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To: [A303 Stonehenge](#)
Cc: [George Lambrick](#); [Chair](#); stonehenge@cba-wessex.org.uk
Subject: RE: Written Representations from the Council for British Archaeology (REF 20019887)
Date: 17 May 2019 13:24:45
Attachments: [Stonehenge Statement Supplementary Observations \(Archaeological Fieldwork and Mitigation\) FOR SUBMISSION.pdf](#)

Dear Sir/Madam

Please find attached a further representation from the Council for British Archaeology in relation to Deadline 2a of the Examination timetable. We apologise for not being able to submit this document in time for the published deadline but as a small organisation our resources are limited. We hope that the important material contained within our Representation can still be considered as part of the Public Examination.

Yours faithfully

Mike Heyworth

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From: Mike Heyworth
Sent: 03 May 2019 23:58
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Cc: [George Lambrick <george@lambrick.co.uk>](mailto:George.Lambrick@lambrick.co.uk); [Chair <chair@archaeologyuk.org>](mailto:Chair@archaeologyuk.org); stonehenge@cba-wessex.org.uk
Subject: Written Representations from the Council for British Archaeology (REF 20019887)

Dear Sir/Madam

Please find attached Written Representations (including a summary) from the Council for British Archaeology (Interested Party ref 20119887) for consideration in relation to Deadline 2 of the Examination timetable. The Representations are also supported by CBA Wessex (registered as a separate Interested Party) which is a separate charity and part of the CBA network covering Wiltshire (as well as Hampshire, Berkshire and Dorset).

We will endeavour to provide further Representations in relation to material submitted by Deadline 1 – but as requested in our email yesterday, in view of the substantial nature of the material provided and the very short time since it was made available (which includes Easter) we request an extension to the Deadline 2a to ensure that we have sufficient time to consider this new material and discuss any implications with our trustees.

Yours faithfully

Mike Heyworth

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***The Planning Act 2008 - Chapter 2 Examination TR010025
A303 Amesbury to Berwick Down Improvements***

***Written Submission by the Council for British Archaeology
and CBA Wessex***

May 2019

**SUPPLEMENTARY OBSERVATIONS
ARISING FROM MATERIAL DEPOSITED FOR DEADLINES 1 & 2
PART A – ARCHAEOLOGICAL SURVEY REPORTS AND DRAFT
MITIGATION STRATEGY**

The Planning Act 2008 - Chapter 2 Examination TR010025

A303 Amesbury to Berwick Down Improvements

Written Submission by the Council for British Archaeology May 2019

Supplementary Observations Arising From Material Deposited For Deadlines 1 & 2

Part A – Archaeological Survey Reports and Draft Mitigation Strategy

SUMMARY

1. The fieldwork reports presented do not cover the full scope of work carried out; nor are they fully integrated with previous evaluations relied upon to fill gaps. Although the coverage of geophysics is full, it is only reliable for the clearest linear features, with almost none of the significant small features (burials pits etc) encountered in trenching having been identified. The topsoil artefact recovery was much better at identifying non-monumental areas of prehistoric activity. Over the whole footprint of the scheme the density of trenching was very low, and though more intensive for the proposed road foot print, it is clear that vastly more archaeology related to non-monumentalised graves and living areas is likely to be present than has been uncovered to date.
2. The likely scale of these losses is not fully reported in the assessment of effects presented in the ES (Chapter 6, section 6.9), nor in the Heritage Impact Assessment (section 11). This strongly reinforces the CBA's concern that those assessments substantially underestimate the harm to the OUV of the WHS and environs in respect to paragraph 2.3.10 and p.28 of the WHS Management Plan and what NSPNN para 5.124 refers to as the '*primary source of evidence about the substance and evolution of places, and of the people and cultures that made them.*'
3. The mitigation strategy as drafted is flawed in not demonstrating that proposals for preservation *in situ* are deliverable, and in not providing contingencies for unexpected discoveries. The proposed sampling of deposits means that 99% of ploughzone artefacts and 60% to 80% of each main linear feature would be destroyed without recovering any artefacts, thereby calling in to question the need to maximise evidence to assist understanding.
4. These results show more clearly that aspects of the setting of monuments that contribute to their significance and the OUV of the WHS would be harmed to a greater extent than recognised in the ES and HIA.

5. The fieldwork results strongly substantiate the case for the WHS being extended W of the A360 – with significant implications, both in terms of the setting of the WHS as presently defined, and the monuments in the vicinity that contribute to its OUV. This also has major implications for alternative options and the potential future extent of the WHS if different solutions were found to deal with both the A303 and the A360.

INTRODUCTION

Issues

6. The CBA's main Written Statement identified a number of concerns regarding coverage of archaeology and related issues of setting in the ES (Chapter 6), based in part on a preliminary scan, but not a closer review of a very substantial body of archaeological fieldwork reports. Such is the scale and complexity of the detail of this material that these supplementary comments still only highlight the salient issues.
7. This review bears out and reinforces the observations presented in Part 2 of our Main Statement and its summary. The main issues arising are:
 - The scope and timing of fieldwork
 - Coverage of past and current surveys relative to DCO boundaries and direct and indirect impacts of the construction, operation and potential future decommissioning of the proposed scheme
 - Coverage, sampling strategies and results in respect of *forecasting* the complete baseline situation in respect of different types of archaeological evidence
 - Implications for loss of physical remains contribution to OUV authenticity for the WHS and wider archaeological potential Results relative to ES and HIA
 - How the results contribute to assessment of the setting of heritage assets (archaeological monuments, sites and deposits)
 - The relationship of the results to issues of OUV **authenticity** for the WHS and wider archaeological potential, both within the WHS and its 'environs' as per the WHS Management Plan

- The relationship of the results to issues of OUV **integrity** for the WHS and wider archaeological potential, both within the WHS and its 'environs' as per the WHS Management Plan.
- Implications for **forecasting** the evolution of the baseline scenario without the proposed scheme (or with an alternative scheme elsewhere)
- Implications for Alternative options
- Mitigation issues
- Expertise and authorship related to EIA Regulations and Professional Standards

Scope and timing of fieldwork

8. It is clear that the ES and Heritage Impact Assessment were completed before some key stages of fieldwork were complete. In particular:

- ES Chapter 6 Appendix 6.2 Archaeology Baseline Report, makes no mention of the fieldwork now reported
- ES Chapter 6 para 6.4.1 (in the section covering assumptions and limitations) states:

f) Further archaeological evaluation, to augment previous archaeological evaluations undertaken for former iterations of the Scheme alignment, situated along the mainline of the Scheme for the proposed Winterbourne Stoke bypass, River Till viaduct and embankments is in progress (field work due for completion in Autumn 2018). Notwithstanding these A303 Amesbury to Berwick Down supplementary surveys, the full Scheme boundary has been covered by non-intrusive archaeological geophysical survey and this and the results of historic surveys allow a robust assessment of likely significant impacts;

9. The Evaluation reports also make it clear that while geophysical survey may be relatively complete (though not done to a uniform standard, as discussed below, and with 0.8ha still to be done at Rollestone Corner) the surface collection surveys were NOT completed for the whole scheme before March 2018 (when crop conditions became unfavourable). It is also clear that despite statements that '*This element of survey has therefore been deferred to a future date*' (eg **DOC REP1-052** Winterbourne Stoke West Report para 2.3.6), this work was NOT resumed

when conditions were again suitable from autumn 2018. This is highly significant relative to the observation made in that report (para 8.3.7) and several other reports that *Flint scatters were identified as an under-utilised resource in the Research Framework* - especially given the clear demonstration of the far greater value of this evidence in identifying areas of enhanced prehistoric activity than the geophysics.

10. Other uncertainties arise from the statement in the ES (Ch 6 para 6.6.14) that *Intrusive field work undertaken for this project has been undertaken only where it was necessary to inform the design process. All field work has been designed to have the minimum impact possible.* In relation to intrusive fieldwork minimum impact can also be read as meaning minimum deemed necessary to characterise the areas most affected: this is NOT the same as what is required for a statistically robust sample for forecasting baseline conditions. It is very clear that large areas have not been examined fully where it is assumed that preservation *in situ* measures will be applied, but with little or no analysis having been undertaken to demonstrate the long term efficacy of such measures.

Coverage, sampling strategies and results in respect of forecasting the complete baseline situation and its evolution

11. The application of different methods of fieldwork for the main areas affected across the scheme are summarised in **Appendix I** below, based on the descriptions given in the various reports. There are significant uncertainties in this because there has been no attempt to provide an overview of the coverage and sampling rates applied, nor any systematic synthesis of all the phases of fieldwork.
12. The figures for investigation by evaluation trenching are surprisingly low and even though partly accounted for by covering only the proposed road footprint, this still leaves major uncertainties concerning the archaeological content of areas subject to temporary construction works, spoil disposal and other landscaping.

Geophysics

13. By far the fullest coverage has been the use of geophysical survey using magnetometry covering (in total over different episodes of survey) almost the whole scheme. Most of the most recent high resolution work has been in the area west of the River Till.
14. The limitations of the method for detecting archaeology are described in the Phase 4 Geophysical Surveys Report as follows:

3.6.1*For example, some features produce anomalies that are below the detection threshold of the equipment, or do not exhibit sufficiently strong contrast to be confidently identified from the background response. In addition, geophysical data cannot be used as ‘negative evidence’ [22], and if there is a dearth of geophysical anomalies it does not necessarily follow that there is a lack of archaeological features. However, numerous geophysical and archaeological investigations within and surrounding the area covered by the Scheme have shown the efficacy of these techniques. As such the probability that geophysical anomalies interpreted as ‘archaeology’ are associated with such remains is high, particularly where this is corroborated by supplementary evidence such as aerial photographs, historic mapping, archaeological investigations and additional geophysical techniques.*

15. This statement contains significant caveats, especially with regard to small features such as ‘flat grave’ burials and pits, not demarcated by ditched monuments. These often fall *below the detection threshold of the equipment, or do not exhibit sufficiently strong contrast to be confidently identified from the background response.* For these types of remains it is especially important that, *geophysical data cannot be used as ‘negative evidence’ [22], and if there is a dearth of geophysical anomalies it does not necessarily follow that there is a lack of archaeological features.*
16. The quoted ‘*efficacy of these techniques*’ in the area is not qualified in terms of relative efficacy for different types of archaeological feature, and while it may be the case that *geophysical anomalies interpreted as ‘archaeology’ are associated with such remains is high, particularly where this is corroborated by other evidence,* it is very noticeable from the interpretive mapping presented in the trench evaluation reports that anomalies interpreted as ‘archaeology’ rather than ‘possible archaeology’ are almost exclusively ditched monuments or lynchets. Even so, there are several cases of discrepancies between the geophysics and air photography; and some cases where anomalies defined as ‘archaeology’ were not found.
17. *Report 1 - Geophysical Survey Phase 4 (DOC REP1-041)* presents only a partial picture of the full geophysics undertaken: marked on the trench evaluation plans are areas covered by ‘*area of geophysical survey*’ which, in the Phase 4 reports are shown as consisting of:
 - ‘*Detailed Survey Extents*’ ie as reported in the Phase 4 report (blue outline)

- *'Previous Survey Areas'* (orange dashed outline) – which are not reported in the material submitted to the Examination or explained (but perhaps might represent Phase 1 to 3 surveys?).
 - *Previous geophysical surveys* (pink shaded areas) – also not reported in the material submitted to the Examination or explained fully, but which appear to be surveys undertaken for earlier schemes or research projects).
18. Two areas in the Winterbourne west and east areas lie outside the areas outlined in blue or orange dashes, but have been covered by the pink-shaded *Previous geophysical surveys*.
19. *Report 1 - Geophysical Survey Phase 4* Appendix A makes it clear that all 4 phases of the 2015-8 geophysics for this scheme were carried out using spacing of traverses at 0.25m for the recent work compared with the significantly lower resolution 0.50m spacing in earlier work completed for the 2003/4 scheme. It is not specified what resolution was applied in the work drawn upon for the eastern portal area.
20. The differences arising from this change in sampling standard are described in Appendix A, with a very helpful comparative plan of the one area covered by both methods. It is stated that
- 'the higher resolution of the 2016-2018 data has resulted in the improved detection of smaller and more subtle features'*
- and more generally that the greater resolution has clarified features, achieving
- 'an increased clarity and confidence in the archaeological interpretation, and features associated with agricultural activity and superficial geological deposits are also identified with greater assurance.'*
21. This comparative analysis goes on to comment that
- Despite this limitation, all the 'major' archaeological features (barrows, ditches, large pits, etc.) were successfully identified in the 1992-2004 datasets. It could be argued, therefore, that the more recently acquired dataset has not resulted in a significantly enhanced interpretation beyond that previously achieved.*
22. However, this discussion does not deal with the issue of much smaller features such as pits and flat graves. The overlaid plans show two further distinctions:

- Several of the ‘possible archaeology’ linear anomalies identified by the older work have been resolved into clusters of individual anomalies of ‘possible archaeology’
 - Many more isolated ‘possible archaeology’ anomalies have been identified.
23. Whether the difference in sampling rates matters is debateable, especially as most of the scheme has been covered to the higher resolution.
24. The key issue is how far the trenching confirmed or clarified the geophysics, and how far it added significant features not even detected. This has not been quantified¹ but the key general pattern is evident from the detailed plans accompanying the trench evaluation reports, which all show the following applies to both levels of survey:
- Most, but far from all linear anomalies marked as ‘archaeology’ have been confirmed as ditches (some non-subsoil features possibly as lynchets etc)
 - Most linear anomalies marked as ‘possible archaeology’ were NOT confirmed as ditches
 - Significant numbers of linear anomalies were not tested
 - A very high proportion of burials, cremations pits etc were NOT discovered by either level of geophysical survey (the few that did coincide with anomalies seem to have been revealed by being co-located with tree throw holes, natural hollows etc)
 - Very high proportion (perhaps in excess of 90% or 95%?) of discrete geophysical anomalies recorded as ‘possible archaeology’, have NOT investigated further
 - Significant number of discrete geophysical anomalies recorded as ‘possible archaeology’ intersected by trenches were NOT confirmed as existing
 - Of the proportionately very small number of discrete geophysical anomalies recorded as ‘possible archaeology’ that have been confirmed, the vast majority were tree throw holes, natural geology etc.

¹ Given the time available, the CBA has not attempted this in detail either

25. These observations appear to apply more or less equally to both the older, less intensive geophysics and the more recent work, and in that sense the differences may not matter much:
- As stated, both seem to have been reasonably reliable in identifying or confirming the more obvious linear features as the so-called '*major archaeological features*'
 - Both were variable in picking up areas of colluvial deposition (where potential for well-preserved deposits is higher)
 - Both proved far less reliable in relation to identifying or confirming 'possible archaeology' as being of interest (except in respect of tree holes, which can be of interest relative to the character of the prehistoric landscape)
 - Neither was at all reliable in picking up small but significant archaeological features such as burials cremations and pits rich in artefacts and biological remains, or general areas of activity.
26. On this basis there has been too much emphasis on the reliability of the results in terms of '*major archaeological features*' and far too little acknowledgement of the very serious problems of identifying small, but highly significant anomalies that are crucial to understanding the non-monumental aspects of prehistoric life around Stonehenge and related monuments in the landscape.
27. The conclusion of the Phase 4 Geophysics report states that
- 'Overall, the survey was particularly successful at identifying funerary monuments and field systems of probable prehistoric origin. In addition, it showed that a high density of archaeological features, potentially of national and international significance, are located immediately outside of the Stonehenge WHS.'*

Surface collection and topsoil sampling

28. Where undertaken, the surface collection and test pitting surveys have proved highly successful in mapping (in very general terms) the density of prehistoric activity in the time of stone implement use (Mesolithic to later Bronze Age). The methods used and presentation of results have also provided a series of internal checks by plotting different types and ages of artefact.

29. The topsoil trench sampling has also been useful but represent far smaller and less well distributed sample points, with consequentially reduced confidence in results, especially given the more limited extent of trenching in relation to the overall footprint of the scheme.
30. The trenching, although not ideally formatted to pick up small discrete features has tended to confirm slightly higher numbers in these areas, but this is not quantified in the reports, and it is very unsatisfactory that the results of earlier fieldwalking have not been incorporated. This fails to reveal adequately the obviously high archaeological potential of these areas.
31. In particular, there seems to have been little attempt to explore more thoroughly the areas of heightened activity as suggested by the topsoil finds with more large area trenches and compare this with a similar density in seemingly 'blank' areas.

Trenching

32. The combination of 50m x 1.8m trenches and 10m x 10m area excavations is (presumably) intended to maximise the effectiveness of the sample in looking for the kinds of archaeology expected (from past experience) to occur. However, there is no discussion of the rationale for the length/shape/sizes, orientations or density of the sample, nor how it was used to test areas of higher or lower potential as suggested by the topsoil finds or geophysics. The emphasis on long trenches suggests that the scheme was designed more to pick up linear features than to explore areas of identifiable potential.
33. The area exposed in trenches as a percentage of the scheme footprint is not quoted, but using the hectareage given for each of the areas reported and the number given for trenches of different dimensions the figures are remarkably low compared with the guidance in DRMB Vol 11 if the figures given in Appendix I are correct.²
34. At least in some instances this is because the trenching has been confined to the permanent landtake for the road itself, but this does not allow for full

² See Hey, G., Lacey, M., 2002: *Evaluation of Archaeological Decision Making Processes and Sampling Strategies*, Oxford Archaeology and Kent County Council; and DMRB Vol 11 para 5.7.11: '*The proportion of the proposal area to be trenched should be chosen on a case-by-case basis, but in studies of areas of known archaeology it has been shown that the optimum percentage is between 5% and 10% of an asset. Trial trenching is good for assessing the location, complexity, character, condition of assets and the quality of artefacts. It is less effective for revealing the layout of buried remains. The timing, location and percentage of the area to be trial trenched should be discussed with consultees and agreed with the Overseeing Organisation*'.

understanding of the baseline across the total footprint of the scheme including land needed for construction areas, haul roads, landscaping and spoil disposal – or potential realignment of elements at detailed design stage within the DCO boundary.³

