

***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***

***Summary of Oral Evidence given on 21<sup>st</sup> August 2019***

***September 2019***

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### **3. THE WORLD HERITAGE SITE**

#### **3.1 Harm to the Outstanding Universal Value (OUV)**

##### ***i. Harm to the OUV and its place in the overall acceptability of the Proposed Development. Discussion.***

Highways England and Historic England indicated that the scheme did not breach international obligations because in their view there was a net balance of benefit over harm.

Mr Lambrick referred to previous CBA Submissions (**[REP2-070** and **REP2-075]** for comments on policy context and overall balance; and CBA Submissions [**REP2a-005; REP3-049; REP6-084]** for further comments on aspects of harm that have not been sufficiently identified or underestimated, and benefits that have been over-stated).

Mr Lambrick noted that

- the claimed net benefit reflects (in part) a comparison of irreparable loss of fabric and some significant harm to settings, **versus** some gains for some other settings and wider experiential qualities.
- as previously submitted [**REP2-070** pp14-17; **REP2a-005** ], the totality of the archaeological loss had not been extrapolated from the archaeological field surveys and evaluations
- as previously explained both by CBA (**REP2a-005**) and others, the loss of archaeological remains and therefore substantial harm to heritage assets including significant contributions to OUV would be very much higher than Highways England have acknowledged to date.
- since the last hearing (after which HE claimed that paragraph 5.139 of the NPSNN should be reinterpreted in the light of Hayes vs York City Council), the Historic Environment section of the National Planning Policy Guidance has been updated (July 23<sup>rd</sup> 2019) including paragraph 02 which unambiguously states that paragraph 199 of the NPPF – and therefore by inference paragraph 5.139 – should be read as drafted, and NOT reinterpreted as the Applicant has asserted (see Appendix of CBA's complementary Written Submission on items 5.4 to 5.8 of the agenda for 21<sup>st</sup> August).
- taken with the absence of any extrapolation of the total archaeology of the scheme footprint this reinforces the CBA's consistent position that the balance of harm over benefit has been misconstrued, and the loss of OUV would be much greater than the Applicant claims.

The Applicant asserted that

- The main public benefit for the scheme lay in other considerations, not just the claimed net benefit to the WHS OUV and that s.104 of the 2008 Act had to be interpreted in the light of NPSNN as long as it is not inconsistent with international obligations, and only needed to show a net benefit.

*Post hearing notes:*

- a) The Applicant's emphasis if anything ADDS weight to the points made by Mr Lambrick in the hearing in which he emphasised that in the context of a World Heritage Site an especially precautionary approach is needed in the light of NPSNN paragraphs 5.124, 5.129, 5.131, and WHS Management Plan 2.3.1, especially when also taking account of NPSNN paragraph 5.139 – noting the revised Historic Environment PPG of 23<sup>rd</sup> July 2019, paragraph 002. (see CBA main written submission [REP2-070] and Appendix D [REP2-075]; comments on ExA 2<sup>nd</sup> questions [REP6-084] pp12-13)
- b) When taken in conjunction with the availability of much more effective solutions to removing the A303 from the WHS (including cheaper as well as more expensive ones) the highly dubious validity of the special contingent valuation study, and other value for money considerations (CBA submissions [REP2-070]; [REP6-084] pp 66; 77-82) the Applicant's weighing of public benefits is fundamentally flawed.

**3.2 World Heritage Committee adopted decision and report, July 2019**

***i. ... criticism of the focus ... on measuring and aggregating its impact on individual components, and ... assessing whether the proposal is an improvement, rather than the best available outcome for the property.***

***ii. .... that a longer tunnel is technically feasible but is not proceeding because of cost.. however, a detailed analysis of the benefits compared with the costs of a longer tunnel is absent from the application.***

Mr Lambrick noted that

- reliance on a mere net balance of improvement over harm is not consistent with the heritage policy weight and tests of substantial and less than substantial harm etc set out in the NPSNN
- UNESCO had also [in previous comments] drawn attention to other available options such as the surface route to the S which would be much cheaper but have also been inadequately assessed [or compared for cost since the proposed tunnel was lengthened from 2.9km to 3.3km or potentially up to 3.55km]
- the Applicant has not given a full explanation of why RIS and/or the relevant route strategy has not been and is not being subjected to SEA [by which the environmental benefits and losses, other public interest issues and public expenditure value for money would be tested across scheme and options]. The Applicant only asserted that SEA is not required without backing it up with a formal legal opinion or a rigorous screening opinion setting out all the tests for SEA.

