From:	Neil Redfern
To:	TRANSPORTINFRASTRUCTURE@dft.gov.uk; A303 Stonehenge
Subject:	Highways England's Application for a DCO for the A303 between Amesbury and Berwick Down.
Date:	13 August 2020 17:34:16
Attachments:	CBA Request for clarification and comments on Sec of St questions and published responses 27 May 2020.pdf CBA Submission on Gaffney et al "Massive Pit Structure" - covering letter 13 Aug 2020.pdf CBA Submission on Gaffney et al "Massive Pit Structure" 13.08.2020.pdf

Planning Act 2008 and The Infrastructure Planning (Examination Procedure) Rules 2010
Highways England's Application for a Development Consent Order for the A303 between Amesbury and Berwick Down.

For the Attention of Secretary of State for Transport,

Please see the attached letter that follows from the Planning Inspectorate notifying us 16th July of Secretary of State's Request for Comments on the Hidden Landscapes Project Report and Representations Relating to it at the World Heritage Site and its Implications for the above Application

The Council for British Archaeology acknowledges your letter and is pleased to note that you have *"…decided it would be appropriate to consult on the archaeological discovery and the representations received before determining the Application…"* and that in doing so you have asked the CBA for our views. Please see attached our covering letter dated 13th August, our detailed submission on the recently published research by Gaffney et al and our previous letter dated 27th May 2020 which contains additional concerns that are relevant to this submission and request.

Please do contact me if you require any further information.

Regards

Neil I Redfern
Executive Director | Council For British Archaeology | 92 Micklegate | York | YO1 6JX
Email: neilredfern@archaeologyuk.org
Mobile: [redacted]
www.archaeologyuk.org

Council for British Archaeology

The Rt. Hon. Grant Shapps, MP, Secretary of State for Transport,
c/o Ms Susan Anderson, Head of Transport Infrastructure Planning Unit,
Great Minster House,
33 Horseferry Road,
London
SW1P 4DR.

13th August 2020

By email to DfT TRANSPORTINFRASTRUCTURE@dft.gov.uk and PINS A303Stonehenge@planninginspectorate.gov.uk

Dear Secretary of State,

Highways England's Application for a DCO for the A303 between Amesbury and Berwick Down.

Secretary of State's Request for Comments on the Hidden Landscapes Project Report and Representations Relating to it at the World Heritage Site and its Implications for the Application

The Council for British Archaeology acknowledges your letter of 16th July 2020, is pleased to note that you have *"…decided it would be appropriate to consult on the archaeological discovery and the representations received before determining the Application…"* and that in doing so you have asked the CBA for our views. We note the representations made by the Consortium of Archaeologists, Blickmead Project Team and Stonehenge Alliance. We have carefully examined the paper by Gaffney et al in *Internet Archaeology* volume 55 and the key reports of other investigations and sources on which it relies, including the circumstances surrounding how these discoveries were made and investigated. When viewed in this detail, the implications for the A303 range far wider than the headline discovery that has triggered much public interest.

Many of the implications arise from the circumstances of the work Gaffney et al have reviewed and reported, concerning issues of methodology, baseline studies, assessments of impact, and uncertainties and limitations that cumulatively reinforce our concerns about significant shortcomings both in technical detail and general approach and policy considerations in the Applicant's case.

As evidenced in the full analysis attached, we have the following comments and recommendations:

ISSUE 1: THE MATTERS RAISED IN THE HIDDEN LANDSCAPES PROJECT REPORT AND REPRESENTATIONS RELATING TO THE ARCHAEOLOGICAL FIND AT THE WORLD HERITAGE SITE…

1a The Stonehenge Hidden Landscapes Project discoveries:

The Stonehenge Hidden Landscapes Project (SHLP): **RECOMMENDATION:** The Secretary of State should note that the paper cited in representations made is by an international team of leading experts in their fields using multiple, state-of-the-art techniques, and is published in a well-respected, fully peer-reviewed international archaeological journal. He should also be fully aware that the *Internet Archaeology* paper does not report the whole scope of SHLP work and that the implications of the circumstances of discovery are much wider than the proposed 'Massive Pit Structure' round Durrington Walls, or even the other comparable features identified.

Council for British Archaeology
92 Micklegate, York
YO1 6JX
Tel: 01904 671417

***The "massive late Neolithic pit structure associated with Durrington Walls Henge" reported in Internet Archaeology vol 55*: RECOMMENDATION:** The Secretary of State should be aware of the major implications of the proposed major landscape-scale monument identified by the Internet Archaeology paper as part of the OUV of the WHS and in particular the inter-relationships between monuments and the natural topography of the area. He should also be aware of the full circumstances of the identification, that c.75% of the features making up the 'new discovery' have already been identified but interpreted in different ways; that they straddle the boundary of the WHS; and that most of the northern arc was recently built over after the discovery of the features. Unfortunately, these features were incompletely investigated, and with hindsight not recognised for their potential as part of a major landscape-scale monument. As a result, much of the circuit is now unavailable for further investigation.

***Other large solution hollows, pits etc noted in Internet Archaeology vol 55* - RECOMMENDATION:** The Secretary of State should be aware of the similar features identified by the *Internet Archaeology* paper within or close to the DCO landtake that would be impinged upon by the development and may not have been recognised for what they are, but also the myriad of geophysical anomalies of smaller scale, many recorded as 'possible archaeology', others dismissed as natural geology or tree-throw holes that may include comparable misunderstandings. Much wider implications arise from how Gaffney et al have challenged previous assumptions, including widely contrasting interpretations, that previously inhibited the new hypothesis. Such assumptions have become baked into methodologies of survey, evaluation and investigation, hindering reliable evidence of the nature and significance of such features.

1b The "Representations Relating to the Archaeological Find at the World Heritage Site" - RECOMMENDATION: The Secretary of State should recognise that these representations raise valid concerns that we share and – as already indicated by this consultation process – should take them seriously and give due weight to the arguments advanced.

ISSUE 2 IMPLICATIONS OF THE ARCHAEOLOGICAL FIND FOR THE DEVELOPMENT AND ANY HARM IT MAY CAUSE TO THE WORLD HERITAGE; AND….

2a Implications of the 'massive pit structure associated with Durrington Walls henge' for the A303 development: RECOMMENDATION: The Secretary of State may reasonably conclude that the 'Massive Pit Structure' proposed by Gaffney et al, would not be physically damaged by the scheme. Equally, he should conclude that its setting is an issue which, for such a major landscape-scale monument, he should not interpret too narrowly. The issue needs to be considered in the context of the OUV issues of the spatial, chronological and cultural relationships between monuments and with the natural topography and features of the landscape (including the River Avon). Of particular relevance is the currently underestimated cumulative harm the proposed scheme would have by exacerbating the damage already caused by the existing 1960s road to other landscape-scale monuments in the vicinity of the eastern approach to the tunnel and its portal.

2b Implications of the other 5m+ features identified by the *Internet Archaeology* paper for the A303 development: RECOMMENDATION: Beyond the 'Massive Pit Structure' proposed by Gaffney et al, the Secretary of State should be careful not to limit any review to just the 5m+ diameter features that they have plotted. The assumptions and interpretations they challenge in reinterpreting those features may

also apply to many others not limited to those of notably large dimensions, and that a more thorough review and in particular far stronger acknowledgement of uncertainties is called for.

2c Wider generic implications raised for the A303 scheme: RECOMMENDATION: In considering the wider implications of issues contained within the *Internet Archaeology* paper, the Secretary of State should review how they reinforce, at a generic level many concerns about the reliability of baseline identification of archaeological remains and potential and also concerns about basic flaws in the approach to defining and assessing issues of setting, as highlighted in evidence by the CBA and others.

ISSUE 3: IMPLICATIONS FOR THE APPLICANT'S ENVIRONMENTAL STATEMENT, INCLUDING THE HERITAGE IMPACT ASSESSMENT, AND THE PROPOSED DETAILED ARCHAEOLOGICAL MITIGATION STRATEGY."

3a ES Baseline conditions – RECOMMENDATION: The Secretary of State should require the ES and HIA baseline studies to be reviewed and overhauled, not only in the light of the Gaffney et al paper but also its implications in reinforcing legitimate concerns about both generic and specific shortcomings that we and others made to the Examination. This must include presenting the actual geophysical survey results for ALL the areas affected by the scheme that were not made available to the Examining Authority, both within the WHS (including the tunnel section) and missing areas outside it (such as Countess East).

3b ES assessment of harm: RECOMMENDATION: The Secretary of State should require that once the baseline studies have been reviewed and overhauled, the same should be done for the ES and HIA assessments of effects, not only in the light of any revisions to the baseline, but also with regard to all the other criticisms of generic and specific shortcomings that we and others made to the Examination that are reinforced by the wider implications of the *Internet Archaeology* paper. This needs to include a far more honest and transparent reporting of uncertainties and limitations.

3c Mitigation and DAMS - RECOMMENDATION: The Secretary of State should require that the DAMS should be further reviewed and overhauled in the light of the Gaffney et al paper – especially in relation to how the surveys, evaluations and excavations in advance of development at Larkhill East and Durrington did not fully investigate or record features that with hindsight may well be seen as having been mis-interpreted, and not sufficiently investigated. The Secretary of State should recognise that the assumptions that led to those features not being more fully investigated still permeates the approach to mitigation and specific actions set out in DAMS. It needs to be thoroughly reconsidered to apply a far more precautionary approach less geared to recovering a representative sample of evidence reinforcing existing assumptions, and more focussed on going beyond this to ensure full recovery of sparse, rare or unique evidence that contributes to current and future understanding of the OUV of the WHS and its surroundings.

3d Residual effects and risks, and policy context - RECOMMENDATION: The Secretary of State should recognise the far-reaching implications of the identification of a major new monument as proposed by Gaffney et al, and in particular the salutary lessons it poses concerning how development can destroy, or render inaccessible for re-investigation, archaeological remains of great importance whose significance may only emerge when new questions are asked or new techniques applied. Given the policy context and outstanding shortcomings of the DAMS he should give serious weight to concerns not only that the overall heritage balance has been misjudged, but that the approach to mitigation through DAMS remains flawed and insufficient to be a properly precautionary approach.

ISSUE 4 OTHER MATTERS RAISED IN THE …. REPRESENTATIONS RELATING TO THE ARCHAEOLOGICAL FIND AT THE WORLD HERITAGE SITE…

RECOMMENDATION: The Secretary of State should note the representations that put these discoveries into the context of much wider considerations affecting the general policy balance, including the absence of any SEA of the RIS2 Route Strategy development programmes. He should consider the implications of the discoveries reported by Gaffney et al and the circumstances of their recognition and their far-reaching wider implications about the substantial archaeological risks and uncertainties inherent in the likely effects of the scheme. These need to be set within the overall balance of harm over benefit to the WHS, the exceptional cost of the scheme, whether other better less costly solutions may be available and how this relates to wider considerations of how best to enhance, not harm protected landscapes.

Conclusion

We have examined the *Internet Archaeology* paper by Gaffney et al and the surveys and archaeological excavations that it cites in some detail. We recognise, as the authors do, that much more work is required to test their hypothesis, but as befits a paper in a peer-reviewed journal, it needs to be taken seriously. Importantly, the circumstances underlying the 'discovery' have far-reaching implications for the A303 scheme. These are complex, but re-emphasise innumerable flaws and problems already identified.

We commend the recommendations set out above for your consideration. Because of the far-reaching implications and the various threads of evidence that they follow, we believe that the Examining Authority should be asked to review the implications and provide further advice. As we did in our evidence to the Examination and our letter of 27th May, **we urge** you to take a precautionary approach towards preserving Britain's internationally important archaeology for future generations.

Yours sincerely

[redacted]

Neil I Redfern
Executive Director
Email: neilredfern@archaeologyuk.org
Tel: [redacted]

THE MATTERS RAISED IN THE HIDDEN LANDSCAPES PROJECT REPORT AND REPRESENTATIONS RELATING TO THE ARCHAEOLOGICAL FIND AT THE WORLD HERITAGE SITE AND ITS IMPLICATIONS FOR THE A303 AMESBURY TO BERWICK DOWN DCO APPLICATION (TR10025).

Representations of the Council for British Archaeology

1. The Council for British Archaeology acknowledges the Secretary of State's letter of 16th July 2020, and is pleased to note that he *"…has decided it would be appropriate to consult on the archaeological discovery and the representations received before determining the Application…"* and that in doing so he has asked the CBA for its views.

INTRODUCTION

2. We appreciate the Secretary of State's request that the CBA is amongst other bodies that are being consulted to:

   "provide any comments they have on

   a) The matters raised in the Hidden Landscapes Project report and representations relating to the archaeological find at the World Heritage Site…

   b) Implications of the archaeological find for the Development and any harm it may cause to the World Heritage; and

   c) Implications for the Applicant's Environmental Statement, including the Heritage Impact Assessment, and the proposed Detailed Archaeological Mitigation Strategy."

   And we note that any

   d) "reliance on information contain[ed] in previous representations made either during or since the examination should also include the relevant document reference number(s)."

3. In our references to information contained in documents and representations submitted to the Examination we have used to document reference numbers in the Examination Library[1] but have incorporated live links to the actual documents so as to provide direct access to the electronic archive on the PINS website. For other documents in the PINS website we have provided direct links. Several matters raised in this response overlap with our submission of May 27th commenting on the Secretary of State's previous questions, which was accepted as a late submission but not published. There are matters raised in this response that overlap with that representation and we include it as an appendix to this response.

4. We have provided a separate set of illustrations to help provide clarity in support of the text.

5. We note that the representations made by the Consortium of Archaeologists, Blickmead Project Team and Stonehenge Alliance were made as late submissions to follow up the Secretary of State's request for advice on 4th May, which amongst other matters asked for an assessment of what difference in harm to the WHS various modifications of the DCO would make. The CBA responded in detail on May 27th concluding that the proposed revisions were procedurally useful

[1] https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR010025/TR010025-000484-Stonehenge%20-%20Examination%20Library%20Template.pdf

in tidying up the DAMS, but would make little difference in relation to harm to the WHS, leaving many serious problems unaddressed – which again arise in this context.

6. The recently announced major discoveries straddling the boundary of the Stonehenge World Heritage Site and its setting, and the representations already made about this and its wider implications, illustrate and reinforce many of the CBA's concerns. We have structured these comments to follow the Secretary of State's request for comments, and included recommendations under each section.

ISSUE 1: THE MATTERS RAISED IN THE HIDDEN LANDSCAPES PROJECT REPORT AND REPRESENTATIONS RELATING TO THE ARCHAEOLOGICAL FIND AT THE WORLD HERITAGE SITE…

1a The Stonehenge Hidden Landscapes Project discoveries

The Stonehenge Hidden Landscapes Project (SHLP)

7. This international collaborative project is a major archaeological survey of the Stonehenge World Heritage Site by leading experts in their fields using multiple, state-of-the-art remote sensing techniques coupled with limited testing by physical sampling.

8. The paper by Gaffney et al published in *Internet Archaeology* proposing the existence of 'A Massive Late Neolithic Pit Structure associated with Durrington Walls Henge' is not a report of the whole project. As the paper coupled with its referenced sources makes clear:
   - The 'Massive Pit Structure' as reported by Gaffney et al has been proposed by combining the results of several studies (including fieldwork prior to development) and subjecting them to re-interpretation stimulated by the results of the SHLP geophysical surveys.
   - The paper covers only part of what SHLP has been revealing, one previous paper in particular having already reported the discovery of several other typically ritual monuments within the WHS.
   - These are the 'headline' discoveries amongst a wealth of data recorded by the project that otherwise has not been presented in detail in the archaeological survey reports available to the Examination (even for the area within the DCO redline boundary in the WHS only some features are listed, not the full geophysical survey results and their interpretation). [**See Figure 3**]
   - Even within the scope of the distribution of other large pits/hollows described in this particular paper that lie within or close to the DCO boundary, there are serious issues of interpretation; but these are not the totality of such features, only highlighting the clearest features over 5m across.
   - SHLP data was included in the baseline study for the ES but did not include all the features identified in the *Internet Archaeology* paper and this raises potentially significant issues of interpretive assumptions and accuracy in the baseline data (see below).