35. This is also not related to issues related to what confidence can be attached to measures intended to avoid damage in relation to particular uses of the land within the DCO boundary and its future usage – especially where returned to agriculture (see Appendix J).
36. On the basis of the range of deposits of different kinds exposed, it is again fairly obvious that most significant ditched features of any size will be identified, but precisely the opposite applies to small pits, burials etc. Given the severe limitations inherent in the geophysics to pick up such remains and the very small chances of them happening to fall within the area of the trenches excavated, the starting point for forecasting the total baseline population of such features, would be to multiply the number actually found proportionately to the ratio of the total area excavated to the areas within the DCO boundary. This could be subdivided between different types of impact and then refined to take account of indications of where such features might be concentrated (as is tentatively apparent in the results of the trenching compared with topsoil artefacts)
37. From this starting point, on the basis of the figures of scale of excavations relative to site area as presented in the evaluation reports, it is not fanciful to suppose that anything up to a hundred-fold such features might be present; but despite the general confidence expressed in the results, no attempt has been made to make this forecast.
38. Taken in conjunction the issues of sampling reliability for different types of monuments, sites and deposits and differences in sampling strategies means that the overall fieldwork results as presented have quite varied degrees of reliability.
39. As a general observation this is clearly acknowledged in the overall conclusions of the reports that it is likely that most substantial ditched monuments will have been found, but that many small features may not have been identified. But the scale and implications of this have NOT been analysed sufficiently. A key result of this is

³ There are cases (such as the N end of the dualling of A417 N of Cirencester) where major archaeological discoveries have been made in areas not previously sampled affected by late design changes, resulting in much more significant archaeological loss, and necessitating significant revision of the detailed construction programme to accommodate much larger scale archaeological excavations to offset the impact.

the significant mismatch between the fieldwork reports that acknowledge (but do not really substantiate) the very substantial archaeological resource likely to be present.

40. Instead – and in some respects more constructively – the evaluation reports have used the results to discuss the archaeological significance of different areas in terms of their demonstrable potential to contribute to key research themes. For the WHS including areas within its ‘environs’ or setting this is highly relevant to the significance of loss in terms of OUV.
41. It is in this respect that differences between the conclusions of the fieldwork reports and the Heritage Impact Assessment and ES – which are very dismissive of the impacts in terms of irreversible loss of archaeological resources that contribute to the authenticity of the WHS and its OUV – are at their starkest.

Implications for loss of physical remains contribution to OUV authenticity for the WHS and wider archaeological potential

42. To understand the loss of OUV and archaeology more generally in *qualitative* terms, the summaries of research potential for each area investigated are worth assembling together to provide a clearer overview. From this it is apparent that all the areas investigated have, even with the very limited interventions to date, contributed significantly to this aspect of OUV, and have clearly demonstrated the very substantial additional potential that still survives and would be lost, harmed or made inaccessible by the scheme.
43. These losses are not fully reported in the assessment of effects presented in the ES (Chapter 6, section 6.9), nor in the Heritage Impact Assessment (section 11). This strongly reinforces the CBA’s concern that those assessments substantially underestimate the harm to the OUV of the WHS and environs in respect to paragraph 2.3.10 and p.28 of the WHS Management Plan and what NSPNN para 5.124 refers to as the ‘*primary source of evidence about the substance and evolution of places, and of the people and cultures that made them.*’
44. To illustrate this, the following paragraphs quote some of the key comments in the fieldwork reports on how, in the main areas of the scheme’s impact, the *evidence about the substance and evolution of places, and of the people and cultures that made them* contribute to the OUV of the WHS.

45. **Report 6 - Evaluation Report Winterbourne Stoke West (DOC REP1-049)**

Section 8 Archaeological Potential and Significance:

[Overall]: *The most notable results of the Winterbourne Stoke West evaluation are the evidence of Middle Neolithic, Late Neolithic/Beaker and Early Bronze Age activity. The Peterborough Ware pits belong with the corpus of Middle Neolithic evidence in the Stonehenge Landscape. Similarly, the Early Bronze Age urned cremation is a notable discovery, both in terms of the Food Vessel pot and the cremation it contained. The hengiform ring ditch is of uncertain date, but whatever its precise chronological position, it represents an important structure.*

The evaluation .. has produced evidence with the potential to address several of the specific research objectives as laid out in the SSWSI [3], particularly:

- *the nature of later prehistoric field systems and associated features such as lynchets or settlement evidence that may be preserved within the site;*
- *the development and continuity of the later prehistoric field systems;*
- *the evidence for unenclosed prehistoric settlement within the site;*
- *the extent of remains associated with the Iron Age enclosed settlement*

[Pottery]: *The prehistoric pottery recovered from Winterbourne Stoke West provides evidence of activity from the Middle Neolithic to the Iron Age and is of particular interest in that it contains elements not commonly encountered in the Stonehenge landscape. The Middle Neolithic Peterborough Ware and the Early Bronze Age Food Vessel are particularly noteworthy.*

[Flintwork]: *The groups of lithic material in Trenches 1070 and 1219 are of particular note, associated as they are with other indications of Middle Neolithic activity which, taken together, suggest a significant human presence which undoubtedly extends beyond the evaluation trenches. This material should be examined fully and compared to other Middle Neolithic assemblages in the region. Flint scatters were identified as an under-utilised resource in the Research Framework.*

[Animal Bone]: *Although a comparatively small assemblage and only surviving in poor condition, the animal bone from the earlier prehistoric features such as the Middle Neolithic pits in Trenches 1070 and 1219, the Late Neolithic/Early Bronze Age ring ditches and probable grave in Trench 1068 has the potential to inform on depositional practices, the husbandry and attitude of the people to their animals.*

[Human burials]: *This cremation burial forms part of an extensive and important Early Bronze Age mortuary landscape on the south-eastern margins of Salisbury Plain and the Stonehenge WHS. Many of the previously recovered prehistoric remains, as here, derived from singletons and small burial groups. Those in the immediate vicinity, at Greenlands Farm, Rollestone Down and Winterbourne Stoke G32, G38 and G39, predominantly formed single rite burial groups (cremation) and all were associated with round barrows. The strong link between burial remains and monumental structures is a common feature in the Early Bronze Age but is far from exclusive, as recent excavations at neighbouring Amesbury Down and elsewhere have demonstrated, and the nature and focus of past archaeological excavations have potentially created a bias within the existing sample. This example from Parsonage Down is distinctive in terms of its location, on low ground at the junction between several coombes, the landscape itself potentially taking on this 'monumental' role.*

46. **Report 8 - Evaluation Report Winterbourne Stoke East (DOC REP1-052)**

Section 8 Archaeological Potential and Significance:

There is potential to address research themes, particularly: C. Barrows and Burials: to gain a better understanding of the relationship between barrows, burials and contemporary land uses, including settlement and agriculture; and

D: Human Generations: to gain a better understanding, from the analysis of human remains, of the generations of people who have populated the WHS – their origins, diversity, movements, demography, health, diet, and conflicts.