The DCMS representative read out a formal statement which referred to the scheme being justified because it would 'remove' the A303 from the WHS.

Mr Lambrick invited the DCMS representative to rephrase the statement since the scheme plainly would NOT 'remove' the A303 from the WHS.

DCMS's response did not rephrase the statement but seemed to equivocate as to what was meant.

### **3.3 Heritage Impact Assessment (HIA)**

#### ***i. The HIA's approach to the effects of the Proposed Development on the OUV given that four of the seven attributes which together express the OUV of the site concern spatial relationships.***

Mr Lambrick noted that

- Apart from Stonehenge itself, the other SIX of the seven attributes that express the OUV of the WHS concern spatial relationships (added emphasis):
  2. *The physical remains of the Neolithic and Bronze Age funerary and ceremonial monuments and associated sites.*
  3. *The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape.*
  4. *The design of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the skies and astronomy.*
  5. *The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other.*
  6. *The disposition, physical remains and settings of the key Neolithic and Bronze Age funerary, ceremonial and other monuments and sites of the period, which together form a landscape without parallel.*
  7. *The influence of the remains of Neolithic and Bronze Age funerary and ceremonial monuments and their landscape settings on architects, artists, historians, archaeologists and others.*
- The CBA has commented in its different submissions that several aspects of these relationships have not been adequately assessed ([**REP2-070**]), including in the CBA's most recent comments on the ExA questions CH.2.8 about the setting of Blick Mead, Vespasian's Camp and the Amesbury Abbey RPG (see [**REP6-084**] pp 18-24).
- With regard to attribute 7, the CBA has drawn attention to the importance of Amesbury Abbey park and associated tree planting and landscaping of Vespasian's Camp and barrows on King Barrow Ridge as an outstanding example of how 18th century landscape architects sought to incorporate prehistoric monuments into designed landscapes ([**REP6-084**] pp 18-19; 20-24).
- It is important to appreciate the *cumulative* harm to the significance of these assets arising from the proposed scheme is added to that caused by the present A303 [NOTE: see PINS Infrastructure Advice Note 17 Cumulative Effects Assessment para 1.5; NPSNN para 4.16 "*When considering significant cumulative effects, any environmental statement should provide information on how the effects of the applicant's proposal would combine and interact with the effects of other development (including projects for which consent has been granted, as well as those already in existence)*" - added emphasis].

Post hearing notes:

- c) The importance of Registered Parks and Gardens and extensive tree planting on monuments is emphasised in the WHS Management Plan, though given the extent of relevant research (see references below) the link to attribute 7 could be more explicit as a very tangible expression of how prehistoric monuments and their interrelationships influenced landscape design in the 18<sup>th</sup> century, both at Stonehenge and Avebury. The design idea was to embrace the idea of bringing the idea of wilderness and antiquity into the aesthetics of landscape design, clearly seeking to emphasise and create access to monuments and their position in the landscape, while not being averse to modifying them where it was deemed necessary to facilitate access or adapt them to suit the overall landscape design concept.
- d) Discussing Vespasian's Camp, Sue Haynes (2013) comments  
*'The site is dominated by a prehistoric earthwork, the heavily wooded univallate Iron Age hillfort known as Vespasian's Camp, enclosing 15 ha and rising to 91m at its highest point. Bridgeman's design makes use of the south-eastern ramparts, and the remains of one of two Bronze Age barrows on the summit of the hill-fort appears to be the focus of rising and tapering grassy terraces. The prehistoric monuments are part of the Stonehenge World Heritage Site, and the extent to which they were modified by eighteenth-century landscaping is of considerable interest.'*
- e) This is of even greater interest when the later extension of the designed landscape to King Barrow Ridge is also taken into account (see CBA comments on ExA Questions 2 [REP6-084] pp 20-24).
- f) As part of Bridgman's 1738 landscaping scheme, Vespasian's Camp was modified to incorporate carriage drives, walks and new vistas (see detailed plan next page). Bowden (2016, p8) suggests that the N entrance was "widened for the passage of a carriage drive in the 18th century, as there is now an 8m-wide gap between the substantial bank terminals." Before the present A303 cutting through the ridge at this point, the carriage drive would have emerged in a long narrow field leading NW to the King Barrow Ridge monuments, in the area that by 1773 had been incorporated into the parkland (see map showing 19th century landuse in CBA comments on ExA Questions 2 [REP6-084] pp 22). On the map below dated 1823 (Bowden 2016 Fig 3 p.4) a track is shown on this line still