RECOMMENDATION: The Secretary of State should note that the paper cited in representations made is by an international team of leading experts in their fields using multiple, state-of-the-art techniques, and is published in a well-respected, fully peer-reviewed international archaeological journal. He should also be fully aware that the *Internet Archaeology* paper does not report the

whole scope of SHLP work and that the implications of the circumstances of discovery are much wider than the proposed 'Massive Pit Structure' round Durrington Walls, or even the other comparable features identified

The "massive late Neolithic pit structure associated with Durrington Walls Henge" reported in Internet Archaeology vol 55[2]

9. The purpose of the *Internet Archaeology* paper is principally to draw attention to two arcs of 20+ very large features characterised as pits or sinkholes, some over 20m across and 5m deep, apparently forming part of a somewhat irregular, hitherto unrecognised, partial ring centred on the major henge monument at Durrington Walls.

10. All but 6 of the 20 massive pit features (almost 75%), including the whole of the northern arc and four of the ten features in the southern arc, were already known from previous work but had variously been interpreted as natural sinkholes, ploughed-out round barrows and a circular bank.

11. In the southern arc, three of the features previously identified from air photography were scheduled as largely ploughed-out round barrows. Following the recognition of the additional features making up the southern arc of suspected pits, three were tested by additional geophysics (ground penetrating radar and electromagnetic conductivity) and coring, which allowed a variety of sedimentary, palaeo-environmental and dating tests to be carried out showing they are large holes in the ground.

12. In the northern arc all but one of the pit features were identified through fieldwork prior to development for housing – at Larkhill East for the Defence Infrastructure Organisation's Army Rebasing programme; at Durrington on Defence Estates land released for commercial housing. These too were shown to be very large features, interpreted as sinkholes with significant cultural material in their fills.

13. As Gaffney et al state, "*substantial areas of the landscape to the west and east of these features have been developed and are no longer available for prospection."* Much of this is due to mid to late 20th century housing development not preceded by archaeological survey, and now also includes the latest housing developments covering c.75% of the known northern arc. Earlier housing (without prior investigation) on Durrington Road covers c.10% of the southern arc. Similarly, earlier Government housing without prior investigation covers c.35% of the as yet unconfirmed linking western arc, including most of the recently discovered causewayed enclosure. There remain only a few open areas in the northern and western arcs not yet surveyed.

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[2] Gaffney et al 2020, 'A Massive Late Neolithic Pit Structure associated with Durrington Walls Henge' *Internet Archaeology* 55 https://doi.org/10.11141/ia.55.4 The paper is by a distinguished named team of leading experts in their respective fields and has been properly refereed for publication in a peer-reviewed international archaeology journal. The authors acknowledge the comments of further experts and the limitations of the evidence, a range of uncertainties and the need for further work to test results. This contrasts with the lack of transparency about the authorship of the specialist reports underpinning the Applicant's EIA and HIA, and the many limitations and uncertainties attached to those results [**REP2-070** para 40].

14. None of these anomalies has been completely excavated and their dating is complex, not least because they appear to have been infilled over a significant period and some possibly re-excavated. Cores are useful in giving some indication of date and origin (especially those in the S arc), but as Gaffney et al acknowledge, much more needs to be done to understand more fully the nature of these features and their significance.

15. The question of whether these features are archaeological or geological is not the main issue: such distinctions are a modern scientific construct that may have been of little relevance to prehistoric people. Large depressions, deep hollows and probably natural ponds would have been much commoner in the prehistoric landscape than is now apparent after millennia of landuse change. It is also clear that such features commonly contain important cultural material, as do artificial major pits and shafts, such as those cited by Gaffney et al (the Wilsford shaft located very close to the scheme being an especially impressive example)[3].

16. Many comparable geophysical anomalies suggesting very large holes in the ground have been recorded in the Stonehenge area, variously interpreted as natural sink holes, dolines, hollows, pond barrows, shafts, ploughed out barrows etc. Gaffney et al map some of the most distinctive examples in their figure 9 to show that the 'Massive Pit Structure' they propose differs in the frequency and regularity of spacing, and the spatial distribution of these features as regular arcs centred on a major monument (Durrington Walls). This suggests that most if not all are deliberately located (even if some might have natural or hybrid origins).

17. The significance of the arcs of the proposed Massive Pit Structure is further enhanced by their close spatial relationship of the arcs to post alignments and other monuments [SEE FIGURE 1]
    - An undated c.600m long post and/or pit alignment following the S arc (Gaffney et al fig 3)
    - A c. 250m long post alignment dated to the late Neolithic period following the inside of the N arc at its east (Durrington) end[4]
    - A c. 35m long post alignment following the inside of the N Arc at its west (Larkhill East) end[5] , the other
    - In addition, there is a sub-rectangular enclosure with a segmented NE end identified in geophysics and verified by trenching at a similar distance inside the N arc and aligned on it, adjacent to Pit-feature ii This is strikingly similar to a middle Neolithic funerary monument at Barrow Hills, Radley (Oxfordshire) also adjacent to a causewayed enclosure [See FIG 5]. [6]

[3] Ashbee, P., Bell, M. and Proudfoot, E. 1989 *Wilsford Shaft: Excavations 1960-2,* English Heritage Archaeological Reports **11**, London: English Heritage.

[4] Thompson S and Powell A 2018, *Along Prehistoric Lines - Neolithic, Iron Age and Rpmano-British Activity at the Former MOD Headquarters, Durrington, Wiltshire* Wessex Archaeology Occ. Paper pp. 9-15 Figure 3.1

[5] Daw, T. 2018 'Larkhill causewayed enclosure posthole alignment', Sarsen.Org [blog] http://www.sarsen.org/2018/02/larkhill-causewayed-enclosure-posthole.html;

[6] The evaluation report does not discuss this, though the limited sections sampled produced burnt flint and over 50 pieces of worked flint (the character of which is not given). It is not mentioned in the summary of what a subsequent 'strip-map-and-record' exercise revealed and is only shown in dotted outline on a mitigation plan https://unidoc.wiltshire.gov.uk/UniDoc/Document/File/MTcvMDM5NTkvRlVMLDk3NDk2MQ==, https://unidoc.wiltshire.gov.uk/UniDoc/Document/File/MTgvMDAzOTcvRlVMLDExMjkxOTE= [For extract see FIG 5]

- There is a linear area of enhanced magnetic response c.200m long similarly aligned inside the northern arc adjacent to pit-features 11D, 12D and 13D, but it is outside the area tested by excavation and is of uncertain character and date (Gaffney et al fig 5).

18. The arcs of the proposed Massive Pit Structure appear to surround a notably large area (c. 2.3km N-S across Durrington Walls henge, which they seem to be centred on). Taken with the henge, they extend over undulating topography on the west side of the Avon valley. Northwest of Durrington Walls, the west end of the northern arc of pits/hollows appears to respect a causewayed enclosure (a ritualistic monument of earlier Neolithic date) discovered in the recent Larkhill East development but how much of the rest survives is uncertain [See FIGS 1 and 5]. So far, no comparable pit-like features are known to the or east where the River Avon swings east before returning with a large meander, the apex of which is very close to Durrington Walls. Rather than being a full ring, if the two arcs were completed by further features to the solitary one so far tentatively identified on the unsurveyed West side, they may have formed very large C-shaped formation ending at two points close to the River Avon.

19. In terms of the individual features there remain major uncertainties about their full nature, especially as only seven have been tested by excavation or coring. Moreover, the excavation of the Larkhill East and Durrington features was limited in each case to their upper (culturally rich) fills, and the interpretative assumption that they were sinkholes was not fully tested. The coring of three in the S arc characterised their fills but did not fully resolve their origins.[7]

20. Gaffney's calculations[8] suggest that the volume of the 20 known features may be c.5360 cubic metres; and that if the 'circuit' was no more than the C-shaped arc enclosing an area centred on Durrington Walls west of the river Avon, another 13 features could be extrapolated *pro rata* in areas as yet un-surveyed or previously built over. This then gives an estimated 9339 cubic metres for the completed C-shaped formation. It might never have been completed, but putting this into context of major Neolithic earthworks, Gaffney notes that the upper estimate is about 18% of the calculated volume of the bank excavated from the ditch of the Durrington Walls henge. It is less than 10% of the volume of material excavated from the 6m-deep ditch of Avebury[9]. If all the features are wholly anthropogenic and not, in some cases, utilising pre-existing natural features such as sinkholes, the volume of the extrapolated 33 pit-features relative to linear monuments, is probably similar to the quantity of material excavated from the ditches of the nearby Stonehenge Cursus (and perhaps more than the Avenue).

21. Although massive in extent, the scale of excavation represented by the proposed pit features is well within the capabilities of Neolithic monument builders. Other major linear monuments such as cursuses and the Stonehenge Avenue are longer than the 2.3km N-S diameter of the pit structure across Durrington Walls. Even if never completed it significantly adds to the cumulative monument-building endeavours in the area around Durrington Walls and

[7] Convincing evidence of excavation by Neolithic people would include antler pick marks on uncollapsed lower sides of deep features and/or actual antler picks or other cultural material left on the bottom
[8] https://intarch.ac.uk/journal/issue55/4/sup8.html
[9] Burl, A 1979 *Prehistoric Avebury* p175

Stonehenge. The relationship of these arcs of pits to the undulating topography and the river is comparable to other landscape-scale monuments, such as cursuses and the Stonehenge Avenue.

22. Apart from Durrington Walls and its timber rings, the area defined by the arcs includes other significant monuments such as Woodhenge and other monuments recently discovered by SHLP, in the development of the Defence Infrastructure Organisation's service family housing at Larkhill East and in commercial housing on former MoD land at Durrington. Leaving aside the large pits mistaken for barrows, there are also numerous other barrows (or suspected barrows within the circuit and especially to the south, where some clusters of barrows include a linear group on the low ridge extending N from the spur in a loop of the River Avon occupied by Vespasian's Camp [**APP-205** p.5 HIA Figure 3B; **APP-074** pp.2-3, Fig 6.8].

23. Although further investigation and verification is needed, even if just the C-shaped circuit was never completed, or if some of the features originated as natural sinkholes to which deliberately dug pits were added, the implications of the structure and its apparent association with Durrington Walls are substantial for understanding the World Heritage Site. This applies both in respect of this discovery itself and in respect of many other broadly comparable features previously assumed to be of geological or archaeological origin or both. The implications include:

    - The increasing range and distribution of important sacred/ritualistic landscape-scale monuments in the area around Durrington Walls and Stonehenge, both within the World Heritage Site and beyond its boundaries
    - The added significance of Durrington Walls and its associated monuments and relationship to other key monuments within the WHS at different periods (not just Stonehenge)
    - Increasing evidence of how the importance of Stonehenge may have ebbed and flowed in relation to the range and importance relative to other monuments that pre-date, are contemporary with, or post-date it
    - Increasing evidence of the complexity of interrelationships between monuments of different periods and different scales
    - Increasing evidence of the varied and complex relationships of monuments to natural topography and the river Avon
    - Increasing evidence of the varied and complex relationships of monuments to other natural features within the landscape including the modification or reuse of such features
    - Increasing evidence of the importance of natural or semi-natural hollows and deposits of varied origins potentially in their own right and as repositories of cultural material exhibiting a wide variety of associated stratification and/or association
    - Ongoing evidence of how the development and application of new and/or increasingly remote sensing and other survey techniques not only reveals new physical remains but also raise new questions – including challenging old assumptions
    - Whether more ill-defined features detected by air photography or geophysics and interpreted as barrows, dew ponds, solution holes etc might be massive pits or shafts.

- The inadequacy of the area designated as the Stonehenge landscape WHS in relation to the number, distribution, extent and significance of earlier, contemporary and later monuments and other remains contributing to the Outstanding Universal Value of the WHS but not included within it – or in this case both within and outside it

RECOMMENDATION: The Secretary of State should be aware of the major implications of the proposed major landscape-scale monument identified by the Internet Archaeology paper as part of the OUV of the WHS and in particular the inter-relationships between monuments and the natural topography of the area. He should also be aware of the full circumstances of the identification, that c.75% of the features making up the 'new discovery' have already been identified but interpreted in different ways; that they straddle the boundary of the WHS; and that most of the northern arc was recently built over after the discovery of the features. Unfortunately, these features were incompletely investigated, and with hindsight not recognised for their potential as part of a major landscape-scale monument. As a result, much of the circuit is now unavailable for further investigation.

Other large solution hollows, pits etc noted in Internet Archaeology vol 55

24. As Gaffney et al note,

> *There are a number of substantial pit-like anomalies within these datasets, including individual features that may be comparable in size to the Durrington pits and which have also been interpreted as solution features (Highways Agency 2019a, 5.1.9; 2019b, 203). Despite this, no comparable group of features have been reported from this extensive dataset, and currently the alignment of features at Durrington is unique. The character and significance of the remaining features, and their distribution, awaits detailed investigation.*

25. The arcs of pits around Durrington Walls is not so much a single 'discovery' from one episode of fieldwork (as several other SLHP results are) but is the result of piecing together the results of a number of quite different projects and challenging previous assumptions about these features being ploughed-out barrows, circular banks or natural swallow holes.

26. Despite previous excavations of very large pits and shafts (as cited by Gaffney et al) – including the Wilsford Shaft – such large-scale features detected by air photography or geophysics have often been assumed to be of geological origin or the remnants of upstanding monuments reduced to a thicker area of magnetic and/or moisture retentive soil reflected in crop-marks or detectable by geophysics. Apart from quoting several parallels from elsewhere (mostly rather smaller features) and the Wilsford shaft, the *Internet Archaeology* paper presents a map of especially large (5m+ anomalies detected by geophysics amongst a large number of surveys, including those carried out by the Applicant for this scheme.

27. However, these have been selected as *"probable and potential features over 5m in diameter."* This leaves a far greater number of anomalies of smaller size – which would be more typical of other very large pits and shafts cited in the *Internet Archaeology* paper. It also leaves out more irregular or less strongly magnetised anomalies that may disguise archaeological material. The magnetic signature of the southern arc of pits is distinctive, but at a smaller scale could easily be missed [**See Figure 1a**].

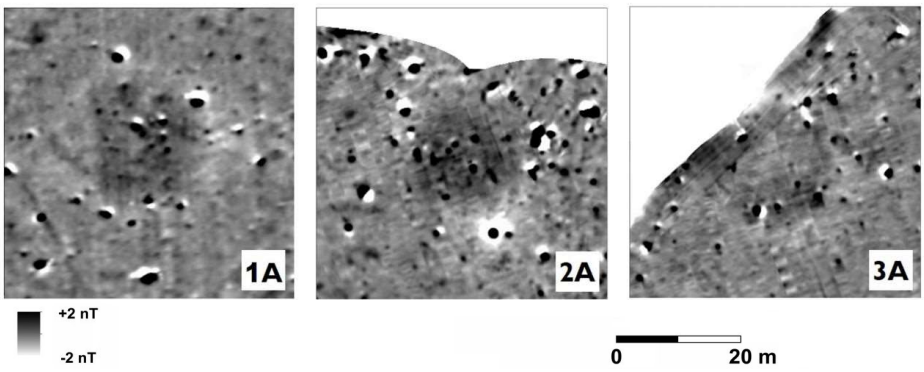

Figure 1a: *Extract Gaffney et al fig 2*

RECOMMENDATION: The Secretary of State should be aware of the similar features identified by the Internet Archaeology paper within or close to the DCO landtake that would be impinged upon by the development and may not have been recognised for what they are, but also the myriad of geophysical anomalies of smaller scale, many recorded as 'possible archaeology', others dismissed as natural geology or tree-throw holes that may include comparable misunderstandings. Much wider implications arise from how Gaffney et al have challenged previous assumptions, including widely contrasting interpretations, that previously inhibited the new hypothesis. Such assumptions have become baked into methodologies of survey, evaluation and investigation, hindering reliable evidence of the nature and significance of such features.

1b The "Representations Relating to the Archaeological Find at the World Heritage Site"

28. The representations already made by others to the Secretary of State about the discoveries reported in the *Internet Archaeology* paper rightly stress the potential importance of the features and how they may alter understanding of multiple monuments and their settings and relationships to each other and to local topography. Most obviously they affect what contributes to the setting of Durrington Walls henge monument and its relationships in time and space to other monuments such as the newly discovered causewayed enclosure at Larkhill and (more relevant to the scheme) its relationship to monuments and topography on the west side of the Avon Valley.