47. **Report 2 - Trial Trench Evaluation Longbarrow (DOC REP1-042)** Section 8

Archaeological Potential and Significance:

[Overall]: *Taken as a whole, the results of the evaluation exercise at Longbarrow Junction indicate that the site was the location of activity in the prehistoric period which augments the existing patterns of occupation and activity known in the area.*

[Neolithic]: *there is potential to address research themes, particularly: C. Barrows and Burials: to gain a better understanding of the relationship between barrows, burials and contemporary land uses, including settlement and agriculture.*

The significant group of lithic material centred on Trench 439 is of particular significance, associated as it is with other indications of Late Neolithic activity

which taken together suggest a significant human presence which undoubtedly extends beyond the evaluation trenches.

[Early Bronze Age]: There is the potential to add to both research themes C (above) and D: Human Generations to gain a better understanding, from the analysis of human remains, of the generations of people who have populated the WHS – their origins, diversity, movements, demography, health, diet, and conflicts and

..there is potential in future work to determine if part of the field system present within the site originated in the Bronze Age, potentially prior to the later prehistoric boundaries/Wessex Linears as suggested elsewhere, including at Druids Lodge Estate just to the south-east of Longbarrow Roundabout [52] [53]. These may be associated with the previously uncovered evidence of Bronze Age settlement

[Later Bronze Age 'C'-shaped enclosure]: Though its function remains uncertain, the act of placing a pottery vessel in a pit cut into the primary fills of the ditch in Trench 327 (lying to the south-west of the enclosure) and the possible recutting of this feature with a more substantial ditch suggests that there was symbolic significance in these acts and therefore the enclosure and associated remains are likely to form a group of some significance. Its proximity to both barrows and a contemporary settlement is of note. These remains can be compared to other similar examples elsewhere, e.g. a 'C'-shaped enclosure at Porton Down, though undated, was associated with Early Beaker–Early Bronze Age funerary monuments. This enclosure and associated features is a significant finding and has the potential to contribute to various research themes.

[Later prehistoric boundaries]: There is the potential to add to the understanding of these boundaries and to determine their relationship with other boundaries of uncertain date, including that in the north of the site.

[Geoarchaeology]: The geoarchaeological potential and significance of the deposits from the southern depression is high. The deposits infilling the southern depression are regionally unique, and have the potential to preserve palaeo-environmental remains (e.g. molluscs, pollen and other microfossils) which would be indicative of the Pleistocene landscape evolution of Salisbury Plain and the chalk Downlands of southern Britain.

[Pottery]: *The prehistoric pottery recovered from Longbarrow North and South forms a significant group, providing further evidence of activity from the Late Neolithic to the Late Bronze Age and has the potential to address a number of issues and questions outlined in the Research Framework*

[Human Cremation]: *This singleton [funerary deposit] forms part of an extensive and important Early Bronze Age mortuary landscape on the south-eastern margins of Salisbury Plain and the Stonehenge Environs. Most of the previously recovered prehistoric remains, as here, derived from singletons and small burial groups. Whilst both inhumation and cremation burials of Chalcolithic/Beaker period and Early Bronze Age date have been recovered from sites in the wider vicinity, cremation appears to have represented the predominant rite across much of the range.*

[Environment and farming]: *the remains of some prehistoric domestic crop-processing activities that may have been carried out in the vicinity are present in several of the deposits, namely the Neolithic and Beaker pits and the C-shaped enclosure and associated features. The presence of remains of fruits and nuts, such as crab apples and hazelnuts, hints to the complementary role played by wild plants in plant exploitation activities in early farming communities.*

48. **Report 4 - Trial Trench Evaluation Western Portal and Approach (DOC REP1-042)** Section 6-7 Results and 8 Archaeological Potential and Significance:

Referring to the results relative to the geophysical survey, para 8.1.2 states: *However, potentially such surveys are less reliable when differentiating between discrete archaeological features such as graves and pits*

[Human burials] *Though archaeological features were only uncovered in nine of the 71 excavated trial trenches, noteworthy material was recorded across the site. Perhaps the most significant were two Beaker inhumation burials in Trenches 260 and 244 in the central part of the site (and potentially others that were left unexcavated at this evaluation stage in the latter trench). The importance of these derives from the additional information their excavation has provided concerning the extents of Beaker mortuary practice between the Normanton Down and Winterbourne Stoke barrow groups..*

It is important that these flat graves were located some 500–770 m west of those previously excavated adjacent to Wilsford G1., with the burial in Trench 260 sited on the higher ground on the northern edge of the shallow coombe.

These two inhumations form part of an extensive and important Beaker/Early Bronze Age mortuary landscape on the south-eastern margins of Salisbury Plain and the Stonehenge Environs. Most of the previously recovered prehistoric remains, as here, derived from individual burials and small burial groups, the nearest example being the Beaker grave of an adult male, 23-27 years of age at death, found some 300–400 m to the east of grave 26009 [19]. There is, however, a relative paucity of females in the Early Bronze Age burial record within the region, particularly for the earliest phases and across the transition Beaker/Chalcolithic period.

*The two inhumation burials are additions to the corpus of mortuary remains in the WHS, not least because one (in Trench 244) reinforces the emerging link between neonates and plain Beaker ceramics, while the other (in Trench 260) contains an artefact type without known parallel. The date of *Triticum* sp. grain from the latter (2340-2060 cal. BC) appears to fall slightly later than the date of the human bone from Wilsford G1 [19] (2460-2290 cal. BC). Bone from the Trench 260 inhumation has been radiocarbon dated (UBA-82677 3923±32 BP: 2490-2300 cal. BC).*

[Neolithic and Bronze Age Activity Areas] ..evidence of pit digging was revealed in the west of the site (both Beaker and fully Early Bronze Age), as well as a small number of features of uncertain date, a natural solution hollow and tree-throws that also contained archaeological evidence. Finds recovered from the ploughsoil sampling also indicates a focus of activity in the Later Neolithic/Early Bronze Age, with some earlier and later components. Worked and burnt flint densities were generally higher in the west of the site, towards the Winterbourne Stoke barrow group.