surviving after the area reverted to fields with tree clumps, retaining most of the key features of the designed landscape. This line follows a field boundary severed by the present A303, more being lost to the scheme proposed.

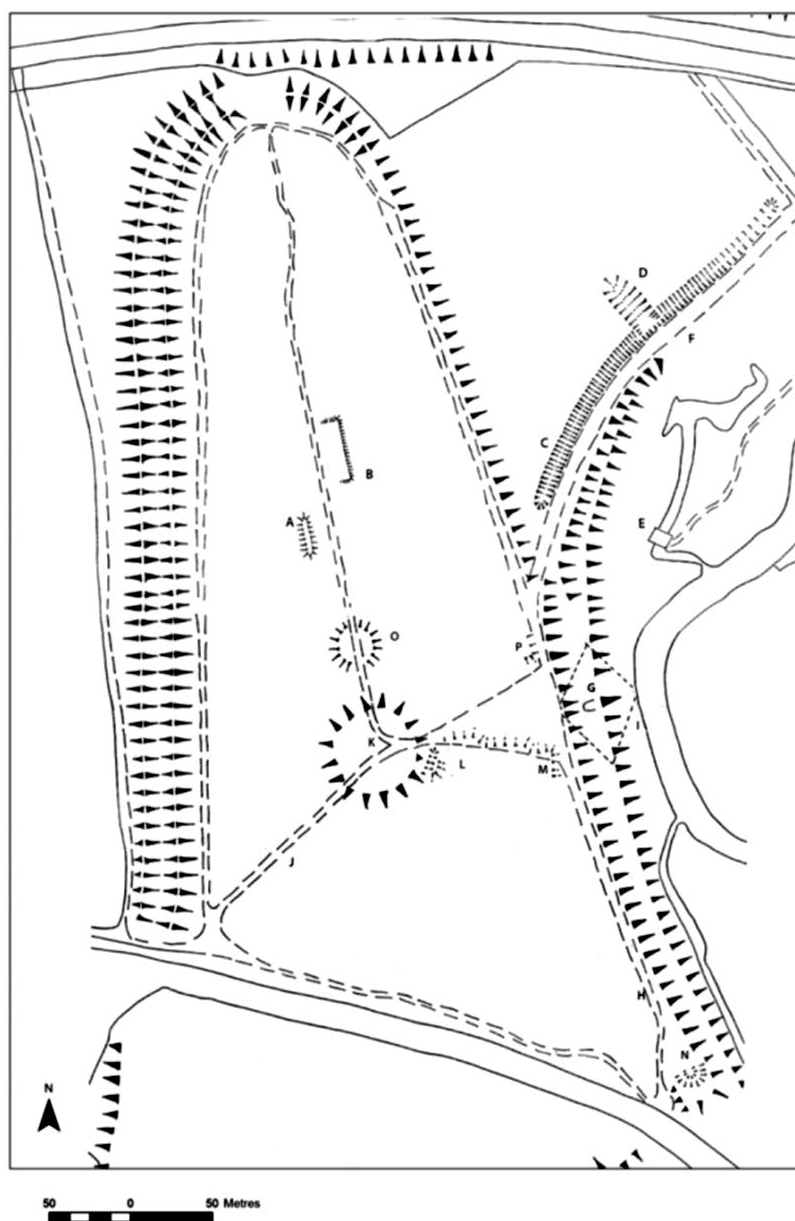


FIGURE 2 A map showing the features of Bridgeman's design still visible. Key: A: unidentified earthwork; B: edge of the square feature (shown on Bridgeman's plan); C: ditch; D: apsidal depression; E: Chinese summerhouse; F: path from ramparts (shown on Bridgeman's plan); G: Gay's Cave and apron (shown on Bridgeman's plan); H: the path from Stonehenge Road (shown on Bridgeman's plan); I: the diamond-shaped earthworks (shown on Bridgeman's plan); J: path descending to the south-west; K: circular feature (shown on Bridgeman's plan); L: ditch; M: rising geometric terraces (shown on Bridgeman's plan); N: pit (corresponding to bastion shown on Bridgeman's plan); O: Bronze age round barrow.