29. These representations have also highlighted how the *Internet Archaeology* paper has drawn attention to other major hollows/pits, including some within the land-take of the A303 proposals that may have been too readily dismissed as natural features of no archaeological interest.

30. They have also drawn attention to how these discoveries highlight and emphasise various shortcomings in the baseline archaeological surveys and its reporting.

31. They have also raised concerns about shortcomings of the Baseline report, field surveys and evaluations and the DAMS including the sampling strategy. They allude to the point that the *Internet Archaeology* paper did not seek to map innumerable smaller scale features of similar uncertain character which similarly may have been too readily dismissed as having little or no archaeological interest, or misinterpreted as other kinds of feature.

32. They emphasise the importance of giving far more weigh to the potential significance of large hollows, sinkholes, solution hollows and the like, as well as large deliberately dug features as foci for cultural activities, and as repositories of unusually well-preserved activity areas.

33. In referring to key policy issues, they stress the need for reconsideration of the implications for the scheme, not just of the proposed Massive Pit Structure itself but also in relation to the wider implications of uncertainties that arise in relation to the reliability of baseline surveys and interpretations, impact and risk assessment, and whether the DAMS is adequately designed to address such issues. Many of these wider implications of the circumstances of discovery and interpretations and its knock-on effects have already been raised in the Examination, but are now illustrated in even more tangible and telling ways.

34. The representations also raise key policy and regulatory issues directly relating to the proposed Massive Pit Structure and its implications for other comparable (and smaller) features, including regulatory requirements and procedural issues.

35. The Stonehenge Alliance raises wider issues of balance and strategic environmental issues (including changing perceptions of the need for infrastructure; climate; and the lack of Strategic Environmental Assessment of the RIS2 programme of highways developments). The implications of the *Internet Archaeology* paper raise matters of additional harm and risk of harm to be seen in the context of the overall objectives of the scheme (as supposedly 'heritage led') and the Applicant's own assessment of it delivering only a marginal net benefit for the WHS.

RECOMMENDATION: The Secretary of State should recognise that these representations raise valid concerns that we share and – as already indicated by this consultation process – should take them seriously and give due weight to the arguments advanced.

ISSUE 2 IMPLICATIONS OF THE ARCHAEOLOGICAL FIND FOR THE DEVELOPMENT AND ANY HARM IT MAY CAUSE TO THE WORLD HERITAGE; AND….

2a Implications of the 'massive pit structure associated with Durrington Walls henge' for the A303 development:

Physical effects

36. The southern arc of the proposed Massive Pit Structure and associated post/pit alignment identified by Gaffney et al is c.200m from the northern DCO boundary and would not be physically impinged upon by the scheme.

Setting effects

37. The proximity of the southern arc of pits to the DCO boundary means that it is well within the 500m baseline corridor which was chosen as the methodological basis for assessing impacts on setting together with selected major monuments at a greater distance [**APP-044** ES Ch 6 paras 6.5.1-6.5.3]. A number of considerations arise –

- The relationship of the arcs of the proposed Massive Pit Structure to the post alignments and rectangular enclosure set just within its perimeter.
- The scale of Massive Pit Structure monument proposed by Gaffney et al – up to 2.3km across, with its S arc 1.6km long, N arc 1.45km and as yet unconfirmed W arc c.1.375km long (potential total 4.5 km) – which make it a feature of truly landscape-scale comparable with major linear landscape-scale monuments such as the Great Cursus (2.8km long) and the Avenue (2.6km long).
- As a major landscape-scale 'monument', it would potentially have been intended to be appreciated not only as part of the complex of monuments, but possibly defining an area of land of as-yet unexplained significance around Durrington Walls that was seen as different from its surroundings.
- Its intimate association with Durrington Walls henge, and predecessor monuments (including whatever the pits beneath its banks may have represented).
- Its relationship to other monuments such as the timber circles within Durrington Walls and at Woodhenge.
- Its as yet undefined relationship to the River Avon and especially the loop in its course that occupies the area immediately SE of Durrington Walls;
- The relationships between these monuments and their location, together with numerous nearby barrows and barrow clusters around the S arc of pit-features along the W side of the Avon valley.

38. The S arc of the proposed Massive Pit Structure and the parallel pit/post alignment are not readily visible as surface earthworks (though some features have been visually manifest as cropmarks). Appreciation and understanding of them in their surroundings (ie their 'setting' as defined by National Policy) is therefore comparable with the non-visible part of the Avenue to which we drew attention in evidence presented to the Examination as having been given insufficient weight [**REP2-070** paras 50 to 52, 61, 63; **REP3-049** page 7 *Question CH.1.44 (Treatment of the Avenue)*]. Such monuments may not currently be visible on the ground, but they can still be appreciated from combining observation of the landscape with other guidance to show where they are located. As with the Avenue, their presence in the landscape (where not built over) could in principle be made more manifest.

39. As with the Avenue and almost all other monuments in the WHS, its relationship with other monuments and what that may have meant also involves an appreciation of their relationship to the natural topography. As with the Avenue and Durrington Walls, the River Avon may have been a critical aspect of this. We have stressed how in general insufficient weight was given to topography as a crucial part of the setting of monuments affected by the scheme, especially

- the monuments around the Winterbourne Stoke Crossroads (including monuments both inside and outside the WHS) [**REP2-070** para 69; **REP6-084** pp. 57-62];
- the landscape-scale monuments between King Barrow Ridge and the Avon (the of Avenue, Vespasian's Camp, the Amesbury Abbey Park and wider designed landscape (and the Blickmead site) [**REP6-084** pp. 16-24].

40. The key point in each case is that surface parts of the route, especially the cuttings and tunnel portals massively increase the physical alteration of the landform of the WHS and its setting in locations where this is a key factor in appreciation of how major features of the WHS relate to each other and their topographic setting [**REP2-070** paras 61, 69; **REP2-075** paras D12-D16].

41. In the case of the proposed Massive Pit Monument, the effect relates to the topographic space between two major landscape-scale monuments represented by the Avenue and the S arc of the Durrington pit-features, which lie either side of the complex of dry valleys defining and extending to the north and north-west from the spur of high ground at the isthmus of a loop in the river Avon. This spur is almost entirely occupied by Vespasian's Camp – another landscape-scale monument, itself lying within a major designed landscape-scale park, walks and estate planting that is a quintessential expression of how landscape architects of the 18th to 19th century responded to the influences of antiquarian interests in prehistory. As we have previously observed, [**REP6-084** pp. 16-24] this complex area of topography was badly affected by the present cutting for the A303, and the new proposals greatly exacerbate that harm, widening the cutting and extending it much further west. This is already much the largest modern anthropogenic interference with the natural topography of the WHS, which otherwise is almost entirely intact, and is at an especially complex and significant place.

42. The present A303 already affects the setting of Vespasian's Camp and the Amesbury designed landscape in a substantial cutting and crosses The Avenue. The relative proximity of the S arc of the Durrington 'Massive Pit Structure' (as another landscape-scale complex of likely national importance) adds to the cumulative harm of the proposed scheme, significantly exacerbating physical intrusion into the natural topography of the WHS. As we have explained in evidence, this effect has already been badly underestimated, both as a generic issue [**REP2-070** paras 50-61; **REP2a-005** page 6, Question CH.1.23 (In-combination effects)] and specific to the eastern tunnel approach and portal [**REP6-084** pp. 16-24]. A key consideration here is the cumulative nature of the harm – both in terms of the number and landscape-scale monuments and the exacerbation of previous harm caused by the original 1960s cutting of the A303 through this area of sensitive topography.

43. As previously stated – and now reinforced – not only was the nature and significance of the relationship of these monuments (and Blickmead) to their settings badly misconstrued in the EIA/HIA, but the cumulative significance of the harm caused by the widening and lengthening of the cutting up to the E portal was also ignored, both with regard to the number and sensitivity of landscape-scale monuments contributing to the OUV of the WHS, but also how the proposals would seriously exacerbate rather than reverse the harm already caused by the 1960s scheme [**REP6-084** pp. 16-24]. We also pointed out in evidence that the potential to reverse this entirely

if a route such as the more affordable F010 were chosen was not considered in weighing up the alternatives [**REP3-050** paras 20-23].

RECOMMENDATION: The Secretary of State may reasonably conclude that the 'Massive Pit Structure' proposed by Gaffney et al, would not be physically damaged by the scheme. Equally, he should conclude that its setting IS an issue which, for such a major landscape-scale monument, he should not interpret too narrowly. The issue needs to be considered in the context of the OUV issues of the spatial, chronological and cultural relationships between monuments and with the natural topography and features of the landscape (including the River Avon). Of particular relevance is the currently underestimated cumulative harm the proposed scheme would have by exacerbating the damage already caused by the existing 1960s road to other landscape-scale monuments in the vicinity of the eastern approach to the tunnel and its portal.

2b Implications of the other 5m+ features identified by the *Internet Archaeology* paper for the A303 development:

44. When overlaid on the DCO redline boundary [**See Figure 2**] it is clear that seven of the other very large pit-like features, shafts, sinkholes identified in fig 9 of the *Internet Archaeology* paper fall within the land-take area of the scheme with another three very close. Several of these occur in the western part of the route, Parsonage Down and west of the WHS or along its W boundary. Others include one in the area of the western approach to the tunnel, c.375 metres east of the Winterbourne Stoke Crossroads, which was evaluated and interpreted as a solution hole with material of various periods including prehistoric flintwork in its upper fills [**REP1-045** paras 5.2.3 to 5.2.12; **REP-046** p.26 Fig 11.23,] The Wilsford Shaft[10] lies just S of the western approach c.620 metres further east. Another feature identified by Gaffney et al lies c.150 metres SW of the eastern tunnel portal. In addition to these, a very large feature interpreted as a solution hole but Mesolithic and later material was found by excavation very close to the eastern approach [**REP1-047** paras 5.2.5, 5.5.2, 8.2.2, 8.2.8; **REP-048** p.20 Fig. 11.18, p.23 Fig. 11.21, p.48 fig 11.45].[11]

45. As the authors of the *Internet Archaeology* paper observe, "*The character and significance of the remaining features, and their distribution, awaits detailed investigation."* Because of this uncertainty (and the rather limited testing of such features in evaluation trenches), it is not possible to establish on present evidence what the full implications for the scheme are. What is clear is that it is common for such features to contain significant cultural material.

46. The landscape-scale monument proposed by Gaffney et al stands out as quite different from the distribution of other large pit-like anomalies, for which many different interpretations of the geophysical signatures may still be valid and need testing. But as they note, the spatial relationship of such features relative to the Cursus is suggestive, and even if most are natural features, their role and influence in the prehistoric landscape may yet be much more significant

[10] Ashbee, P., Bell, M. and Proudfoot, E. 1989 *Wilsford Shaft: Excavations 1960-2,* English Heritage Archaeological Reports **11**, London: English Heritage.

[11] In the Consortium of Archaeologists' representation, Paul Garwood has given additional examples.

than is yet appreciated. The substantial body of finds of different periods found in such features are of significance even if they originated as natural solution hollows. Features such as the Wilsford shaft (combining a deep artificially dug well or ritual shaft with a suspected pond barrow) and the form of other pond barrows may indicate a much less clear distinction between natural and artificial holes in the ground for prehistoric communities than modern scientific categorisations would suggest.

47. However, if the myriad of smaller geophysical anomalies are considered, these considerations go much further than the 5m+ features that Gaffney et al consider in seeking to show how their proposed Massive Pit Structure stands out from the distribution of other large anomalies. Some at least could have been misinterpreted through application of similar assumptions to those that have been challenged by Gaffney et al in identifying their proposed Massive Pit Structure. Even if many or most features of this kind are natural, many could be hybrid (including some of those trial trenched where burials were found) or important repositories of cultural material, including deposits stratified through time.

RECOMMENDATION: Beyond the 'Massive Pit Structure' proposed by Gaffney et al, the Secretary of State should be careful not to limit any review to just the 5m+ diameter features that they have plotted. The assumptions and interpretations they challenge in reinterpreting those features may also apply to many others not limited to those of notably large dimensions, and that a more thorough review and in particular far stronger acknowledgement of uncertainties is called for.

2c Wider generic implications raised for the A303 scheme.

48. The circumstances of the identification of the proposed Massive Pit Structure, the techniques applied in survey and field testing, the challenges to long-held interpretative assumptions and how previous investigations have reinforced rather than tested such assumptions raise numerous issues about the approach adopted in surveying and evaluating the archaeology of the proposed scheme [**REP2-070** paras 40-43; **REP2a-005** paras 24-27; 32-41, 50-59, 73-82 Appendix I; **REP3-049** page 8, *Question CH.1.52 (Unforeseen finds)*]. This includes:

    - Limitations in investigative methods applied to identify and reliably interpret remains.
    - Lack of information on sampling rates (especially trenching) and lack of any extrapolation of potential scale and extent of significant archaeological remains.
    - Failure to integrate geophysical findings and trenching – eg the range and proportion of anomalies tested, density of geophysical anomalies, the range, scale and significance of excavated features in relation to whether they were detected by geophysics.
    - Insufficient recognition of the archaeological potential of natural features (even when they are not misidentified anthropogenic features).

49. Generic implications also arise for how setting issues have been assessed. The implications of the *Internet Archaeology* paper reinforce our concerns about the approach adopted to issues of setting [**REP2-070** paras 50-61; **REP6-084** pp. 16-24; 59-61], especially the following:

- The misleading artificiality of grouping monuments as if they were static groups through time.
- The failure to give due weight to physical and spatial interrelationships between monuments, including the setting of subsoil monuments and the contribution that once-visible buried monuments make to help appreciate and understand upstanding features.
- The failure to give proper weight – especially in relation to landscape-scale monuments and landscape-scale interrelationships – of their place within the still largely intact topography of the area as (apart from the celestial firmament) the only aspect of their surroundings that survives almost unchanged from prehistory.
- The failure to give due weight to interrelationships that straddle the WHS boundary – especially for example where such relationships between buried and upstanding monuments suggested in evidence as worthy of consideration, were dismissed on purely procedural grounds of not having previously been recognised rather than properly analysed.
- The failure to consider fully the cumulative harm that the DCO proposals would cause in exacerbating previous harm caused by the 1960s scheme and/or where particular sections or features of the scheme would cause harm to multiple settings.

RECOMMENDATION: In considering the wider implications of issues contained within the *Internet Archaeology* paper, the Secretary of State should review how they reinforce, at a generic level many concerns about the reliability of baseline identification of archaeological remains and potential and also concerns about basic flaws in the approach to defining and assessing issues of setting, as highlighted in evidence by the CBA and others.

ISSUE 3: IMPLICATIONS FOR THE APPLICANT'S ENVIRONMENTAL STATEMENT, INCLUDING THE HERITAGE IMPACT ASSESSMENT, AND THE PROPOSED DETAILED ARCHAEOLOGICAL MITIGATION STRATEGY."

50. All Environmental Statements must include a description of baseline conditions and how they would evolve without the scheme; an assessment of beneficial and adverse effects (including indirect and cumulative effects and their longevity) and measures to avoid, remedy, reduce or offset any harm. The overall outcome in terms of 'residual effects' represents the balance of environmental benefit, harm and risk that has to be judged against relevant statutory and policy considerations and other non-environmental considerations of need. All these EIA procedural steps underpinning the ES, HIA and DAMS are relevant [**REP2-070** paras 25-43].

ES Baseline conditions

51. As noted above, the southern limits of the proposed Massive Pit Structure as now understood, together with the southern post alignment that appears to be associated lies c. 200m north of the DCO redline boundary, but well within the 500m corridor examined for the detailed Baseline Gazetteer. As a major landscape-scale monument it is much closer than the Cursus and other key monuments included in the HIA assessment of setting effects. As noted below, three or four of the features now interpreted as forming part of the Massive Pit Structure circuit are already included in the baseline study, but the others are not. At the most basic level this needs

correcting. Also absent is the parallel post and/or pit alignment. Arguably the most significant implication of this discovery by SHLP – like their finds of other previously unrecognised hengiform and other monuments – is the sensitivity of response achieved. We noted in evidence that in the surveys for the A303 scheme, none of the significant burials and small pots identified by trenching had been located by geophysical surveys [**REP2a-005** paras 36-39, 76], but the SHLP post/pit alignment might indicate detection features of similar scale (details are not given). A trial of geophysical sampling rates for the scheme showed that enhanced sampling produced better defined results for large features but it does not appear that a comparison has been made between the resolution of the SHLP surveys and those for A303 [**REP1-041** Appendix A pp. 79-80]. This adds further uncertainty about whether the most effective and sensitive methods for large scale survey were used. Apart from the more systematic analytical comparison of geophysical survey and trenching / test pitting results already called for, a direct comparison with the resolution SHLP data would help to define the overall limitations and levels of uncertainty.

