalk itself and also from whatever plant is involved in stabilising/neutralising this chalk spoil. The River Avon is a designated Special Area of Conservation.

The proposed new chalk grassland project near Parsonage Down does not detail how the microbiology and macroscopic biodiversity of the existing grassland will be preserved and migrated to the new ground surface from the vast area that will be buried.

Q11: Do you have any other comments you would like to make about the scheme?

General

Highways England is proposing to build a major new road through one of the most important historical sites, not only in England or Europe, but in the world. The value of the World Heritage Site comes not only from the Stonehenge itself – which must of course be preserved and protected at any cost – but also from the surrounding World Heritage Site defined area which is itself of truly unique historical value.

Value of the World Heritage Site at the Western Portal

Highway England's proposal will increase the area of road surface within the World Heritage Site at the western portal and to the west of it. This part of the World Heritage Site is itself of real historical value for the reasons outlined below.

- The new stretch of road will destroy important prehistoric features that formed Bronze Age field boundaries. One is probably part of a still little-understood 'palisade' ditch complex, dating to the Early Bronze Age. There seems to have been a network of enclosure around Stonehenge, and the area around the monument was in this era apparently devoid of fields, creating a cordon sanitaire around the monument. We can show a similar and fitting respect today by not having a tunnel portal and deep approach cuttings in this area of the World Heritage Site.
- The entrance to this palisade ditch complex, where parallel ditches form a trackway leading in the direction of Stonehenge, is close to the projected line of the new road. Either side of the trackway are Bronze Age field systems, each a separate entity that may focus on a settlement nearby. All these features are integral to understanding later stages of the construction and subsequent use of Stonehenge. Research excavations in 2008 of an area of Bronze Age field systems north of the proposed road line revealed evidence for Mesolithic, Neolithic and Early Bronze Age activity before the fields were formed, and this is also likely to be the case among these prehistoric field remains that will be destroyed by the proposed tunnel.
- This south-western approach to Stonehenge was important not only during the Bronze Age, after the stones of Stonehenge were put up, but earlier in the Neolithic period, before the age of Stonehenge. Important visual components of these are three famous barrow cemeteries, specifically the huge Neolithic long barrows at Winterbourne Stoke and Lake. Together standing sentinel over the southwestern approach to Stonehenge, they would have been significant to those occupying the intervening valley. Their prominence a full two millennia after construction, a length of time equivalent to a Roman construction being still of compelling significance to ourselves in the 21st century, is evident from the construction of a Late Bronze Age linear ditch that runs between them.
- There are other, important examples of these singular and archaic long barrows: extant to the north of the woodland known as The Diamond and another is the well-preserved long barrow on the southern flank of Normanton Down, with a 'mortuary enclosure' alongside. Additionally, there is another at Normanton

Gorse, and we understand that recent evaluation has encountered another (Wessex Archaeology, 2017). So there are as many as seven of these Early Neolithic long barrows across that part of the valley where the western portal would be placed.

- Such a grouping of long barrows in a small area is unique in the world, not just unusual. It shows that this area was of out-of-the-ordinary significance during the Early Neolithic period. We can expect that evolving techniques of field archaeology will also lead to major revelations here, if the monuments and their precious setting are not wrecked.

Part of the point of a tunnel or new route is to re-unite the northern and southern parts of the WHS. But the archaeology is just as important in the western area as it is around Stonehenge to the east. It is desirable to re-unite this part of the landscape so that one could walk between the Winterbourne Stoke and Lake barrow groups, but the present proposal would only move the road a little. The road would remain within the World Heritage Site, and leave a far larger blot on the landscape than exists at present. Both the Western Portal and approach road will be a visual blemish when seen from round barrows right along the flanks of Wilsford Down valley and including parts of the Lake and Winterbourne Stoke groups.