Source: S. Haynes, 2013, p. 159.

g) Even more than Avebury Manor and designed tree planting on ridge-top barrows in that part of the WHS, the Amesbury Abbey Park/ Nile Clumps/ King Barrow Ridge barrow clumps and coupled with Vespasian's Camp constitute one of the very best examples of "*the influence of the remains of Neolithic and Bronze Age funerary and ceremonial monuments and their landscape settings on [landscape architecture]*". Bridgeman was amongst the most influential landscape architects of his day and this is an excellent example of several key themes of 18th century landscape architecture.

h) References

M Bowden 1998, 'The Conscious Conversion of Earlier Earthworks in the Design of Parks and Gardens,' in *There by Design: Field Archaeology in Park and Gardens* ed. P. Pattison, British Archaeological Reports, British Series 267, 23–6

S Bishop 2011, *Stonehenge World Heritage Site Landscape Project: King Barrow Ridge*, Historic England Archaeological Survey Report Research Department Report Series no. 83-2011

S Haynes 2013, 'Constructing Eighteenth-century Meaning in a Prehistoric Landscape: Charles Bridgeman's Design for Amesbury Abbey,' *Landscapes*, **14:2**, 155-173

M Bowden 2016, *Stonehenge Southern WHS Project: Vespasian's Camp, Amesbury, Wiltshire: Analytical Earthwork Survey*, Historic England Research Report Series 49-2016

**iii. Harm to the OUV from effects outside the boundaries of the World Heritage Site.**

Mr Lambrick noted that

- The CBA has commented on this in previous submissions, both in respect of setting issues and archaeological fabric ([**REP2-070**]; [**REP2a-005**] pp 9, 13-16, 18-20)
- In commenting on the ExA Second Questions ([**REP6-084**] p60) the CBA has further highlighted possible alignment relationships between monuments outside the WHS and the Winterbourne Stoke long barrow and/or linear cemetery that have not been considered.
- The main compounds both W of the A360 and at Countess affect areas with significant archaeology contributing to OUV but whether in fact these can be retained *in situ* as proposed remains very uncertain. If, as proposed, DEFRA guidelines and BS soil handling requirements are to be applied, the technical requirements to achieve archaeological preservation *in situ* will NOT be feasible. [See CBA's comments on ExA Second Questions ([**REP6-084**] pp 36-40) and below].
- In the absence of clarity about archaeological preservation *in situ* overriding established soil handling standards, it appears that under paragraph 5.1.2 of the DAMS the default position is that they would be excavated, adding to the cumulative loss of archaeology which is relevant to the cumulative planning balance (see CBA's comments on ExA Second Questions ([**REP6-084**] pp 38-40).

#### **4. Outline Environmental Management Plan (OEMP) (DL6 version [REP6-011 and REP6-012])**

##### **4.1 Approvals/ agreements/ consultation**

###### **i. MW-G7 and MW-CH1...**

###### **ii. Discussion on approval of the Construction Environmental Management Plan (CEMP) (MW-G5) and Handover Environmental Management Plan (HEMP) ...**

Mr Lambrick noted that

- It is not clear who is responsible for approving the Soil Management Plan
- How would conflicts between DAMS and DEFRA and BS Soil Standards would be resolved
- On this basis the default position of excavation in areas where preservation in situ is not feasible (draft DAMS paragraph 5.1.2) should be assumed

Highways England said

- The Secretary of State would approve the Plan and that all such plans would have to be consistent with each other

*Post hearing note:*

- i) From this response it still remains entirely unclear whether the DAMS requirements for preservation in situ or the DEFRA soil handling guidelines and BS Standards would take precedence.