52. The features identified by Gaffney et al's Figure 9 are only the larger examples of geophysical anomalies that might have been misinterpreted. There remain much larger numbers of smaller and or less regular features, including some natural hollows or areas of thicker soil that may be disguising archaeological features. One of the most striking features of the Durrington excavation, the Larkhill East trenches and Gaffney et al's boreholes – together with the example trenched in the eastern portal approach area – is the common occurrence of cultural material sometimes in significant quantities and at significant depths in these features.

53. We have highlighted in evidence [**REP2a-005** paras 24; **AS-075**; **REP8-036** para 5.4] – especially in the context of tree-throw holes, but also other natural hollows undulations and areas of colluvial accumulation – such features and deposits, even if natural features in origin, have significant potential as undisturbed areas below the level of ploughzone disturbance in which evidence of human activity – both intentional and coincidental – has been trapped. Gaffney et al make it clear that the assumptions and interpretations that have been applied to the features they have reviewed in identifying the Massive Pit Structure means that much more work is needed to understand them better and to clarify how far some of them may be modified natural features or entirely artificial. Either way they have much greater potential than the assessment has allowed for in the baseline study for the scheme.

54. The bibliography of the Baseline Gazetteer lists 26 geophysical surveys. The Baseline Report states:

> *3.5.53 A common feature of the Early and Middle Neolithic, pits also continued to be dug across the Stonehenge landscape into the 3rd and 2nd millennium. As noted previously, geophysical surveys have detected large numbers of pit-like responses (e.g. UIDs 1008, 2038, 2123, 2143, 2144, 2145, 2178, 2180, 3031,3106, 4078, 4079, 4080, 4140), many of which have yet to be tested by intrusive investigation. Although many of these may relate to geological or other, naturally derived features, some could relate to Late Neolithic and Early or Middle Bronze Age pits.*

55. Almost all these particular entries in the Gazetteer refer to *"Numerous possible undated pits detected by geophysical survey"* mostly without any indication of number, size, shape, distribution or density, though sometimes with other comments related to trenching. Some of

these contain features that Gaffney et al indicate on their fig 9. Some but not all refer to the need for further investigation to clarify their nature.

56. As we have previously noted, this leaves much uncertainty. There has also been only limited attempts to quantify the character of anomalies considered to be natural hollows, sinkholes or tree-throw hollows, although these can include significant archaeological materials or disguise its presence, and the sample investigated is unquantified – but as shown on the plans of trenches relative to features recorded by geophysics, an extremely limited sample of the total present.

57. The interpretative assumptions that Gaffney et al have challenged in identifying the arcs of their proposed Massive Pit Structure around Durrington Walls as massive pits rather than ploughed-out barrows, dew ponds etc are strikingly similar to those prevalent not only in the Baseline Gazetteer, but also in the geophysical surveys and their interpretation working through to the evaluation trenching, which tested some, but seemingly very few of these features.

58. Another of the problems of the baseline study that we highlighted [**REP2a-005** paras 32-39] was the unduly limited extent of trenching. The sampling rate (ie the percentage by area of development areas exposed by trenches) was (most unusually) not quoted in the reports. Our own calculation [**REP1-041** Appendix A pp. 79-80] based on areas of different zones covered by the trenches and their number and dimensions, suggested that the coverage of trenching in areas affected by the scheme was well below what is usually considered necessary for predominantly prehistoric remains. The discoveries discussed by Gaffney et al provide a telling comparison: those development areas were subject to 5% coverage[12] which is at the lower end of the norm for prehistoric sites, but much higher than the overall coverage for the A303 scheme. Even so, the trial trenching at Durrington did not encounter either the 20m diameter pits or the late Neolithic post alignments subsequently found.[13] At Larkhill East, two pit features clearly identified by geophysics and targeted by trenching in the eastern part of the site were recorded as *"geological features containing archaeological deposits"* (though one of them was not observed in a subsequent pipeline watching brief); of the other two, in the much more disturbed western area less clearly defined by geophysics, one may have been recorded as Coombe deposits and the other was missed by trenches.[14]

59. These examples illustrate the challenges to be faced in the interpretation of geophysical surveys and subsequent deployment and interpretation of test trenching, whether in areas subject to much recent disturbance or largely undisturbed land. They strongly reinforce concerns we have already presented in evidence to the Examination (noted above) about insufficient levels of sampling, flaws in the methodology reporting and interpretation of the baseline studies, insufficient acknowledgement of major uncertainties and limitations and the need for a much

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[12] See https://unidoc.wiltshire.gov.uk/UniDoc/Document/File/MTcvMDM5NTkvRlVMLDk3NDk2MQ== and https://unidoc.wiltshire.gov.uk/UniDoc/Document/File/MTgvMDAzOTcvRlVMLDExMjkzMTQ=

[13] Wessex Archaeology 2006, *Defence Estates, High Street, Durrington, Wiltshire Report on Archaeological Field Evaluation* fig 1, as compared with Thompson, S. and Powell, A.B. 2018 *Along Prehistoric Lines: Neolithic, Iron Age and Romano-British activity at the former MOD Headquarters, Durrington, Wiltshire*, Oxford: Oxbow Books fig 3.1.

[14] Wessex Archaeology 2015*, Larkhill East and West SFA, Larkhill, Wiltshire Archaeological Evaluation Report,* pp.8-9 and 37, pp.11-12 and 65, 67; figs 1-3, 6-7.

more precautionary multi-disciplinary approach to mitigation fieldwork, geared to find the unusual and special, not just reinforce pre-existing assumptions and generalised characterisations.

60. But the implications of the *Internet Archaeology* paper relative to SHLP work also impinge on the Baseline Archaeological Report dated 2018. This states [**APP-211** para 2.3] that sources include:

    2.3.1 f) Results from major research projects within the Stonehenge landscape (subject to availability) including but not limited to: the fieldwalking of the 1980s Stonehenge Environs Project; the geophysical survey of the Stonehenge Hidden Landscape Project; the Stonehenge Riverside Project; and recent Historic England research including the Stonehenge World Heritage Site Landscape Project, and the Stonehenge Southern WHS Survey Project. [added *emphasis*]

61. It is unclear exactly what access to "*the geophysical survey of the Stonehenge Hidden Landscape Project"* was obtained in terms of the raw geophysical survey results. The baseline report itself makes specific references to three discoveries by the Stonehenge Hidden Landscape Project for which the source is cited as Gaffney, C. et al., 2012[15]:

    - At paras 3.4.20 and 3.5.19, the discovery of two very large pits near the western and eastern terminals of the Greater Cursus and their possible astronomical significance.
    - At para 3.5.35, the discovery of large anomalies under the bank of the Durrington Walls henge, initially thought to be stones or stone holes, subsequently found to be pits.
    - At para 3.5.48, two concentric oval arrangements of features beneath the barrow known as Amesbury 50 (NHLE 1012399) south of the western end of the Greater Cursus.

But apart from this, the archaeological Baseline Gazetteer [**APP-212**] refers to c.39 monuments, sites or features recorded by the Hidden Landscapes Project – the majority also recorded in other sources. For example, taking just those within or just outside the WHS working west to east:

*Gazetteer UIDs close to SHLP identified 'pits'**	*Gazetteer entries*	*SHLP area[X]*
UID 2112 or 2150	Round barrow SAM / probable round barrow	N
UIDs 2153 or 2151	Possible ring ditch / possible round barrow	N
UIDs 2076 or 2001	Numerous linear & curvilinear features / Bronze Age enclosure & bowl barrow	N
UID 2178	Numerous possible undated pits (not confirmed by trial trenching)	N
UID 2016	Wilsford Shaft	N
UID 2009	Four levelled bowl barrows	N
UID 3032	Possible double-ditched enclosure *(SHLP not cited)*	Y
UIDs 3013 or 3067	Possible ploughed-out barrow (tumulus 1806) / Possible ring ditch or levelled barrow *(SHLP not cited)*	Y
UIDs 3021 or 3022	Levelled bowl barrow / levelled bowl barrow *(3022 SHLP ID 2277)*	Y
UIDs 4006 or 4007	Levelled bowl barrow SAM / possible levelled bowl barrow *(SHLP not cited)*	Y
UIDs 4077 or 4005	2 possible levelled bowl barrows / levelled bowl barrow SAM *(SHLP not cited)*	Y
UID. 4008	Levelled bowl barrow SAM *(SHLP not cited)*	Y
UID 4011	Possible levelled bowl barrow SAM poss. non-archaeological *(SHLP not cited)*	Y

**SHLP identified 'pits' are those shown on fig 9 Gaffney et al 2020 [X]SHLP area = SHLP project area*

[15] Gaffney, C. et al., 2012 'The Stonehenge Hidden Landscapes Project' *Archaeological Prospection*, Volume **19**, Issue 2, pp. 147–155

62. Mostly these entries are referenced "SHLP 2018" (some with identifying reference numbers) but unhelpfully, this citation is not given in the bibliography. It is not clear if this is another publication, an inventory of identified features, or results observed directly from the survey data.

63. When these entries are compared with where their locations are shown on the detailed map of features listed in the Gazetteer, and when overlaid on the *Internet Archaeology* distribution of pit-like features over 5m across, some appear to be correlated, but at the scales involved it is not easy to tell for sure which numbered entries apply. [**See Figure 4**]

64. Items 4005 (or possibly 4077.1 or 4077.2), 4008 and 4011 appear to be the features 4A, 5A and 6A in Gaffney et al's 'Massive Pit Structure' but SHLP is not cited as a source for these, and the other features forming the majority of the S arc within the 500m study area are not identified.

65. As Gaffney et al state in relation to the features shown in their fig 9 which are not part of the arcs round Durrington Walls, "*the character and significance of the remaining features, and their distribution, awaits detailed investigation.*" While it is possible that the Gazetteer entries are correct, for several of these features lying within the SHLP study area the project's results are not cited as a source. It is also evident that none of the features Gaffney et al have identified as worth reconsidering as possible pits or shafts have been considered in that light, though some interpreted as definite or probable archaeology have been discounted as possibly natural deposits. UID 4011 is especially striking as one of SHLP's pit-features in the southern arc that was scheduled as a ploughed out round barrow and cited in the Gazetteer as potentially non-archaeological. Almost the examples within or close to the WHS are cited as ploughed out barrows, in some instances with a possible ditch that could alternatively be the halo effect reported by Gaffney et al in relation to the pit features in the southern arc that were identified (and scheduled) as ploughed-out barrows and cited as such in the Gazetteer.

RECOMMENDATION The Secretary of State should require the ES and HIA baseline studies to be reviewed and overhauled, not only in the light of the Gaffney et al paper but also its implications in reinforcing legitimate concerns about both generic and specific shortcomings that we and others made to the Examination. This must include presenting the actual geophysical survey results for ALL the areas affected by the scheme that were not made available to the Examining Authority, both within the WHS (including the tunnel section) and missing areas outside it (such as Countess East).

ES assessment of harm

66. It is well-established in reviews of the EIA process that if baseline studies present incomplete data, have not sufficiently reviewed pre-existing information or rely on flawed interpretations, it is inevitable that any assessment of effects will also be flawed in relation to any impacts related to those inadequacies, either because they are missed entirely or misunderstood in terms of the nature of the impact and significance of effects, or because of wider implications that highlight more generic flaws in approach. A key part of this process – arguably more in relation to archaeology than any other EIA topic needs to be clear acknowledgement and explanation of

limitations and uncertainties, both inherent in the nature of archaeological remains and through the limitations of investigative surveys. 16

67. In this case, with respect to the proposed Massive Pit Structure, it would not be physically harmed so the apparent range of interpretations of its constituent pit-features does not arise ; but in respect of its setting it does make a difference – as already explained above. But perhaps the biggest implications are the generic issues:

- Whether some of the features identified as ploughed-out barrows or potentially existing under barrows could be large pits or sinkholes – including over the areas within the WHS in the approaches to or over the tunnel where the geophysical plots have not been presented – and if so what possible impacts could arise?
- How other features comparable to those making up the proposed Massive Pit Structure would be affected by disturbance, burial or harm including the far more numerous smaller examples not referred to be Gaffney et al?
- How the significance of the settings of other landscape scale monuments, included buried monuments and landscape-scale interrelationships between monuments and groups has systematically been under-estimated?
- How previously unidentified effects that may not in themselves be substantial, may nonetheless contribute cumulatively to already identified impacts – especially if those have already been badly underestimated (as in the case of the eastern portal approach cutting)?

RECOMMENDATION: The Secretary of State should require that once the baseline studies have been reviewed and overhauled, the same should be done for the ES and HIA assessments of effects, not only in the light of any revisions to the baseline, but also with regard to all the other criticisms of generic and specific shortcomings that we and others made to the Examination that are reinforced by the wider implications of the *Internet Archaeology* paper. This needs to include a far more honest and transparent reporting of uncertainties and limitations.

Mitigation and DAMS

68. Perhaps the most salutary consideration raised by the *Internet Archaeology* paper (and its sources) is the evidence of how the interpretations and assumptions made in the geophysics, trenching and full excavation of the northern arc at Larkhill East and Durrington sites did fully investigate those features because they were assumed to be sinkholes. That may or may not be the case for those particular features, but they are now no longer available for re-investigation

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[16] Jones C. and Slinn P., 2008, 'Cultural Heritage in EIA - Reflections on Practice in North West Europe. *Journal of Environmental Assessment Policy and Management* **10** pp.215-238. https://www.researchgate.net/publication/23751383_Cultural_heritage_in_EIA_-_Reflections_on_practice_in_North_West_Europe/link/561e2d7208aecade1acb4b4c/download;

Lambrick, G. and Hind J., *Planarch 2 Review of Cultural Heritage Coverage in Environmental Impact Assessments in England* Kent County Council http://www.planarch.org/ downloads/library/england_eia-report.pdf;

Jones C., Slinn, P., Burggraaff P., Kleefeld K-D., and Lambrick, G., *Cultural Heritage and Environmental Impact Assessment in the Planarch Area of North West Europe* Kent County Council http://www.planarch.org/downloads/library/action_3a_final_report_ english.pdf

and clarification. The approach adopted there was much the same approach as that taken for the A303 scheme in the baseline studies and fieldwork and the DAMS. It acts as a warning that the DAMS has been prepared on the basis of the same assumptions with too little regard for uncertainty and unexpected discoveries which have long been a feature of the Stonehenge area.

69. We made extensive criticisms of the DAMS in our evidence to the Examination at several stages [**REP2-070**; **REP2a-005**; **REP6-084** pp 5-13; **REP8-037**], criticising its complacency in being far too prescriptive in limiting sampling strategy to a characterisation approach, not one based on ensuring recovery of the very rare, unusual or unexpected remains that make most contribution to OUV.

70. One of the areas we focussed on was the potential value of tree-throw holes and other seemingly 'natural' features and deposits as repositories of undisturbed material. Although the final version of the DAMS has been altered to allow a somewhat more responsive approach to sampling, we expressed our concern that the changes are not sufficient – or subject to sufficiently independent scrutiny [CBA letter to Secretary of State May 27th unpublished – See Appendix A].