[Charred Plant remains] The charred plant remains assemblages mostly comprised remains of cereals, hazelnuts and tubers. Well-preserved consistent assemblages such as the ones with large hazelnut shell fragments and non-intrusive cereal grains, can inform about plant exploitation activities and ritual deposition practices.

[Animal bone] ...the animal bone from the prehistoric features (grave 26009, and pits 20205, 23403 and 24003), probable solution hollow 21405 and natural feature 21807 has the potential to inform on depositional practices, the husbandry and attitude of the people to their animals.

[Pottery] *Earlier prehistoric pottery is of intrinsic interest and warrants full fabric and form analysis, following nationally-recommended guidelines [69] [70]. The Late Neolithic/Early Bronze Age witnessed significant activity elsewhere in the World Heritage Site (including major phases of construction at Stonehenge itself) and as such the identification of potential locations of contemporary activity in previously unknown locations is of some significance. The stylistic variation apparent in the relatively small Beaker assemblage is interesting.*

[Overall] *Therefore, there is potential to address research themes, particularly: C. Barrows and Burials: to gain a better understanding of the relationship between barrows, burials and contemporary land uses, including settlement and agriculture and D: Human Generations to gain a better understanding, from the analysis of human remains, of the generations of people who have populated the WHS – their origins, diversity, movements, demography, health, diet, and conflicts*

49. Report 4 - Trial Trench Evaluation Western Portal and Approach (DOC REP1-042) Section 6-7 Results and 8 Archaeological Potential and Significance:

Palaeoenvironmental sequences are likely to be preserved beneath colluvium in various locations, and the colluvium may also mask archaeological features.

That those ditches revealed are of probable Romano-British date, or possible Late Iron Age date, is of some significance given the proximity of Vespasian's Camp and the generally poor understanding of landscape organisation and use in the locality at this time.

Similarly, concentrations of flint – both in the topsoil and preserved in layers beneath the ploughzone – suggest that activity was occurring from at least the Mesolithic period. Most of the evidence indicates later Neolithic and/or Early Bronze Age activity, some of it possibly related to the ploughed-out barrows east of King Barrow Ridge. Other evidence of this type and date has been found east of Countess [31], including debitage from the manufacture of a flint dagger. The evidence then points to a broad zone of activity extending beyond the limits of the World Heritage Site, and this evidence may be relevant to attributes of its Outstanding Universal Value.

Implications for loss of OUV in terms of the setting of heritage assets

50. These results – and the comments on research potential accompanying them – very clearly indicate how archaeological remains within the surroundings of key

monuments (especially the Winterbourne Stoke Crossroads group including other monuments to the S aligned on it), the Diamond group, and several other monuments on the W side of the WHS and its environs contribute to the potential for obtaining a much fuller understanding of those monuments in their surroundings: for example how some – perhaps many – people were not buried in monuments and how there were contemporary living (or other activity) areas in their vicinity.

51. The fieldwork results provide/conform a much clearer picture of the main visible and key subsoil monuments within their surroundings as part of the wider Stonehenge landscape. But the limitations are also dramatic: the evidence that geophysics is very poor at picking up individual burials and the uncertainty over the form of some linear monuments means that there are substantial numbers of monuments of potential significance that have not been explored by trenching.
52. For example, the geophysics has confirmed and clarified the existence of a small segmented ditch (possibly hengiform) monument on the axis of the Winterbourne Stoke Crossroads barrow group and a very clear ring ditch on much the same axis further to the SW – suggesting that the cutting for the A303 and linkroads joining the A360 will exacerbate rather than ameliorate the physical severance of this key barrow group and its topographical setting.
53. Key too are the clusters of other ring ditches and their physical relationship to the linear barrow group, suggesting a different topographical context that may have been significant to the communities who created them.
54. At the other end of the scheme, the area of activity revealed by a dense lithic scatter and pottery in the area of the tunnel portal and immediately E of the Avenue as it reached the ridge crest is again highly significant in terms of topography, as is its position relative to the King Barrow Group.
55. In terms of geoarchaeology, the linear hollow with colluvial deposits close to the E end of Vespasian's Camp is an important consideration in relation to the topographic setting of both the Iron Age hillfort and the Avenue not far to the W.
56. In these and several other cases (especially the evidence of activity along the route of the cutting for the W portal, it is very clear how such deposits, burials and activity areas have considerable potential to contribute to a better understanding of and appreciation of the monuments.

57. Given the objectives for the WHS to become a far more accessible archaeological park, and the potential for equipping visitors with augmented reality technology to envisage prehistoric life as they explore the landscape, not just in the Visitor Centre, these are very real considerations.
58. Also relevant is the setting of the prehistoric activity areas that have been identified but not fully explored: their location relative to funerary monuments and the topography of the area are equally valid considerations.
59. These very incomplete observations strongly reinforce the concerns the CBA has expressed in terms of the understatement of key factors that contribute to the OUV of the WHS.

Issues of OUV integrity for the WHS and wider archaeological potential

60. The *integrity* of the WHS concerns amongst other things whether it adequately encompasses all the key monuments and other remains that contribute to its OUV.
61. The WHS Master Plan recognises that its boundaries need review, and it has long been recognised that the W boundary following the A360 is arbitrary, impinging very closely on barrow groups which elsewhere are given a far greater margin. The boundary is especially inconsistent in following the Avon on the SW side but not the Till on the W.
62. All the results of the fieldwork reported very strongly reinforce this, and in particular it is worth noting that paragraph 2.3.7 of the Winterbourne Stoke East Evaluation Report states in relation to the results of non-intrusive fieldwork:

Overall, the survey was particularly successful at identifying funerary monuments and field systems of probable prehistoric origin. In addition, it showed that a high density of archaeological features, potentially of national and international significance, are located immediately outside of the WHS.