##### **4.3 Miscellaneous**

###### **iv. Ground Movement Monitoring Strategy (MW-CH8, cf: DAMS, para 5.2.7). Has an agreed specification been established for acceptable levels of vibration and settlement? How should monitoring and remediation, during and post construction, be secured? - Through the OEMP? or through an additional Requirement?**

Mr Lambrick noted that

- In the absence of established archaeological standards for *acceptable levels of vibration and settlement* the CBA had suggested in its answers to the ExA 2<sup>nd</sup> Questions ([REP6-084] pp 69-77) at the accuracy that archaeologists apply to their recording together with the potential occurrence of deposits and objects of particular sensitivity to damage offered some broad parameters, which suggest that currently estimated movement of 2-3cms could be significant
- There are established methods for 3D modelling of ground movement over tunnels that should be applied (albeit requiring more information about geological conditions as outlined by others).
- The proposal to 'minimise' the number of monitoring points is not a satisfactory approach: the objective should be to ensure a robust basis for detecting and monitoring potentially harmful movement and take action to minimise harm.



- Actual movement should be correlated with the 3D computer modelling for future reference
- However approved, a specific tailor-made scheme is needed to ensure that sufficient measuring points are included to monitor movement both in relation to known sites and monuments and as a general record for any as yet undiscovered remains – noting that none of the burials cremations and pits found in evaluation were known or detected by geophysics.

#### **4.4 Design**

##### **vi. Design consultation (Section 4.5): Discussion.**

Mr Lambrick noted that

- The CBA had previously highlighted (CBA Main submission [REP2-070] para 63, pp 21-2) that the ES failed to report on air quality issues in the vicinity of monuments close to the scheme, especially the tunnel portals where ventilation would focus emissions.
- Since the previous hearing the Planning Policy Guidance for the Historic Environment has been up dated (23<sup>rd</sup> June) confirming that 'smell' is an aspect of setting that needs to be considered.
- The design of the tunnel ventilation system could affect this.

Highways England

- Referred to the ES and said that it fulfilled the defined scope and normal standards for air quality assessments in relation to sensitive receptors as defined by DMRB etc.
- Detailed figures had already been presented for sensitive receptors

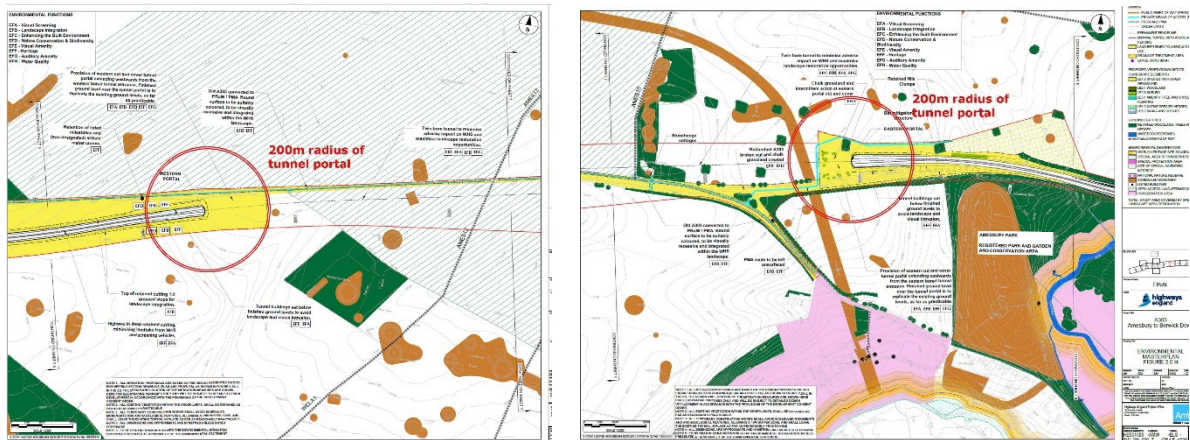
Mr Lambrick noted that

- This an issue of SETTING not the amenity of domestic residences or ecologically sensitive receptors.
- As previously noted by the CBA ([REP2-070] para 63), the ES has NOT presented details of air quality impacts in the vicinity of monuments close to the scheme, especially those close to the tunnel portals where a change from clean air to concentrated emissions close to the tunnel portals in particular is most likely to be significant.
- The Avenue is the most obviously affected case.