71. In that letter we said:

We have consistently urged a precautionary approach. Dealing with uncertainty and being prepared for the discovery of totally unforeseen new insights (which are often more important than the research questions that can be foreseen) is at the heart of archaeological endeavour. While procedural arrangements for better engagement of specialist research advice are welcome, flexibility to respond in the light of what is found is essential. In our view it remains the case – as we explained in detail to the Examination – that:

- *The whole procedure proposed is based on evaluation work that was not scientifically analysed to provide an objective assessment of its limitations or to make any quantitative predictions or estimates of what exists within the areas affected.*
- *The risk and scale of important evidence not being recovered due to insufficient sampling has not been objectively considered relative to policy tests.*
- *The approach to sampling is still not sufficiently precautionary, or sufficiently fully integrated to ensure full recovery of sparse, rare or unique evidence that would contribute to current and future understanding of the OUV of the WHS and its surroundings.*
- *The conflict of soil handling standards versus archaeology remains unresolved, still with no attempt to demonstrate scientifically what is deliverable, and with no clear default position as to options for preservation or recording any archaeology that might be damaged (which itself is not yet well understood).*
- *There is no requirement to follow rather than just consider independent expert advice, contrary to the heritage-led objective of the scheme.*

72. In terms of subsoil features, the Secretary of State's questions of 4th May specifically concerned tree-throw holes, but in our original evidence we included other deposits as well. In the light of

the *Internet Archaeology* paper, and especially the incomplete investigation of the pit-like features at Larkhill East and Durrington sites, these concerns are even more strongly reinforced. [**Appendix A**]

73. In sections 3 and 4 of the DAMS there are numerous references to 'natural hollows', 'solution hollows', 'natural depressions', 'dolines', 'sinkholes' etc. (note for example para 3.3.65) and there are likewise numerous mentions of such features in the Appendix D in the descriptions of 'Archaeological Mitigation Action Areas' (in some cases including relevant research aims). Their potential to contribute to research, though not as an overarching theme relevant to people's engagement with the natural environment [**REP9-018** pp. 37-39; and paras 4.3.8, 4.4.2, 4.4.3, 4.4.16, 4.5.3]. But to suggest that such features '*would have had little or no upstanding surface expression'* (para 4.5.3) is patently not the case where cultural material in such features is found metres below ground surface. This understates the possible significance of such features, whether natural or anthropogenic in origin, or hybrid.

74. But when it comes to proposals for excavation, DAMS makes no clear provision for the investigation such features in Section 6 setting out the overall proposals for excavation (for example in paragraph 6.3.31 refers only to lithic scatters in 'surface hollows' and there is no mechanism for investigating features identified by the range of terms used in the descriptions and research issues as they are not included with tree-throw holes (paras 6.3.49 to 6.3.51). Likewise, not mentioned as targets for investigation in Appendix D setting out the 'Archaeological Mitigation Action Areas'. The provisions of the DAMS for geoarchaeology (section 6.7) also makes no reference to such features, the only specified targets for investigation being colluvial deposits.

75. Nor is there any reference to the potential for shafts to be encountered over or in the tunnel, which in the absence of actual geophysical plots and confusions about interpreting geophysical anomalies revealed by Gaffney et al, adds to uncertainty and risk. While it would be impossible to mitigate such features if they were encountered by the tunnel boring machine, the as-yet-to-be-defined ground monitoring regime ought to allow for such an eventuality.

76. The approach set out in DAMS reflects the desire to minimise any uncertainty and deal only in established interpretations, built around types of feature rather than where evidence might be found to address research questions. This has left very little allowance for explicit investigation of the complexities of people using and creating features with such fluid interpretations as Gaffney et al have reviewed and revealed.

77. If approved the DAMS would become a legally binding document governing the response to the harm that the scheme would cause to the archaeological heritage and how it contributes to the OUV of the WHS, so its technical details and terminology matter. The implications of the *Internet Archaeology* paper have shone a clearer light on these unresolved omissions and shortcomings of the DAMS – even in its supposedly 'final' current form.

78. With regard to mitigation and the issues of setting that arise as outlined above, it is the basic design concept and alignment of the scheme with two major cuttings approaching the tunnel portals in combination with the current (1960s) scheme (much the largest intrusion into the natural topography) that is the main source of harm to the OUV criterion of the relationships

between monuments and the landscape. This cannot be mitigated through the DAMS and after efforts to reduce the visibility of the scheme a significant adverse residual that cannot be addressed except by adopting a radically different and less harmful solution.

RECOMMENDATION: The Secretary of State should require that the DAMS should be further reviewed and overhauled in the light of the Gaffney et al paper – especially in relation to how the surveys, evaluations and excavations in advance of development at Larkhill East and Durrington did not fully investigate or record features that with hindsight may well be seen as having been mis-interpreted, and not sufficiently investigated. The Secretary of State should recognise that the assumptions that led to those features not being more fully investigated still permeates the approach to mitigation and specific actions set out in DAMS. It needs to be thoroughly reconsidered to apply a far more precautionary approach less geared to recovering a representative sample of evidence reinforcing existing assumptions, and more focussed on going beyond this to ensure full recovery of sparse, rare or unique evidence that contributes to current and future understanding of the OUV of the WHS and its surroundings.

Residual effects and risks and policy context

79. We summarised our overall view on the balance of residual effects and the wide-ranging uncertainties and risks to the archaeology of the area, and have explained these in relation to EIA requirements, NSPNN policy and WHS Management Policies and UK International commitments [**REP2-075**]. The implications of the SHLP discovery and reinterpretation of pre-exiting evidence are substantial and wide ranging – though in many ways for this scheme for the generic issues of baseline studies, assessment and mitigate as the headline discovery itself. These implications highlight and illustrate very many of our concerns. We have explained how the harmful effects have been badly underestimated or in some cases missed, and the tangible benefits – essentially for visitors' enjoyment have been overestimated relative to other concerns that they have demonstrably expressed in online reviews. A key consideration in all this is the weight that needs to be given to the risks of significant unidentified harm to major assets that cannot be avoided.

80. We made extensive criticisms of the Baseline studies and DAMS, as outlined above, stressing how the approach to sampling is not geared to ensuring recovery of the very rare, unusual or unexpected that make most contribution to OUV. We highlighted the policy context [REF paras D.3] that NSPNN para 5.124 which refers to *'the primary source of evidence about the substance and evolution of places, and of the people and cultures that made them'* and the very explicit requirement on the Secretary of State in para 5.129 to

> *..take into account the particular nature of the significance of the heritage asset[s] and the value that they hold for this and future generations. This understanding should be used to avoid or minimise conflict between their conservation and any aspect of the proposal.*

81. In commenting on these and other key NSPNN provisions in the context of Articles 4 and 5 of the World Heritage convention and the WHS Management Plan policies create a very high threshold

for being sure that important remains would not be lost or rendered inaccessible – especially in respect of anything contributing to the OUV of the WHS, [**REP2-075**].

82. Seeking to put paragraph 5.129 and the flexibility of the WHS Management Plan to adapt to new understanding of what contributes to the components of OUV in the context of how the value that heritage assets hold for this and future generations evolves, we observed that

> *Within the professional career of any single generation of living archaeologists the approach to different kinds of archaeological deposits and remains and artefacts and the techniques of scientific research that can be applied, and above all the theories, hypotheses and interpretations that have been applied to them – and hence how they are valued – has always changed dramatically and will continue to do so. It is a trend that has accelerated with the expansion of archaeology as a field of study and the increasingly rapid and varied development of new and refined scientific techniques.*
>
> And noted that
>
> *The ideas and interpretations conveyed now are far richer, more complex and insightful than was the case only half a generation ago. To suppose that present day archaeologists, scientists or others know how their ideas will stand up to future scrutiny, or what future generations will put most value in, is pure hubris. In the context of Stonehenge this policy provision requires the utmost caution and humility, a fully precautionary approach should be adopted so that so that the limitations of present day values and ideas – advanced as they may seem now – should NOT be allowed to result in the loss of physical remains that with new techniques, ideas and values may be far more important in future than they seem at present.*

83. Without commenting on how research questions and interpretations change as well as technical advances, Highways England's response [**REP3-013** para 21.4.4] was to assert that we were putting forward

> *…..a speculative argument that future technology may discover more information in this area of the WHS. This is particularly the case having regard to the technology which is already available now, the comprehensiveness of the assessment undertaken and the mitigation measures in place in the Detailed Archaeological Mitigation Strategy (DAMS).*

84. The discoveries reported by Gaffney et al, and especially the circumstances underlying them at Larkhill East and Durrington, represent a quintessential example of what can happen when both questions and techniques advance. The *Internet Archaeology* paper and its wide-ranging implications equally vividly show up the *'pure hubris'* demonstrated by Highways England's complacent response. It is a position of over-confident certainty and denial of limitations and shortcomings that has bedevilled the approach adopted by the Applicant. The circumstances of the discovery also demonstrate clearly the practical difference between research-led and development-led archaeology in what remains available for future investigation.

85. Because of the likely significance of their proposed Massive Pit Structure, it is an especially striking example of the importance of appreciating the significance of the precautionary

approach that underpins policy, both in NPSNN and the WHS Management Plan and under UK commitments under the WHC.

RECOMMENDATION: The Secretary of State should recognise the far-reaching implications of the identification of a major new monument as proposed by Gaffney et al, and in particular the salutary lessons it poses concerning how development can destroy, or render inaccessible for re-investigation, archaeological remains of great importance whose significance may only emerge when new questions are asked or new techniques applied. Given the policy context and outstanding shortcomings of the DAMS he should give serious weight to concerns not only that the overall heritage balance has been misjudged, but that the approach to mitigation through DAMS remains flawed and insufficient to be a properly precautionary approach.

ISSUE 4 OTHER MATTERS RAISED IN THE …. REPRESENTATIONS RELATING TO THE ARCHAEOLOGICAL FIND AT THE WORLD HERITAGE SITE…

86. The representations made by other parties[17] also put these discoveries within wider considerations affecting the general policy balance – which in the context of the only marginal benefit that the Applicant claims for the World Heritage Site, is a key consideration. We have already given evidence on how this has been misjudged with regard to the balance of harm over benefit, the interpretation of policy, the inadequacies of the special contingency valuation to justify the exceptional cost of the scheme, and inadequate consideration of alternatives [**REP2-070**; **REP3-050**]. The implications of the discoveries and challenges to past assumptions that the *Internet Archaeology* paper highlights, as explained above, reinforce our wider conclusions.

87. One of the wider procedural issues raised in the representations made alongside the issues arising from the new discoveries is the concern that the scheme has been developed in the context of a Road Investment Strategy and Route Strategy that have not been subject to Strategic Environmental Assessment. We have already given detailed evidence on this [**REP2-070**; **REP2-078**; **REP3-050**] which we had discussed with a senior retired planning QC and we note that in respect of RIS2 this is the subject of a Judicial Review case brought by the Transport Action Network now fast -tracked to heard in November. [18] Their outline statement of case makes many of the same basic points that we have raised. It is now for the Court to determine this, but as already explained in our evidence, if the challenge to RIS2 were to be upheld, it would have serious implications with regard to the Secretary of State's duties for determining this application under the 2008 Planning Act, as well as the 2015 Infrastructure Act.

RECOMMENDATION: The Secretary of State should note the representations that put these discoveries into the context of much wider considerations affecting the general policy balance, including the absence of any SEA of the RIS2 Route Strategy development programmes. He should consider the implications of the discoveries reported by Gaffney et al and the circumstances of

[17] https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR010025/TR010025-001961-Stonehenge%20Aliance.pdf and https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR010025/TR010025-001960-Consortium%20of%20Archaeologists%20and%20the%20Blick%20Mead%20Project%20Team.pdf

[18] https://www.leighday.co.uk/News/Press-releases-2020/June-2020/Transport-Action-Network-issues-legal-case-to-chal

their recognition and their far-reaching wider implications about the substantial archaeological risks and uncertainties inherent in the likely effects of the scheme. These need to be set within the overall balance of harm over benefit to the WHS, the exceptional cost of the scheme, whether other better less costly solutions may be available and how this relates to wider considerations of how best to enhance, not harm protected landscapes.

CONCLUSION

88. We have examined the *Internet Archaeology* paper by Gaffney et al and the surveys and archaeological excavations that it cites in some detail. We recognise, as the authors do, that much more work is required to test their hypothesis, but as befits a paper in a peer-reviewed journal it is credible and needs to be taken seriously. Even more seriously, the circumstances underlying the 'discovery' – based not just on new fieldwork but re-interpretation of 75% of features already known and how prevailing assumptions have inhibited their full investigation, have far-reaching implications for the A303 scheme. These are complex, but re-emphasise innumerable flaws and problems already identified as well as causing others to be identified through more careful re-examination of some of the data presented – and not presented – by the Applicant to the Examination.

89. We commend the recommendations set out above for the Secretary of State's consideration. Because of the far-reaching implications and the various threads of evidence that they follow, we believe that the Examining Authority should be asked to review the implications and provide further advice.

90. As we did in our evidence to the Examination and our letter of 27th May, **we urge** the Secretary of State to take a precautionary approach towards preserving Britain's internationally important archaeology for future generations.

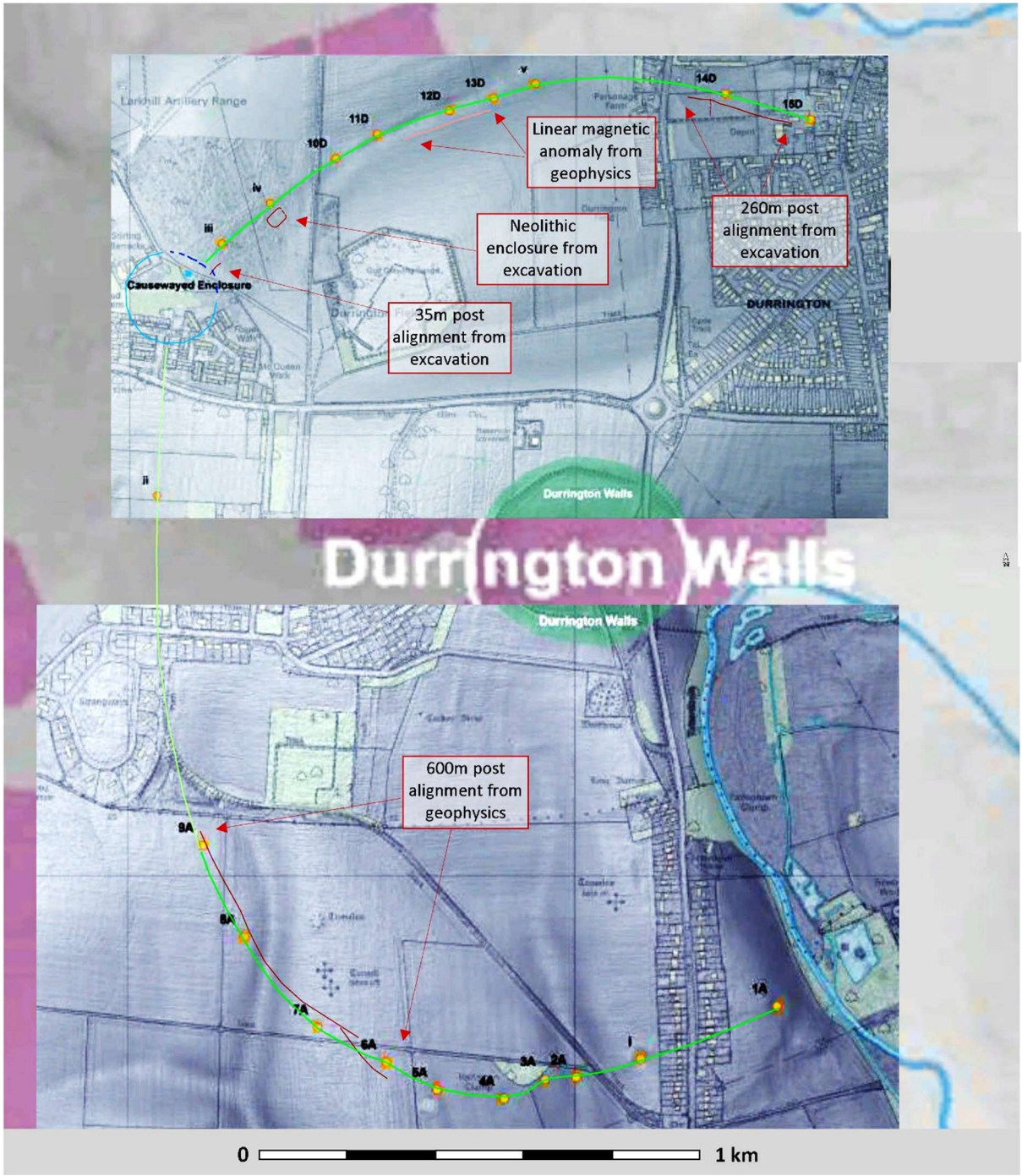

Figure 1 Gaffney et al 2020 proposed 'Massive Pit Structure Associated with Durrington Walls'. Compiled by overlying Google Earth base with Gaffney et al fig 9 showing extent of geophysics etc.; overlaid in turn by Gaffney et al figs 3 and 4 showing N and S arcs on lidar base; overlaid with N and S arcs highlighted in green and putative W arc highlighted pale green; together with features on internal perimeter highlighted maroon (for the S arc post alignment, Gaffney et al fig 4; for N arc, Durrington post alignment Thompson and Powell 2018 fig 3.1; Larkhill East Neolithic enclosure and post alignment, Daws 2018; rectangular enclosure Wessex Archaeology area of enhanced magnetic anomalies). The river Avon is shown to the NE of the N arc and E of the S arc.