63. In its conclusions (para 8.1.1) it reinforces this by confirming:

The Winterbourne Stoke East evaluation has been successful in its aims in confirming the presence or absence of archaeological remains, as well as attempting to determine their nature, extent, date, condition and state of preservation. It has addressed, or has the potential to address, many of the specific research objectives defined in the SSWSI and thereby contribute to the research themes and questions in the WHS research framework

Forecasting the evolution of the baseline scenario without the proposed scheme in respect of OUV authenticity and integrity

64. The fieldwork results as reported, strongly reinforce the CBA's concern that the ES has signally failed to forecast realistically *the evolution of the baseline scenario without the proposed scheme* as required by EIA regulations.
65. Firstly, without the scheme the loss of archaeological sites and remains contributing to OUV would not occur, and in the light of the detailed fieldwork results and their implications for the potential totality of remains impacted by the scheme, this is even clearer than we stated in our main Statement.
66. Secondly, the 'do-something' baseline scenario that would or could arise from implementing the WHS Management Plan and road improvement needs can be seen as being somewhat more complex: in particular if the OUV of the WHS is to be conserved and enhanced the creation of a grade separated junction on or close to the line of the A360 would be difficult. Physical damage might be minimised or avoided by realigning the A360 founding it on low embankment placed on or just below current ground level and with an overbridge built on reinforced earth abutments. But this would still harm the setting of monuments within or contribution to the OUV of the WHS.

Alternatives

67. These results also have significant implications for alternatives. In particular, as referred to above, there is a need to consider far more seriously the issues related to the A360 which impinges even more closely on major monuments in the WHS than the A303. Apart from its realignment down the E side of the Till Valley, an alternative worth examining is a realignment more similar to the line of the B3083 on the W side of the Till to join the A303 SW of Winterbourne Stoke, passing the village to the S before diverging onto its present route SW of the WHS.
68. This would add significantly to the enhancement of the WHS, removing grade separated junctions from its close vicinity.

Archaeological Mitigation Implications

69. The low level of significance attached to any remains not designated or representing '*major archaeological features*' and the absence of any forecast of the total archaeological baselines based on the very small ample investigated to date

means that the mitigation strategy cannot conserve a significant body of archaeological material that contributes substantially to OUV.

70. Key effects on the setting of monuments (eg severance of groups, physical changes to topography) are also incapable of being mitigated.
71. Measures to preserve archaeology *in situ* can be seen as avoiding or reducing harm and can be weighed in the planning balance – but need to be verified as being technically deliverable.
72. Measures proposed to investigate archaeological remain that would be lost does not affect the planning balance: the loss is permanent and will deprive future generations with different questions and better techniques from investigating the remains. Sampling strategies proposed means that a significant proportion of remains would still be lost without investigation (eg 80 to 60% of linear features and over 99% of plough zone artefacts).
73. The *Draft Detailed Archaeological Mitigation Strategy (DAMS)* (**DOC REP2-038**) includes 'principles' of preserving OUV that are incompatible with the effects of the scheme where archaeological remains cannot be preserved. The use of the outdated term 'preservation by record' is highly misleading in this context. betrays a serious problem of over-confidence in results that point very strongly to the considerable importance of remains that have proved very difficult to predict.
74. Noting the restricted nature of much of the evaluation trenching to the scheme as designed, there appears to be no provision for additional work if significant changes are made within the DCO in the detailed design process.
75. The Mitigation Strategy does not discuss the physical properties of the archaeological resources to be preserved *in situ* and their vulnerability to compression, crushing or contortion. The effectiveness mitigation where remains are rendered inaccessible for monitoring is not considered. Where sites due to be returned to agriculture after being subject to preserved *in situ* measures for temporary construction works, there are no proposals for preventing damage arising from perceived needs for subsequent agricultural remediation measures (eg subsoiling).
76. The Mitigation Strategy establishes principles that relate to preserving OUV of the WHS but thereafter, in the account of the archaeology along the scheme and mitigation measures to be applied no distinction is made between what do or do not contribute to OUV. It is therefore not explicit how far the OUV of the WHS will

be preserved for future generations. In fact it appears that there will be substantial loss in terms of evidence of living areas and non-monumentalised burials between the main monuments.

77. The mitigation strategy is predicated on the baseline conditions as revealed by the archaeological studies and fieldwork to date, rather than a forecast of what the actual archaeological baseline is likely to consist of. As explained above, the nature of the archaeological remains and approach to evaluation has (more or less inevitably) left major residual uncertainties about the full baseline conditions, including remains that contribute to the OUV of the WHS.
78. The apparent lack of ANY reference to archaeological 'risk,' the possibility of 'unforeseen' discoveries or problems, and the absence of any mention of 'contingencies' indicates an inadequate appreciation of the practical realities of major infrastructure projects, especially given the major programming constraints.
79. It is also clear that the spatial coverage of fieldwork undertaken for the scheme, especially in terms of trenching, has been predicated on a presumption of *in situ* preservation in areas of landscaping, construction compounds, haul roads, and spoil disposal areas, and in respect of indirect effects arising from possible changes in hydrological conditions (eg relative to Blickmead and the Wilsford Shaft).
80. Although it is stated that the engineering specification for temporary protective covering of remains to be preserved *in situ* has yet to be addressed, this seems to be without any reference to relevant scientific literature such as the five 'PARIS' (Preservation of Archaeological Sites In Situ) symposia, or, where land is to be returned to agriculture, research commissioned by DEFRA (see **Appendix J** below).
81. It is thus not clear if the mitigation strategy as outlined is deliverable in this respect, and the constantly reiterated fall-back position of carrying out 'strip-and-record' area excavation if it is not points at a major unresolved risk that even more of the WHS OUV would be lost.
82. Overall the Draft Archaeological Mitigation Strategy neither gives confidence that remains within the DCO earmarked for preservation *in situ* would be so preserved, and does not indicate relative confidence levels for this in relation to different temporary or permanent uses of the land. The unavoidable loss of archaeological remains that contribute to OUV represents permanent loss; but the actual scale of

this is not forecast (or estimated) from the sample so far identified, and the considerable risk that it is far more extensive has not been allowed for.