*Post Hearing Note:*

- j) That smell and/or the intrusion of smell is an aspect of heritage settings that needs to be considered where relevant is already established by Historic England's The Setting of Heritage Assets Historic Environment Good Practice Advice in Planning Note 3 (Second Edition) pp10-11. The 23<sup>rd</sup> July update of PPG Historic Environment has now recognised this in formal government policy (See <https://www.gov.uk/guidance/conserving-and-enhancing-the-historic-environment>).

- k) 200m is the standard proximity for air quality assessment according to DMRB, but this is for general purposes; a greater distance seems likely to be relevant for the concentrated emissions from ventilation of a 3.3km to 3.55km tunnel.



- l) Monuments within or very close to 200m from the E tunnel portal includes two barrows; those within or very close to 200m from the E tunnel portal include a section of the Avenue and four individual barrows or barrow clusters.
- m) As noted in CBA's main written submission ([REP2-070] para 63 pp 21-2) although ventilation is assumed in the ES to be provided by longitudinal jet fans at the tunnel portals, the latest OEMP (item MW AIR 3) still specifies nothing in relation to this, and it remains an issue to be proposed by the Main Contractor authorised at the sole discretion of Highways England "during construction of the tunnel" without reference to Historic England or Wiltshire County Council.
- n) This provision and the DCO do not preclude the Main Contractor choosing to opt for different ventilation methods such as by ventilation shafts. There is no indication of where these might be placed and potential impacts, or how their design would be handled.

## 5. DAMS (DL7 version [REP7-019 and REP7-020])

### 5.1 Part 1 – DAMS

#### ii. Section 4 – Archaeological Research Agenda. Discussion.

Mr Lambrick noted that

- The addition into the DAMs of more acknowledgement of research issues is welcomed but does not overcome the serious flaws in the DAMS (See CBA Response to ExA 2<sup>nd</sup> Questions [REP6-084] pp 25-6)
- This is because its whole approach is bottom-up **damage-limitation** philosophy based on known sites and monuments and what was found in survey and evaluation work, not properly taking account of the substantial limitations and uncertainties entailed.

- A more productive and realistic approach would be a top-down spatially structured approach to consider the **opportunity** that the scheme presents to address much larger issues which could be addressed, based on extrapolations from previous knowledge and the results of survey and evaluation work (in terms of scale, location and time-span of the actual archaeological content of the areas affected by the scheme).
- Such an approach would seek to overcome rather than be steered by the limitations and uncertainties of the survey and evaluation work.
- The current approach is badly hampered by the lack of any quantitative analysis of the limitations of the survey and evaluation work or any predictive analysis of the potential real archaeological totality of the areas affected by the scheme (See CBA Written Submission [REP2-070] p 14-16; and Supplementary Observations on Fieldwork Reports [REP2a-005] pp 21-5).
- The recurrent use of the outdated and discredited term 'preservation by record' in the DAMS is unhelpful and misleading. There is no equivalence between investigation and recording and preservation (as CBA has repeatedly stressed). There is a real policy differences in this respect as reflected in NPSNN paragraph 5.139, now reinforced by the recent revision of the Historic Environment PPG, paragraph 002.
- Highways England have displayed an inappropriate degree of hubris in dismissing the very real issue of preservation for the benefit of future generations when questions will be different and investigative techniques far better than they are now: this is the case now as compared with a generation ago. Here again it is not coincidence that NPSNN (like NPPF) refers to the importance of conserving irreplaceable heritage for future generations (See CBA Written Submission [REP2-070] pp 6, 13, 18, 21, 31, 35, 37; and Supplementary Observations on Fieldwork Reports [REP2a-005] pp 22-23).

***iii. Para 5.1.18 – Unexpected discoveries during the construction process. Do these procedures also apply to the Preliminary Works?***

Mr Lambrick noted that

- With respect to both 5.1.18 and 6.1.18 the question of unexpected discoveries needs to be considered in relation to the potential for delays (paragraph 6.1.20). As CBA have commented in relation to ExA Questions 2 ([REP6-084] pp 28-30), it is where substantial unexpected discoveries result in delays or rearrangements in programming that the greatest problems arise (either impacting on construction or on the time available to complete archaeological work).
- The procurement process is a key consideration to ensure that all parties work in partnership to resolve problems (BAA's approach to Terminal 5 being a good example involving very extensive archaeology) – see CBA comments on ExA Questions 2 ([REP6-084] pp 29).
- Highways England commented that all archaeological works would be part of the Preliminary Works programme before the Main Contract, so conflicts would not arise.