Alternative Proposals

We are of the view that Highways England has erred in its decision in respect of its preferred route. This is because it has discounted at least two alternatives which would be of considerably less damage to the World Heritage Site **because they avoid it in its entirety.**

First, Highways England has discounted the F010 (Southern) route. The reasons given for rejecting this route in the public consultation concerned the effects on the broader environment. This route, however, would avoid the World Heritage Site in its entirety. Given the incomparable value of the Stonehenge WHS, we are of the view that Highways England would require clear and cogent reasons to discount an option which would avoid any damage to that area – and would have had to balance these with any competing reasons for discounting the Southern route. Highways England is required to conduct a proper enquiry into all available options. It is also required to make a rational decision, taking into account all relevant considerations (and discounting those that are irrelevant). We call on Highways England to explain its decision to discount the Southern Route, clearly and properly, and to explain how it balanced this decision against the decision to adopt a route that will inevitably damage the Stonehenge landscape.

Second, Highways England has discounted the long tunnel route. The long tunnel would have had its entrances outside the World Heritage Site, thus avoiding much of the damage outlined above.

Third, there is a further option for diverting the A303 around the WHS which would achieve the aims of Highways England, but which does not appear to have been explored at all by them. Andy Rhind Tutt, President of the Salisbury Chamber of Commerce and former Mayor of Amesbury, has proposed that the route of the A303 could readily be diverted south of its current route from Andover, going to the south of Salisbury before rejoining the current route of the A303 further to the south west, with a road leading north to the Stonehenge Visitor Centre. He is making his own detailed submission to the public consultation, but the net effect of his scheme would be to preserve the WHS, improve traffic flow to the south west and that it would provide a much needed bypass for Salisbury, which has traffic congestion problems far exceeding those on the A303. The cost of this scheme is estimated at half of the proposed spend on the short tunnel option.

We understand that the long tunnel option is likely to cost more than the currently preferred route. We implore Highways England to see those costs in their full context and balance them against the costs of rejecting the long tunnel option, namely the potential destruction of key areas of a World Heritage Site. That potential damage can be succinctly summarised as follows.

- i) The creation of a flyover between Countess Roundabout and the cutting to the Eastern Portal will affect water flows and the water table and damage the archaeology at Blick Mead, the World Heritage Site's earliest occupation site.
- ii) The creation of the tunnel will create a barrier to ground water flow, potentially destroying organic remains across the tunnel area and beyond.
- iii) The creation of tunnel will make for negative visual impacts for the sites to the east and west of the tunnel.
- iv) Recent excavations in the WHS prove that much archaeological evidence for prehistoric occupation in the area survives only in the plough-soil, and that evidence survives as features cut into the chalk, pits, post-holes, stake-holes and tree-holes, which is mostly ephemeral. The creation of the tunnel will destroy hard-to-recognise evidence, especially in the portal areas, the places where there are cuttings and along the stretches where there the road is to be widened.
- v) Planning at Stonehenge must always be cautious and propose minimal intervention. Very simply, there is **no area in the World Heritage Site where it is possible to say that it is a safe place to place a tunnel portal or major new surface road as there is no area which we can say with any degree of certainty is not or will not be of unparalleled historical value.** We make the following observations in particular.

First, new technologies mean that we are discovering new things at Stonehenge and in its surrounding landscape all the time. New technologies have greatly enhanced archaeologist's ability to detect traces in the landscape. Our knowledge of the Stonehenge landscape has been radically changed in the last 20 years as a result with many new and astonishing finds which have been catalogued in many recent books. The extraordinary and unique Blick Mead site (above) is a new find, and so are astonishing new aspects of the Durrington Walls, a long-known site within the WHS that continues to yield new

information about the Neolithic people of Stonehenge. Both places have benefitted from the 'Stonehenge Hidden Landscape's Project' applying the latest technology to reveal new sites of interest. New discoveries will continue to be made so it is dangerous to plan on the basis that what we know now of the ancient landscape is all that exists in the ancient landscape.