Expertise and Authorship

83. The reports make it clear that apart from earlier phases of work for previous schemes, most of the new fieldwork was done by Wessex Archaeology (who have had long experience of work in the Stonehenge area) using a team of unnamed specialists. As noted in our main Statement, the internal evidence of the reports suggests that the work was done by people with appropriate technical competencies. The information contained in the Heritage Impact Assessment (DOC xxx) confirms that the work was led by named project managers with relevant *qualifications* for managing archaeological fieldwork. Appendix 1 of the ES (DOC xxx) indicates that the ES Chapter was authored by a single individual with relevant *qualifications and experience*, in relation to infrastructure projects drawing on this material.
84. But unlike the CBA's Written Statement (Appendix G) there is NO indication of the *expertise and experience* of these individuals with regard to prehistory; or Neolithic to Bronze Age ceremonial and funerary complexes in general; or Stonehenge in particular; nor issues related to archaeological sampling and interpretation; nor technical issues of preserving archaeological sites *in situ*.
85. It is further stated that all the work was carried out to appropriate technical standards (somewhat exceeded for the most recent geophysical surveys) and these standards and methods are clearly reported. However, we remain concerned that the anonymity of the specialists involved means that it is difficult to be sure how far the *interpretation* of results is based on substantial experience in the Stonehenge area.
86. As noted in our main statement (paras. 36, 40) this does not fully reflect the EIA regulation (being at best a *de minimis* interpretation). Furthermore, by formally identifying only one individual in the ES as being responsible for the work, and not stating the authorship and expertise of the individual fieldwork reports, this falls well short of the requirements of Rule 1.5 of the CIfA Code of Practice,⁴ that:

⁴ <https://www.archaeologists.net/sites/default/files/CodesofConduct.pdf>

A member shall give appropriate credit for work done by others, and shall not commit plagiarism in oral or written communication, and shall not enter into conduct that might unjustifiably injure the reputation of another archaeologist.

87. We assume that it is Highways England that has imposed the requirement of anonymity, but this has in effect put the responsible expert in the very unsatisfactory position of
- NOT giving appropriate credit to others (at best only general acknowledgements);
 - Appearing on paper to be the author of all the material related to the ES, when in fact it appears to be (or at very least rely on) the work of many other specialists; and
 - Muddying the water as to where any technical or professional criticisms of the work should fall – especially where, as in this case, there are inconsistencies in how the archaeological results are reported in the fieldwork reports and their coverage in the ES.
88. Of even greater concern is the complete lack of ANY information about the authorship of the Draft Archaeological Mitigation Strategy (**DOC REP2-038**). The author is given as '*A303 Amesbury to Berwick Down Project Team, Highways England*'. It is therefore entirely obscure as to what if any archaeological expertise went into its compilation, even less what engineering input there has been to check – and sign off – what actual works are likely to take place where and how this would be controlled.

Appendix I: Table of fieldwork

	Area (sq m)	50x1.8m trial trenches (sqm)	10x10m trial trenches (sqm)	Topsoil trench samples (litres per sq m)	Test pits sqm	Surface collection	Boreholes (no. and no. per trench)	** High (0.25m) density magnetometry	** Low (0.5m) density magnetometry	Earth resistance areas (sqm)	Earth resistance transects (m)	Ground Penetrating Radar
Winterbourne Stoke W	1420000	14040	4000	234000	nil	nil	6	1171000	585500	nil	370	11000
<i>% Covered</i>		<i>0.99</i>	<i>0.28</i>	<i>0.16</i>	-	-	<i>0.04</i>			-	-	
Winterbourne Stoke E	1420000	8100	2400	135000	nil	unreported	nil	95000	1325000	nil	nil	11000
<i>% Covered</i>		<i>0.57</i>	<i>0.17</i>	<i>0.10</i>	-	?	-			-	-	
Longbarrow junction	2200000	4680	3800	213000	nil	137500	4	161000	2200000	14000	nil	14000
<i>% Covered</i>		<i>0.21</i>	<i>0.17</i>	<i>0.10</i>	-	6.25	<i>0.03</i>				-	
W Portal and Approach	168600	4860	1700	52500	1281	nil	nil	nil	n/a	nil	nil	nil
<i>% Covered</i>		<i>2.88</i>	<i>1.01</i>	<i>0.31</i>	<i>0.76</i>	-	-			-	-	-
*E Portal and Approach	431000	2790	nil	19500	401	26938	12	nil	n/a	nil	nil	nil
<i>% Covered</i>		<i>0.65</i>	-	<i>0.05</i>	<i>0.09</i>	6.25	<i>0.32</i>			-	-	-
Rolleston Corner	40000	720	300	12000		2500	nil	5000	n/a	nil	nil	nil
<i>% Covered</i>		<i>1.80</i>	<i>0.75</i>	<i>0.30</i>		6.25	-			-	-	-
<i>* Area stated in para 2.2.7</i>	<i>Number of trenches as per fig 11.1 estimated as 12x50m long and 12x25m long</i>											
<i>** Significant uncertainty attaches to these figures based on phase 4 geophysics with estimated proportions covered by previous surveys</i>	<i></i>											

Appendix J: Selection of technical literature relevant to *in situ* preservation

PARIS Symposia

Corfield, M., P. Hinton, T. Nixon and M. Pollard (eds.) 1998, *Preserving Archaeological Remains in situ (PARIS): Proceedings of the Conference of the 1st–3rd April 1996*. London: Museum of London Archaeology Service.

Nixon T. (ed.) 2004, *Preserving archaeological remains in situ - Proceedings of the 2nd conference 12–14 September 2001*. London: Museum of London Archaeology Service.

Kars, H. and R.M. van Heeringen (eds) 2008, *Preserving archaeological remains in situ: proceedings of the 3rd conference, 7-9 December 2006*, Amsterdam. Amsterdam: Institute for Geo and Bioarchaeology.

Gregory, D. and H. Matthiesen (eds). 2012. *Preserving Archaeological Remains in Situ: Proceedings of the 4th International Conference*, Special issue of *Conservation and Management of Archaeological Sites* **14(1-4)** Routledge.

Leuzinger, U, Sidell, J and Williams, T (eds) *The 5th International Conference on Preserving Archaeological Remains In Situ (PARIS5): 12–17 April 2015, Kreuzlingen (Switzerland)* Special issue of *Conservation and Management of Archaeological Sites* **18(1-3)** Published online: 10 Sep 2016 (<https://www.tandfonline.com/toc/ycma20/18/1-3>)

DEFRA Research on Management of Archaeological sites in arable landscapes

Oxford Archaeology, 2002, *The Management of Archaeological Sites in Arable Landscapes* DEFRA Research Reports BD1701, CSG15 Final Project Report

Oxford Archaeology, 2006, *Conservation of Scheduled Monuments in Cultivation* DEFRA Research Reports BD1704

Oxford Archaeology and Cranfield University, 2006, *Trials to Identify Soil Cultivation Practices to Minimise the Impact on Archaeological Sites* (DEFRA Research Reports BD1705) and *Effects of Arable Cultivation on Archaeology* (Historic England Project 3874)