*Post Hearing Notes:*

- o) While provision to complete all archaeological works prior to the main contract is a sensible precaution it is not clear what contractual precautions will be built in to guarantee this and ensure that any overruns do not impinge on the main contract.
- p) It should be noted that this is further complicated by the potential for the Archaeological contractor to be different for the Main Works as compared with the Preliminary Works (draft DAMS paras 5.1.9 to 5.1.12). This potentially means a significant loss of coherence in terms of archaeological endeavour, however careful the handover.
- q) This reinforces the CBA's point about ensuring that the contract procurement process is embedded in principles of collaborative continuous improvement to achieve enhanced quality of outcome (see CBA Comments on ExA 2<sup>nd</sup> Questions, [REP6-084] pp 29-30)).

**v. Para 5.2.18 – Soils handling strategy. Discussion**

**vi. Para 5.2.35 – Earthworks haul roads. In addition to the all-weather haul roads indicated in Fig 2.7. How is archaeology to be protected?**

Mr Lambrick noted that

- The CBA has repeatedly drawn attention to the problems arising from the conflicts between DEFRA and BS soil handling requirements and archaeological preservation *in situ*, but without the applicant providing ANY explanation, calculations or projections to show otherwise (see CBA Submission [REP2-070] pp 16-17; Supplementary Observations on Fieldwork Reports [REP2a-005] pp 23-4; Comments on ExA's 2<sup>nd</sup> Questions [REP6-084] pp 36-40, 72, 84).

Highways England referred to its previous responses and read out a long passage that indicated what was intended, but provided no new clarity as to how the conflicts would be resolved.

Mr Lambrick noted that

- The points have been made repeatedly without any substantive response being offered by the Applicant even to acknowledge that there could be a problem of reconciling soil handling standards and archaeological requirements.
- Given the limited time available for this hearing the ExA is referred to the CBA's detailed illustration of the how the provisions of the DEFRA guidance are not compatible with achieving archaeological preservation *in situ* (see references above and in particular CBA responses to ExA Questions 2 [REP6-084] pp.36-40)

**5.2 Part 2 – Overarching Written Scheme of Investigation (WSI)**

**ii. Para 6.1.21 – Interruptions and Delays. Agreement should take place between the parties on cessation or resumption.**

Mr Lambrick noted that

- The points have been made above (referring to para 5.1.18 and 6.1.18) – while seasonal delays are possible, they should be allowed for in the time allocations for each area of work according to season (see CBA response to ExA Questions 2 [REP6-084] pp. 28-30).

### **5.3 Preservation in situ - Section 6.2**

***i. Paras 6.2.4 to 6.2.6 - Preservation Beneath Fill. The method statement should take account of the different kinds of possible overload - heavy, dynamic load as well as static load (cf paras 5.3.16 to 5.3.19 – Protection beneath fill material and construction working areas).***

#### *Post Hearing Note*

- r) The CBA has consistently raised the issue of the absence of technical detail to show that preservation in situ is proposed is feasible. The Applicant's acknowledgement that heavy dynamic loads as well as static loads must be taken into account mere recognises the obvious: it provides no explanation of the types of archaeological damage that need to be addressed and how the measures would be reconciled with soil handling standards or the risk that areas returned to agriculture would be deemed by the farmer to require de-compaction - whether or not a real problem were to exist (see above and CBA Submission [REP2-070] pp 16-17; Supplementary Observations on Fieldwork Reports [REP2a-005] pp 23-4; Comments on ExA's 2<sup>nd</sup> Questions [REP6-084] pp 36-40, 72, 84).

### **5.4 Preservation by record – sections 6.3 to 6.5**

***(Including a 10-minute presentation by Professor Parker Pearson – and a 10-minute presentation by Mr Lambrick)***

Mr Lambrick made a short presentation about the archaeology of tree throw holes (See CBA Slide Deck [AS-075]).