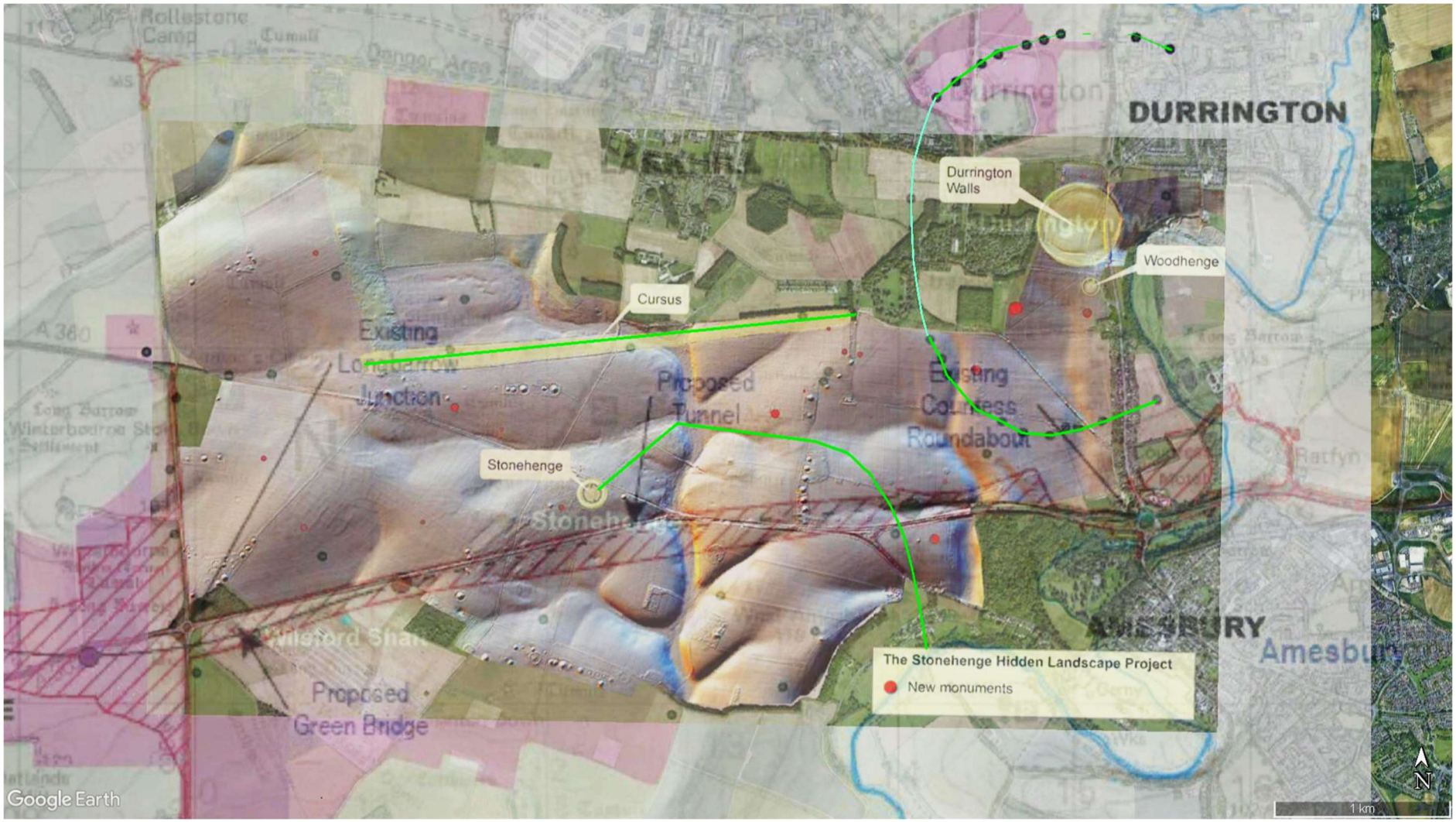

Fig 2: Extent of geophysical surveys relative to the A303 DCO boundary with 'massive pits and other 5m+ anomalies identified by Gaffney et al. and other landscape-scale monuments shown relative to topography and other key SHLP discoveries and the DCO application area.
Google Earth overlaid by DCO boundary from ES and geophysics Gaffney et al fig 9. Topography in main part of WHS and other SHLP discoveries from SHLP 2015. N and S arcs and putative W arc of Massive Pit Structure highlighted green and pale blue; Line of Great Cursus and Avenue highlighted green.

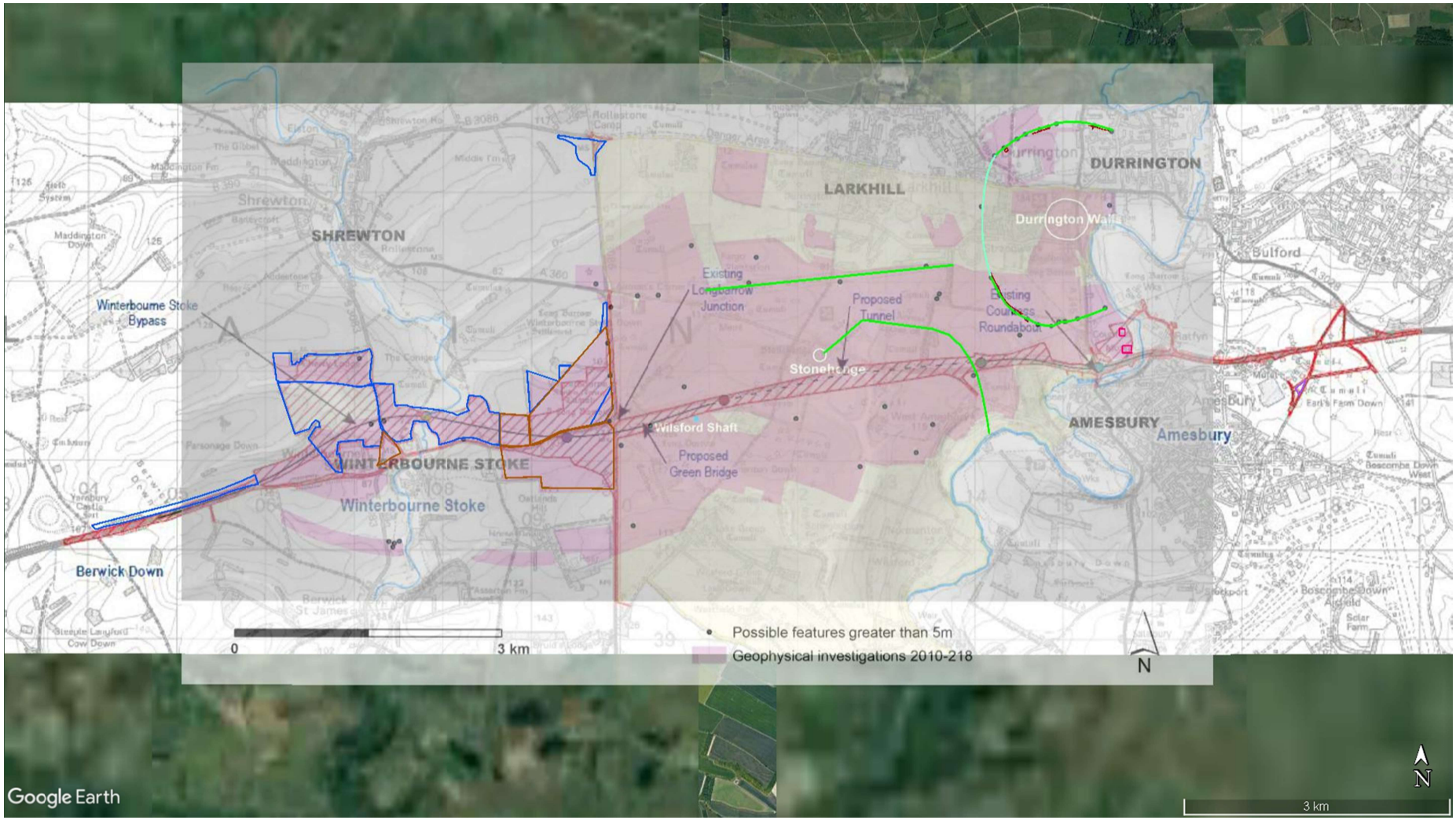

Fig 3: Extent of geophysical surveys relative to the A303 DCO boundary with 'massive pits and other 5m+ anomalies identified by Gaffney et al. Google Earth overlaid by DCO boundary from ES and geophysics Gaffney et al fig 9. The areas outline blue ginger magenta and purple are the areas where geophysical plots were presented by the applicant to the Examination. All these lie outside the WHS (faintly shown in cream)

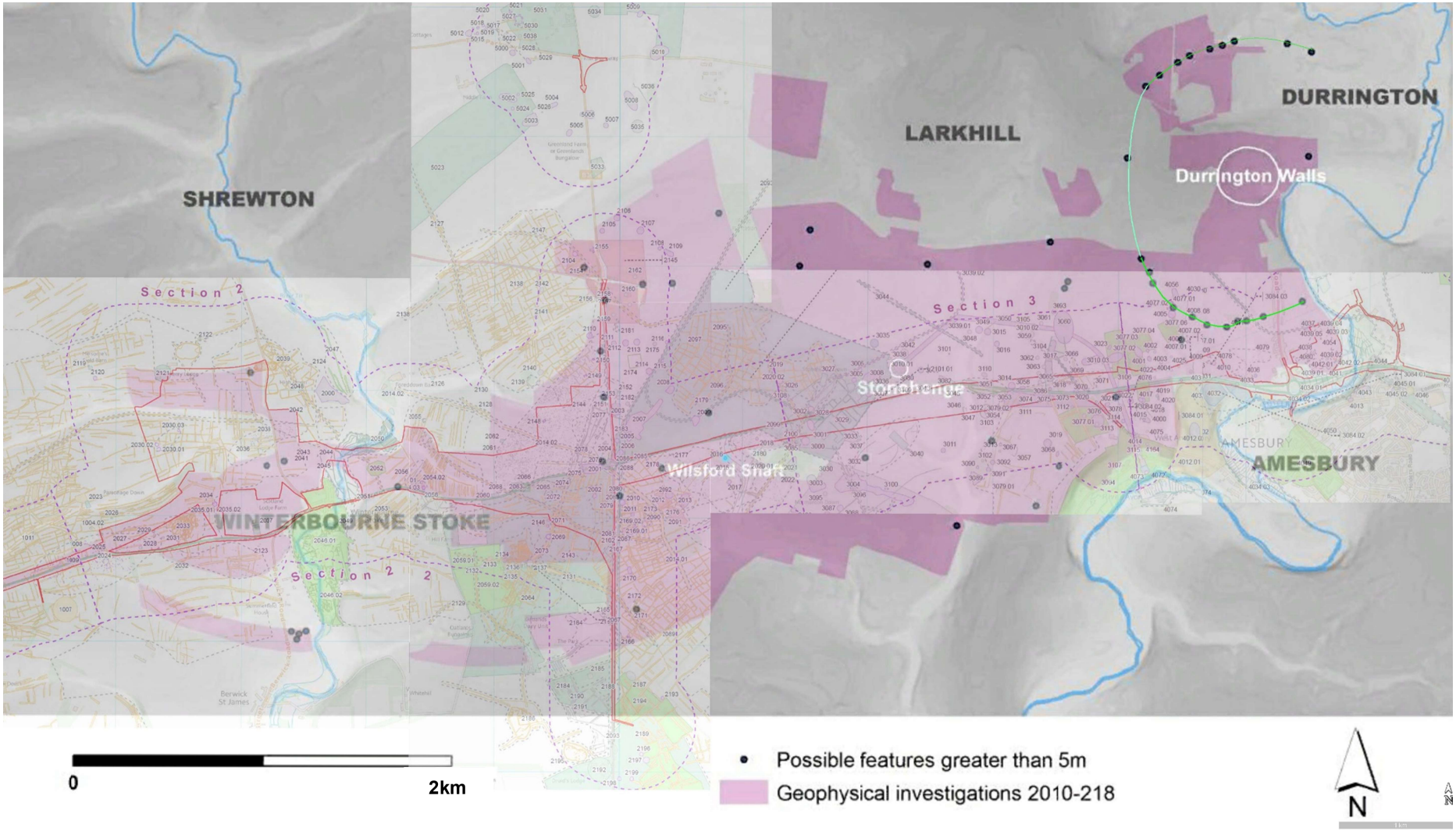

Fig 4: Extent of geophysical surveys 'massive pits' and other 5m+ anomalies identified by Gaffney et al relative to Applicant's archaeological Gazeteer. Google Earth overlaid by Gaffney et al fig 9 overlaid by baseline archaeology Gazeteer maps.

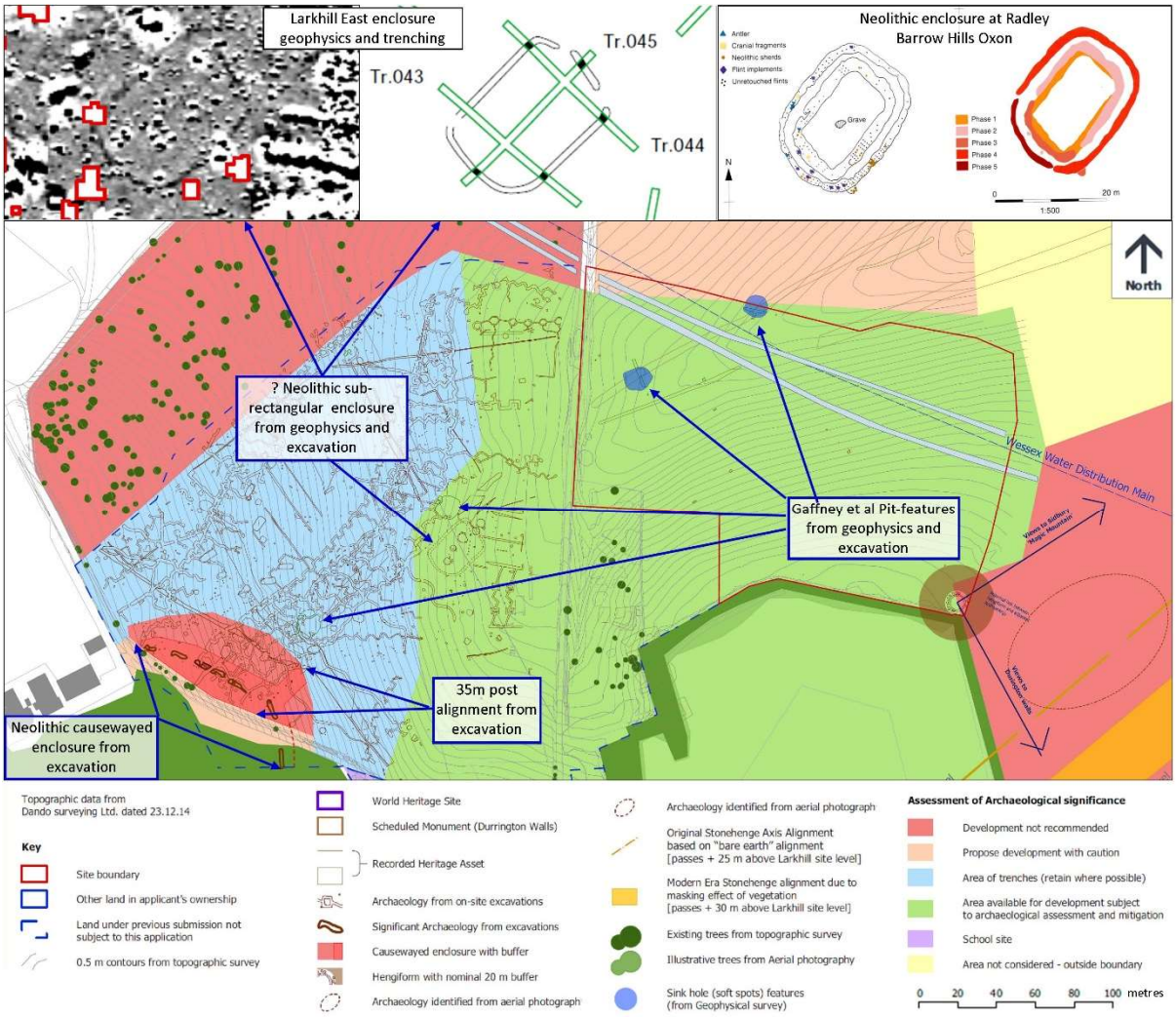

Fig. 4 Larkhill East Army Rebasing Service Families housing development: archaeology mitigation plan (extract) showing causewayed enclosure; post alignment; and sub-rectangular enclosure relative to 'sinkholes' (Wessex Archaeology 2018) or massive pit features (Gaffney et al 2020). Insets: detail of geophysics and trenching of sub-rectangular enclosure and comparable monument at Barrow Hills, Radley, Oxon. (after Bradley, R. et al 1992, The Excavation of an Oval Barrow beside the Abingdon Causewayed Enclosure, Oxfordshire' *Proc. Prehist. Soc.* **58** pp. 127-142)

Council for British Archaeology

The Rt. Hon. Grant Shapps, MP,
Secretary of State for Transport,
c/o Ms Susan Anderson,
Head of Transport Infrastructure Planning Unit,
Great Minster House,
33 Horseferry Road,
London
SW1P 4DR.