Second, while planning law and procedure is ill-equipped to account for the peculiar value of Stonehenge and its World Heritage Site, this should engender **increased** caution. Stonehenge is well over 4,000 years old, but other monuments in the WHS landscape are yet older still, by many more centuries. The earliest dates from Blick Mead are more than twice as old as the stones at Stonehenge. Where planning normally deals with the short term, of decades extending perhaps into a century or so going forward, and often must notice the medium-term surviving traces such as 18th- or 19th-century or even medieval buildings, planning decisions that may affect the Stonehenge landscape must grapple with a very long term of several thousands of years. It follows that planning at Stonehenge must always be cautious and propose minimal intervention with the landscape as it is found.

There is an additional reason why any option which avoids the World Heritage Site altogether must be preferable to the short tunnel option. Increasingly we have come to understand that Stonehenge is not only the stones, or the earthworks near them, but a whole landscape extending to the horizon in all directions. This fact was recognized when the WHS was defined as an area extending several kilometres from Stonehenge in each direction by the Thatcher government in 1984 in accordance to articles 3 and 4 of the World Heritage Convention of 1972.

It is for this reason that the integrity of the World Heritage Site was respected when new visitor provision was designed in the 2000s. Sites for a visitor centre were not sought within the World Heritage Site: the visitor centre had to be outside it, and was so built. In addition, new access paths and roads to and from Stonehenge did not cross the World Heritage Site and interfere with its archaeology: so a scheme was devised which uses the former A344 line for access, a choice which has meant nil new impact within the World Heritage Site.

The proposal for the short tunnel scheme is an appallingly retrograde step. Instead of respecting the World Heritage Site as defining the area to be protected, as **outlined in articles 3 and 4 of the 1972 World Heritage Convention**, it recognizes only the land which is visible from the stones themselves. It seeks to protect archaeological remains along most, but not all (see Blick Mead) of the 2.9 km across the World Heritage Site which lies above the line of the tunnel, but destroys everything within (and, in places, beside, as at Blick Mead) the road's footprint along a length of over 2 km of the World Heritage Site. It also inflicts within the World Heritage Site two enormous and deep approach cuttings to the tunnel portals.

In those circumstances, where there are options that avoid any damage to the World Heritage Site, these must be the preferred route. They are the only way we can guarantee

the ongoing legacy of Stonehenge and its surrounding World Heritage Site. ***In summary, the whole short tunnel option is misconceived. The options avoiding the WHS must be preferred. Our preferences are therefore for Andy Rhind Tutt's plan to be fully explored and for the long tunnel route.***

Excavation standards required for the short tunnel option

If Highways England proceeds with its current preferred route, any proposed works on the line of the A303 will require considerable and costly archaeological excavations. These must be carried out to the standards maintained by recent research projects within the World Heritage Site.

- The Stonehenge Environs Project of the 1980s and the Stonehenge Riverside Project of 2004–2009 proved that much archaeological evidence for prehistoric activity around Stonehenge survives only in the plough-soil. And evidence which survives as truncated, features cut into the chalk, pits, post-holes, stake-holes and tree-holes, is mostly ephemeral, so it is not always detected by standard excavation strategies that concentrate on machine-stripping to bedrock and only cursory surface cleaning of the bedrock's surface.
- Such hard-to-recognise evidence may be unwittingly destroyed without record. So the mitigation work must include arrangements for sampling and screening/sieving a suitable proportion (2%–4%) of the plough-soil prior to machine-stripping, and hand-trowelling of all machine-stripped trench surfaces to ensure recovery of all archaeological features regardless of size or visibility.

This work is expensive in labour and time, especially since the proposed scheme would require the largest archaeological excavation ever undertaken within the World Heritage Site. Without shared standards within the WHS, there will be no possibility of drawing comparisons between different 21st-century excavations to evaluate and understand the character, date and extent of the more ephemeral traces of prehistoric activity around Stonehenge.

The UK has an international reputation for the quality of its heritage protection and enhancement; that reputation can only be maintained if the length of the proposed tunnel is longer, starting and finishing outside of the WHS, or option F10 is taken.