- Slide 1: Mr Lambrick noted that most of his slides related to one of his excavations at Drayton Cursus near Abingdon Oxon which is cited by Highways England. The investigation specifically targeted an area sealed by alluvium
- Slide 2: Mr Lambrick explained the formation of tree-throw holes and their often distinctive stratigraphy, noting that upturned root plates can be used as shelters and archaeological material may be deposited, specially placed or redeposited with slumped soil into the hole carved out by the tree
- Slide 3: Mr Lambrick noted that at Drayton about 30% of the old ground surface beneath the alluvium was occupied by tree-throw holes; it was possible to discern which direction they had fallen (raising issues of agency); and recover dating evidence (in this case spanning early/middle Neolithic to Beaker periods)
- Slide 4: Mr Lambrick noted the relative distribution of pottery and flintwork relative to three small pits and a spread of charcoal.

- Slide 5: Mr Lambrick noted the variety of flintwork and pottery found in tree-throw holes, including much of an Ebbsfleet ware bowl (bottom right) which may have been a deliberate deposit.
- Slide 6: Mr Lambrick noted the very high proportion of finds and animal bones coming from the old ground surface (which in other cases would have been incorporated into the ploughzone) and tree-throw holes and the very low proportion from deliberately dug pits. He explained that the histograms for pits include ALL pits on the site, not just those from the excavation area with the old ground surface and tree holes. The pits and spread there had produced only one sherd of pottery and a few flint chips: a more realistic figure would be less than 1% finds in pits. He also drew attention to the differences in charcoal recovered from tree holes and pits and domestic burnt spreads, suggesting very different sources of firewood from the ambient environment.
- Slide 7: Mr Lambrick explained how another example at Rollright N Oxon illustrates how a tree-throw could be associated with a very short one-off episode in Mesolithic tool preparation, and how that evidence could have been ploughed out, illustrating the complex interplay of buried surfaces, tree-throw holes and the ploughzone.
- Slide 8: Mr Lambrick explained that as between deliberately dug features, tree-throw holes, buried ground surfaces and the ploughzone, these represent deposits that have different pros and cons in terms of how they contain evidence of past human activity, both spatially and quantitatively, but also qualitatively. As such they all need to be treated as valuable and complementary sources of information, not separate entities. In particular, tree throw holes and any surviving buried soils should be seen as directly complementary to the ploughzone and vice-versa.

**NOTE:** AFTER THE PRESENTATIONS, DUE TO PRESSURES OF TIME, SEVERAL ITEMS WERE NOT DISCUSSED (OR WERE ONLY REFERRED TO GOVERNMENT BODIES FOR COMMENT): THE EXAMINING AUTHORITY INVITED WRITTEN COMMENTS INSTEAD.

## **8. BLICK MEAD HYDROLOGY**

***If monitoring (and any associated remediation) is required for groundwater levels at Blick Mead during construction, and post construction, how should this be secured?***

### ***a) Through the OEMP?***

***i. Would an additional sub-category to the Groundwater Management Plan, secured through MW-WAT10, adequately deal with this?***

***ii. What wording should be used? eg Groundwater level and quality monitoring, reporting programme, trigger levels and action levels/ mitigation/ action plans for exceedances for Blick Mead.***

***iii. What reporting criteria would be appropriate given the non-designated status of the asset? ie should Wiltshire Council's role be expanded beyond their function as lead local flood authority to include heritage considerations?***

**b) Through an additional Requirement?**

***i. What wording would be appropriate, including the consultation and approval bodies?***

***ii. Could this be phased to avoid a prohibition on any development commencing on all parts of the Proposed Development, before the details are approved?***

Mr Lambrick noted that

- As explained in detail in the CBA's response to ExA 2<sup>nd</sup> Questions ([**REP6-084**] pp 47 to 54) the issues involved at Blickmead involve a highly complex situation involving
  - o A complex 3-D archaeological horizon varying significantly in height thickness and composition
  - o Substantial variation of hydrological conditions
  - o Significant variation in preservation
  - o Significant chronological variation in remains.
- As outlined in the hearing on 6<sup>th</sup> June and in more detail in the CBA's response to ExA 2<sup>nd</sup> Questions ([**REP6-084**] esp pp 49-50), the issue is not just about hydrological variability of height, but also duration and in relation to highly variable parameters affecting preservation of organic remains
- Given the complexity of the situation, the variable involved and the significant problems with the record to date ([**REP6-084**] pp 50 to 52), it seems very clear that a bespoke heritage-led approach is needed that fully reflects the complexities involved.