27th May 2020

Sent by email to

The Planning Inspectorate at A303Stonehenge@planninginspectorate.gov.uk
DfT Transport Infrastructure Planning Unit TRANSPORTINFRASTRUCTURE@dft.gov.uk

Dear Secretary of State,

Planning Act 2008 and The Infrastructure Planning (Examination Procedure) Rules 2010

Highways England's Application for a Development Consent Order for the A303 between Amesbury and Berwick Down.

We are grateful to the Planning Inspectorate for notifying us of your request of 4th May for comments and advice from Historic England in respect of archaeological issues to help inform the decision you are to make on this scheme in the light of the Examination and the Examining Authority's report and recommendations. We are also grateful to the Inspectorate for informing us of the responses received. In sending you this letter we have again conferred with CBA Wessex with whom we presented our evidence to the Examination.

We naturally have no knowledge of the Examining Authority's report and recommendations that you have before you to determine this application for a Development Consent Order – but we note that your request relates to issues that represent core strands of our evidence to the Examination. This letter seeks to achieve three things:

- **We seek advice** on issues of equity in how your request is to be dealt with in respect of all the evidence presented to the Examination; and in this context -
- **We briefly comment** on the nature of the responses published; and in the light of this -
- **We provide an index** to where the evidence we have already presented to the Examination directly pertaining to these matters can be found.

REQUEST FOR PROCEDURAL GUIDANCE

We note that s.19 of the *Infrastructure Planning (Examination Procedure) Rules 2010 Procedure* does not cover the procedures for when the decision-maker requests further information or advice, and we would be grateful for clarification. We had assumed that parties to the Examination, whether supporters or objectors,

would not be able to make further representations to further their cause – but we are unclear as to the protocols where further information is requested by the decision-maker in an area central to that case.

We therefore request your guidance in respect of the following:

1. Are we correct in assuming that the process has reached the stage where ALL the evidence presented to the Examination is weighed up – on its merits – against key objectives, policy standards and statutory duties first by the Examining Authority and then, on the basis of their report and recommendations, by the Secretary of State?
2. Would we also be correct in supposing that where the Examining Authority or the Secretary of State requests further information or advice from public bodies acting as the Government's formal advisors in their field of expertise that they too are bound by principles of equity and fairness?
3. Is it incumbent upon them *in this role* to give their advice having weighed up all the pertinent evidence that is before the Examining Authority and the Secretary of State – not just their own (whether in support of or against the scheme)?
4. As between i) providing a view on appropriate procedures, ii) provision of factual information and iii) providing advice, does the principle of considering all the pertinent evidence presented to the Examination on its merits (as is required of the Examining Authority and the Secretary of State) apply to all these aspects of providing advice so far as they are relevant to the actual request?
5. Where such a request is made on a topic that was subject to debate and different views during the Examination on which the Secretary of State *still* requires further guidance after the Examination Authority has reported, is it incumbent upon the statutory body to whom the request is addressed – as a matter of equity – to give reasons for the advice, demonstrating they have given due weight to all relevant evidence, so that the decision-maker can properly fulfil his role under s.116 of the Act?
6. If the scheme were to be approved, and given the 'reflexive approach' that the Secretary of State refers to, would ALL the evidence submitted to the Examination on these matters be taken forward to inform the workshop debates and the deliberations of the Scientific Committee and 'stakeholders'?

We were intending to raise these questions anyway because the questions addressed to Historic England (also involving Wiltshire Council's input and that of others) suggest that the Examining Authority may have taken our evidence and that of others on these matters seriously in reporting to you. In the light of the responses now published, we are doubly concerned that not all the issues raised by these requests relative to harm to the WHS and its surroundings have been addressed, nor is there any clear evidence that all pertinent evidence available to the Examining Authority and Secretary of State, has been considered.

We would therefore welcome your guidance on what the expectations of PINS and the Secretary of State's options are in respect of the standards of equity to be met in this matter, noting the further points below and the content of the evidence we submitted on these matters.

Council for British Archaeology
92 Micklegate, York
YO1 6JX
Tel: 01904 671417

Archaeology for all
www.archaeologyuk.org
info@archaeologyuk.org

RESPONSES PUBLISHED

We note that the Stonehenge Alliance raises similar concerns.

We note Highways England's response and Wiltshire Council's comments, which mostly cover matters of decision-making procedure, and amendments being made to the DAMs and an outline of post-Examination liaison.

Historic England's rather wider ranging response helpfully covers the procedural matters, and while it does refer to their own evidence does not overtly show whether (and if so how) they may have considered the evidence presented to the Examination by a number of other bodies on these matters.

We note in particular that you requested two distinct points of advice:

> *….the comments of Historic England on the proposed amendments to the OEMP and DAMS above…*
> *….and its assessment of the extent to which the amendments might help to minimise the harm to the Stones and surrounding environment of the WHS.*[1]

While Historic England's response clearly comments on the proposed amendments (which we agree are generally helpful), their 'assessment' relative to minimising harm to the WHS seems much more to do with the procedures than any actual outcome in terms of harm to the WHS. Perhaps most obviously they report post-Examination discussions that have

> *"….focused on how a series of technical workshops could be convened at which the Scientific Committee's attendance would be vital. These would structure and facilitate detailed technical discussion regarding topics such as sampling of ploughsoil and tree hollows and also importantly the development of site-specific research questions from the framework included in the Archaeological Research Agenda in the DAMS (Section 4). These workshops would inform the production of the SSWSIs and facilitate the Scientific Committee's direct engagement in ensuring excellence in the design and provision of archaeological assessment, evaluation, mitigation and fieldwork. HMAG are currently discussing with Highways England specific provisions for such workshops in the SSWSIs on a series of agreed themes and outcomes."*

And

> *"Our advice has addressed the need to avoid any risk of confusion which might impede the successful operation of the processes, procedures and consultation mechanisms set out in the OEMP and DAMS designed to minimise the harm to the Stones and surrounding environment of the World Heritage Site (WHS)."*

[1] We are not quite sure what the Secretary of State intends to convey by the phrase *'the Stones and surrounding environment of the* WHS' – no archaeological works related to the Stonehenge monument itself are envisaged, but much of the work referred to would be undertaken elsewhere within the WHS as well as in its surroundings. We have interpreted the phrase to mean areas affected by the scheme, both within and outside the WHS covered by the OEMP and DAMS and related documents, especially with respect to its Outstanding Universal Value.

These comments are in themselves reasonable and procedurally have potential to be beneficial (at least relative to the applicant's original proposals). But these (and other) comments do not make it clear what difference such arrangements would – or even could make in terms of actual harmful **outcomes.** They do not make such an assessment relative to matters such as:

- the actual limitations of what is known or predictable to date (archaeologically and in relation to soils and ground movement);
- basic principles of archaeological research and policy which the CBA and others discussed;
- a clear risk-based approach (e.g. including what proportion of potentially significant archaeological evidence of different kinds might go unrecorded or be missed altogether);
- how different aspects of sampling (ploughzone and tree-throw hollows) need to mesh in with other sampling as a complete approach
- archaeological parameters for any ground movement monitoring regime to be adopted;
- whether the default position would be preservation or archaeological recording if it is not possible to square archaeological requirements with soil handling standards; nor
- what overall reporting and monitoring review of the whole process would be published.

We welcome improvements in clarity and consistency in procedures, and the less rigidly limited approach to sampling originally proposed, and also welcome in principle the greater involvement of 'stakeholders' (whoever they may be). But we are disappointed at the absence of any substantive assessment of whether the proposed amendments would make any difference in terms of actual harm to the WHS and its surrounding environment – especially in respect of archaeological remains that contribute to its OUV.

This does not reflect as clear a risk-based precautionary approach as we believe befits a World Heritage Site.

We also note the Stonehenge Alliance's concerns about the independence of the Scientific Committee. We share some misgivings that the Committee is not constituted to be independent of Highways England as the Authority for the scheme or to be able to speak for itself publicly should it have any concerns.[2] It is

[2]We note that according to the final OEMP (paragraph 1.1.10) and the A303 Scientific Committee website http://www.a303scientificcommittee.org.uk/ that

1. The 'Authority' for the scheme is Highway England (the applicant/developer) which appoints the Heritage Management Advisory Group (HMAG)
2. The members of HMAG were all supporters of the scheme at the Examination, as also applies to the Stakeholder Design Consultation Group (SDCG)
3. HMAG appoints the Scientific Committee and is itself part of it, the balance of the committee being independent experts in academia. It is unclear how additional expertise on specific technical issues may be procured.
4. The Scientific Committee's purpose is to provide advice "At the request of HMAG and Highways England" and it appears that they convene the Committee – which has not met (or has not updated its website) since July 2019.
5. We note that
    a. While the Committee discussed evaluation methods and the website contains a series of evaluation reports from Highways England's contractors, there is no rigorous scientific assessment of their efficacy or predictive value (cf **REP2a-005** Observations …on Archaeological Survey Reports and Draft Mitigation Strategy https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR010025/TR010025-000907-Council%20for%20British%20Archaeology%20-%20Late%20Sub.pdf)

noticeable that although it wished to, the Committee was not enabled to give evidence on technical issues to the Examination.

We have consistently urged a precautionary approach. Dealing with uncertainty and being prepared for the discovery of totally unforeseen new insights (which are often more important than the research questions that can be foreseen) is at the heart of archaeological endeavour. While procedural arrangements for better engagement of specialist research advice are welcome, flexibility to respond in the light of what is found is essential. In our view it remains the case – as we explained in detail to the Examination – that:

- The whole procedure proposed is based on evaluation work that was not scientifically analysed to provide an objective assessment of its limitations or to make any quantitative predictions or estimates of what exists within the areas affected.
- The risk and scale of important evidence not being recovered due to insufficient sampling has not been objectively considered relative to policy tests.
- The approach to sampling is still not sufficiently precautionary, or sufficiently fully integrated to ensure full recovery of sparse, rare or unique evidence that would contribute to current and future understanding of the OUV of the WHS and its surroundings.
- The conflict of soil handling standards versus archaeology remains unresolved, still with no attempt to demonstrate scientifically what is deliverable, and with no clear default position as to options for preservation or recording any archaeology that might be damaged (which itself is not yet well understood).
- There is no requirement to follow rather than just consider independent expert advice, contrary to the heritage-led objective of the scheme.

REQUEST FOR A PRECAUTIONARY APPROACH

In the attached Appendix setting out where we have presented evidence on the issues to which your questions relate, we have provided our own '*comments on the proposed amendments to the OEMP and DAMS'* and our '*assessment of the extent to which the amendments might help to minimise the harm to the Stones and surrounding environment of the WHS'* which we believe is an issue of real-world outcomes not just procedural clarity.

We hope in complementing other responses this may assist your deliberations. Since these are matters for the legally binding DCO, **we request** in particular that

- As a matter of equity, the evidence the CBA presented to the Examination bearing on the amendments proposed is fully taken into account in making your decision;

b. At the last meeting there was a long discussion about sampling strategies and the Committee was seeking additional statistical advice, with a view to making a submission to the Examination Deadline 6. But it appears that no further meeting was held; no statistical reports were obtained; and the sampling discussions were not obviously reflected in Highways England's revisions to the DAMS at that stage; and although the Scientific Committee clearly decided that it wished to make a contribution to the Examination and discussed the logistics, Highways England did not convene another meeting.

- The status, composition and role of the Scientific Committee, including its formal independence and objectivity, is reviewed in the light of all the evidence before the Examination and the concerns voiced at the last meeting of the Committee;
- The post-Examination liaison regarding the involvement of 'stakeholders' is fully published and proposals consulted upon, including which organisations should be regarded as 'stakeholders' other than those identified as such in the OEMP;
- The potential outcomes in terms of real-world harm to the WHS and its surroundings and the very substantial uncertainties that remain are considered in relation to policy, not just the appropriateness of procedures.

As we did in our evidence to the Examination, **we urge** you to take a precautionary approach towards preserving Britain's internationally important archaeology for future generations.

Yours sincerely

[redacted]

Neil I Redfern
Executive Director
Email: neilredfern@archaeologyuk.org
Tel: [redacted]

APPENDIX: THE SECRETARY OF STATE'S REQUESTS –
INDEX OF THE CBA'S EVIDENCE PERTAINING TO THESE ISSUES; COMMENTS AND ASSESSMENT OF HARM TO WHS AND ITS SURROUNDING ENVIRONMENT.

This index is arranged in accordance with your specific questions with notes commenting on your two main requests for

- *Comments on the proposed amendments*; and
- *Assessment of the extent to which the amendments might help to minimise the harm to the Stones and surrounding environment of the WHS*

For each question, we reference where our evidence pertinent to that issue can be found, citing documents in the order they were presented (which in several cases expanded and reinforced key concerns). For convenience we have included paragraph and/or page references with a clickable link (in extremely small print) to these documents as found in the Examination Library.

This includes the implications of how the points raised relate to policy tests and best practice relevant to any assessment of harm to the WHS and its surrounding environment. We have included some comments and an assessment of harm, summarising briefly what we covered in our evidence.

SECRETARY OF STATE REQUEST FOR COMMENT	***CBA EVIDENCE***	***COMMENTS AND ASSESSMENT OF HARM***
1. OEMP, Paragraph 1.1.12 – HEMP		**Comment:** The proposed amendment only addresses textual consistency. **Assessment:** Unfortunately Historic England has not fully assessed whether or not the amendment would in practice materially reduce or increase harm to the WHS and surrounding environment. It seems unlikely to make any substantive difference. **Conclusion:** Greater clarity but no substantive difference.
2. OEMP, PW-LAN1 - ES	**REP2-070** *Deadline 2 Submission - Written Representation* p 21 para 62	**Comment:** The proposed amendment only addresses textual consistency.

Council for British Archaeology
92 Micklegate, York
YO1 6JX
Tel: 01904 671417

Archaeology for all
www.archaeologyuk.org
info@archaeologyuk.org

Chapter 7, Section 7.8 Retained Vegetation	https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR010025/TR010025-000854-Council%20for%20British%20Archaeology%20-Written%20Representation.pdf	**Assessment:** Unfortunately Historic England has not fully assessed whether or not the amendment would in practice materially reduce or increase harm to the WHS and surrounding environment. It seems unlikely to make any substantive difference. **Conclusion:** Greater clarity but no substantive difference.
3. OEMP, PW-GEO3 - Soils Management Strategy (SMS)	**REP2-070** *Deadline 2 Submission - Written Representation* pp 16-17, paras 45-7 https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR010025/TR010025-000854-Council%20for%20British%20Archaeology%20-Written%20Representation.pdf **REP2-075** *Detailed Comments on Policy Framework* paras D.3-D.8; D.10; D14-D15; D.17-D19; D.22 https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR010025/TR010025-000847-Council%20for%20British%20Archaeology%20-Appendix%20D%20%E2%80%93%20Detailed%20Comments%20on%20Policy%20Framework.pdf **REP2a-005** *Observations …on Archaeological Survey Reports and Draft Mitigation Strategy* p 2 para 3; p 5 para 10; p 22 paras 71 and 75 https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR010025/TR010025-000907-Council%20for%20British%20Archaeology%20-%20Late%20Sub.pdf **REP3-049** *Supplementary Observations Regarding Applicant's Responses to ExA Questions - Cultural Heritage* p 8 para 22 https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR010025/TR010025-001030-Council%20for%20British%20Archaeology%20-%20Supplementary%20Observations%20Regarding%20Highways%20England%E2%80%99s%20Responses%20to%20Examination%20Questions-%20SEA%20and%20Alternative%20Route%20Options.pdf **REP6-084** *Response to ExA's 2nd Round of Written Questions* p 5-6 para CH.2.5; p 27 para CH.2.9iii; pp 36-40, para CH.2.9xv; p	**Comment:** The proposed amendment only addresses textual consistency, not the substance of the issues of soils management and archaeology which remains unresolved. **Assessment:** Unfortunately Historic England has not substantively assessed whether or not the amendment would in practice materially reduce or increase harm to the WHS and surrounding environment, or whether or not the amendment would resolve the issues raised by the CBA throughout the Examination. Nor do they comment on the relevant policy context of options to preserve archaeological remains *in situ* or excavate and record them. While the final drafts of the OEMP and DAMS get closer to *identifying* the technical scientific issues of archaeological preservation *in situ* relative to soil handling standards, no actual analysis work has been conducted. It should be noted that the requirement of p.78 para 5.2.17 of *Draft Final DAMS*, Sept 2019 that *…the provisions of the Construction Code of Practice for the Sustainable Use of Soils on Construction Sites (DEFRA, 2009) will not override the more detailed, bespoke provisions of this DAMS, nor the documents prepared pursuant to it.*

	46 para Fg.2.37; pp 82-83 para WM2.4; pp 83-85 paras WM.2.8. WM.2.10 https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR010025/TR010025-001422-CBA-Late%20D6%20Sub-Response%20to%20Examining%20Authority%E2%80%99s%20Second%20Round%20of%20Written%20Questions.pdf **REP8-036** *Written Summaries of oral submissions at Issue Specific Hearing* pp 7-8 para 3.3iii last two bullet points; p 12 para 5.2v and 5.2vi; p 13 para 5.3 https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR010025/TR010025-001590-Council%20for%20British%20Archaeology%20-%20Written%20Summaries%20of%20oral%20submissions%20at%20Issue%20Specific%20Hearings.pdf	applies ONLY to *'Handling, storage and placement of excavated topsoil'*, NOT preservation *in situ* beneath undisturbed topsoil for compounds, temporary roads, areas of fill etc. Paragraphs 5.1.1 to 5.1.2 ff leave matters otherwise ambiguous. As noted in our evidence (REP6-084 p36), Historic England's guidance on this does not recommend temporary burial of topsoil beneath major construction compounds etc., or even present it as a proven, realistic scenario recommending that more research is needed (which hasn't been done). In the absence of any other archaeological standard to override the established DEFRA and BSI soil handling standards for these works, archaeological excavation is the likely default mitigation because it is likely still to be '*consistent with the DAMS and any Heritage Management Plan, Archaeological Method Statement or SSWSI*' and with Historic England's guidance, whereas breaching the DEFRA and BSI soil handling standards would NOT be consistent with the OEMP or the Outline Soils Management Plan (para 1.1.3). Even where the DEFRA and BSI soil handling standards would be overridden, there remains no provision to prevent or limit harm arising from any remedial subsoiling etc by owners after returning the land to agriculture. **Conclusion:** The proposed amendment only addresses textual consistency, not the substance of the still-unresolved inherent incompatibility of current best practice in soil handling on construction sites and archaeological conservation. As explained in our evidence, the areas involved are very extensive and their archaeological potential even outside the WHS clearly contributes to its OUV. The clear risk of significantly greater loss of archaeological remains to the detriment of the WHS OUV highlighted by the CBA would not be resolved by this amendment.

		The options of *in situ* preservation or removal by archaeological recording have to be considered in the light of NPSNN para 156 and Historic Environment PPG 2019 (paragraph 002, Reference ID: 18a-002-20190723 – on which Historic England has stated *"Text has been added to confirm that 'the ability to record evidence of our past should not be a factor' in deciding whether complete or partial loss should be permitted"* https://historicengland.org.uk/content/docs/planning/ppg-historic-environment-he-briefing/)
4. OEMP, MW-G5 – Preparation of a CEMP AND *5. OEMP, MW-G11 – Handover Environmental Management Plan*	**REP8-037** *Observations on Agenda Items not dealt with orally 21/08/2019* p 10-11 paras 57-61 https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR010025/TR010025-001591-Council%20for%20British%20Archaeology%20-Written%20Observations%20on%20Agenda%20Items%20not%20Dealt%20with%20Orally%20at%20Hearing%20on%2021%20August.pdf	**Comment:** The proposed amendment only addresses textual consistency. **Assessment:** Unfortunately Historic England has not fully assessed whether or not the amendment would in practice materially reduce or increase harm to the WHS and surrounding environment. It seems unlikely to make any substantive difference. **Conclusion:** Greater clarity but no substantive difference to harm.
6. OEMP, MW-CH8 – Ground Movement Monitoring Strategy **And**	**REP6-084** *Response to ExA's 2nd Round of Written Questions* p 24-27 paras CH.2.9i and CH.2.9ii; pp 69-77 paras Ns.2.7 and Ns.2.8 https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR010025/TR010025-001422-CBA-Late%20D6%20Sub-Response%20to%20Examining%20Authority%E2%80%99s%20Second%20Round%20of%20Written%20Questions.pdf	**Comment:** The proposed amendment only addresses textual consistency, not the substance of the issues of soils management and archaeology which remains unresolved. **Assessment:** Unfortunately, Historic England has not substantively assessed whether or not the amendment would in practice materially reduce or increase harm to the WHS and

8. DAMS, para 5.2.8 – Ground movement monitoring stations	**REP8-036** *Written Summaries of oral submissions at Issue Specific Hearing* pp 8-9 para 4.3iv https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR010025/TR010025-001590-Council%20for%20British%20Archaeology%20-Written%20Summaries%20of%20oral%20submissions%20at%20Issue%20Specific%20Hearings.pdf	surrounding environment, or whether or not the amendment would resolve the issues raised by the CBA. The final amendments to the DAMS include at 5.2.9 *"The GMMS will include provisions for baseline monitoring appropriate for collecting data at an appropriate frequency and accuracy in line with* British Tunnelling Society: Monitoring Underground Construction, A best practice guide *and shall be provided through a levelling system comprising a zero-ground disturbance, fully reversible surface mounted installation."* But this does not clarify the archaeological parameters of accuracy and spatial resolution required: the DAMs provisions still only cover the avoidance of damage from the monitoring points, not the avoidance of damage from ground movement, which in terms of harm to the WHS remains an unquantified risk. The actual degree of movement has not been modelled using the best practice guidance cited, and remains extremely uncertain, giving no baseline from which to judge any greater or lesser harm to the WHS. **Conclusion:** Some improvement in textual clarity. No difference in the current unpredictability and uncertainty of outcomes in terms of actual harm to the WHS
7. OEMP, D-LAN4 – Stakeholder Engagement (Countess Flyover)	**REP6-084** *Response to ExA's 2nd Round of Written Questions* p 40-41 paras De.2.2 De.2.4; pp 19-20 para CH.2.8 (Settings of Blickmead, Vespasian's Camp and Amesbury RPG) https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR010025/TR010025-001422-CBA-Late%20D6%20Sub-Response%20to%20Examining%20Authority%E2%80%99s%20Second%20Round%20of%20Written%20Questions.pdf	**Comment:** The proposed amendment only addresses textual consistency. **Assessment:** Unfortunately Historic England has not fully assessed whether or not the amendment would in practice materially reduce or increase harm to the WHS and surrounding environment. The 'Stakeholder' engagement is presumably limited to the group defined in the OEMP. The two ways in which this could make a substantive difference to the harm to the WHS and its surroundings are if as a result of such consultations

		1. the engineering/architectural design reduced the harm to the setting of nearby heritage assets 2. the engineering design avoided impacts on palaeo-environmental deposits and potential for Mesolithic and later archaeology in the vicinity. The provision could be beneficial in somewhat reducing or avoiding harm but is rather unlikely to make a more than marginal difference **Conclusion:** Greater clarity; possibly beneficial but no substantive difference likely.
9. DAMS, paragraph 6.3.16 – Ploughzone Sampling and	**REP2-070** *Deadline 2 Submission - Written Representation* p 15 bullet points 3 & 4 https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR010025/TR010025-000854-Council%20for%20British%20Archaeology%20-Written%20Representation.pdf **REP2-075** *Detailed Comments on Policy Framework* paras D.3-D.8; D.10; D14-D15; D.17-D19; D.22 https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR010025/TR010025-000847-Council%20for%20British%20Archaeology%20-Appendix%20D%20%E2%80%93%20Detailed%20Comments%20on%20Policy%20Framework.pdf **REP2a-005** *Observations …on Archaeological Survey Reports and Draft Mitigation Strategy* pp 2-3 paras 1-5; pp 9-10 paras 28-31 https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR010025/TR010025-000907-Council%20for%20British%20Archaeology%20-%20Late%20Sub.pdf **REP6-084** *Response to ExA's 2nd Round of Written Questions* p 4-5 para CH.2.4; p 5-6 para CH.2.5; pp 30-31 para CH.2.9viii https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR010025/TR010025-001422-CBA-Late%20D6%20Sub-Response%20to%20Examining%20Authority%E2%80%99s%20Second%20Round%20of%20Written%20Questions.pdf	*[Note: these two proposed amendments (9 and 10) are taken together for comment and assessment].* **Comment:** They seek to reinforce the role of the Scientific Committee and to make any divergence from its advice public. **Assessment:** Unfortunately Historic England has not fully assessed whether or not the amendment would in practice materially reduce or increase harm to the WHS and surrounding environment. *Depending on* the advice *and IF* it was followed, it is possible that this could lead to less loss of important but sparse, rare or unique evidence, and that it could lead to identification of areas with significant subsoil remains. This *could* lessen the loss of material contributing to the OUV of the WHS and its surroundings. Taken together with the similar provision for tree hollows this effect could be enhanced (cf CBA evidence stressing the complementary value of ploughzone and tree-throw hollows).

	AS-075 *Tree Holes presentation at Issue Specific Hearing 8* p 8 especially the last two main bullet points https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR010025/TR010025-001512-AS-Council%20for%20British%20Archaeology.pdf [Note: an explanation of the slides in this presentation is to be found in the next item, REP8-036] **REP8-036** *Written Summaries of oral submissions at Issue Specific Hearing p 14 para 5.4 slides 7-8* https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR010025/TR010025-001590-Council%20for%20British%20Archaeology%20-Written%20Summaries%20of%20oral%20submissions%20at%20Issue%20Specific%20Hearings.pdf **REP8-037** *Observations on Agenda Items not dealt with orally 21/08/2019* p 3-5 paras 9 to 23 https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR010025/TR010025-001591-Council%20for%20British%20Archaeology%20-Written%20Observations%20on%20Agenda%20Items%20not%20Dealt%20with%20Orally%20at%20Hearing%20on%2021%20August.pdf **REP9-036** *Comments on Deadline 8 Submission [Historic Environment PPG, July 2019]* pp 4-5 https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR010025/TR010025-001665-Council%20for%20British%20Archaeology%20-%20Comments%20on%20Deadline%208%20Submissions.pdf	However, these aspects are only two issues in a whole raft of sampling issues *ALL* of which combine to deliver the overall effectiveness of mitigation. By *NOT* applying the same provision to *ALL* aspects of archaeological sampling, the potential effectiveness of these amendments relative to reducing harm to the WHS and its surroundings is considerably less than if it were a general provision. Even so, much depends on what 'clout' the Scientific Committee has and how independent it actually is. The circumstances of its last meeting and absence of any follow up to implement its discussions suggests that this is very far from guaranteeing better outcomes – especially where faced with logistical and other challenges discussed in our evidence responding to the ExA Questions 2 (REP6-084 pp 28-30). **Conclusion:** The actual likely effect of these amendments depends on a complex chain of conditions, all of which contain significant uncertainties. • Procedurally, there would be greater clarity and transparency for the advice given about the aspects of sampling concerned. • The potential for substantive difference in terms of harm to WHS and surroundings is significantly limited by restricting the provision to only two aspects of archaeological works. • The 'clout' of the Scientific Committee is less clear than it might be in terms of remit, composition and role and its degree of independence. • Much depends on what regard Highways England would have to its non-binding advice (whether public or not) – for which the indications of what happened in relation to the Committee's last meeting are at best ambiguous.
10.DAMS, paragraph 6.3.51 – Tree Hollows	**REP2-075** *Detailed Comments on Policy Framework* https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR010025/TR010025-000847-Council%20for%20British%20Archaeology%20-Appendix%20D%20%E2%80%93%20Detailed%20Comments%20on%20Policy%20Framework.pdf **REP2a-005** *Observations …on Archaeological Survey Reports and Draft Mitigation Strategy* pp 8-9 paras 24-26 https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR010025/TR010025-000907-Council%20for%20British%20Archaeology%20-%20Late%20Sub.pdf	

Council for British Archaeology
92 Micklegate, York
YO1 6JX
Tel: 01904 671417

Archaeology for all
www.archaeologyuk.org
info@archaeologyuk.org

	REP6-084 *Response to ExA's 2nd Round of Written Questions* p 8-9 para CH.2.5; pp 31-35 para CH.2.9ix https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR010025/TR010025-001422-CBA-Late%20D6%20Sub-Response%20to%20Examining%20Authority%E2%80%99s%20Second%20Round%20of%20Written%20Questions.pdf **AS-075** *Tree Holes presentation at Issue Specific Hearing 8* ALL especially summary p 8 https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR010025/TR010025-001512-AS-Council%20for%20British%20Archaeology.pdf [Note: an explanation of the slides in this presentation is to be found in the next item, REP8-036] **REP8-036** *Written Summaries of oral submissions at Issue Specific Hearing* pp 13-14 para 5.4 slides 1 to 8 https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR010025/TR010025-001590-Council%20for%20British%20Archaeology%20-%20Written%20Summaries%20of%20oral%20submissions%20at%20Issue%20Specific%20Hearings.pdf **REP8-037** *Observations on Agenda Items not dealt with orally 21/08/2019* pp 7-8 paras 34 to 44 https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR010025/TR010025-001591-Council%20for%20British%20Archaeology%20-%20Written%20Observations%20on%20Agenda%20Items%20not%20Dealt%20with%20Orally%20at%20Hearing%20on%2021%20August.pdf **REP9-036** *Comments on Deadline 8 Submission [Historic Environment PPG, July 2019]* pp 4-5 https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR010025/TR010025-001665-Council%20for%20British%20Archaeology%20-%20Comments%20on%20Deadline%208%20Submissions.pdf	• A great deal depends on pressures of conducting large-scale archaeological works on major infrastructures projects that relate to procurement, project planning, responding to unforeseen problems as explained in our evidence. • A fundamental condition for implementing the 'reflexive' approach proposed and which has not been demonstrated is in timetabling for the most time-consuming level of response not the least – there is no evidence that this has been examined. *Overall* the effect of these amendments in terms of harm to the WHS and its surrounding environment is in principle potentially beneficial, but only partially so and even then extremely uncertain.