

A303 Amesbury to Berwick Down

TR010025

Additional submission Environmental Statement – Addendum addressing 'new discovery' responding to Secretary of State letter dated 16 July 2020

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Foreword

The A303 Amesbury to Berwick Down scheme ("the Scheme") forms part of a package of proposals for the A303/A358 corridor, improving this vital connection between the South West and London and the South East and including the upgrade of remaining single carriageway sections on the route to dual carriageway. This investment is stated as a priority project in the National Infrastructure Plan and Government's commitment is confirmed in the Road Investment Strategy (2020-2025).

Objectives for the Scheme have been formulated both to address identified problems and to take advantage of the opportunities that new infrastructure would provide. The objectives are defined by the Department for Transport ("DfT"): Client Scheme Requirements.

- Transport To create a high quality reliable route between the South East and the South West that meets the future needs of traffic;
- Economic Growth to enable growth in jobs and housing by providing a free flowing and reliable connection between the South East and the South West;
- **Cultural Heritage** To help conserve and enhance the World Heritage Site and to make it easier to reach and explore; and
- **Environment and Community** To improve biodiversity and provide a positive legacy for nearby communities.

The objectives would be achieved by providing a high quality, two-lane dual carriageway on the A303 trunk road between Amesbury and Berwick Down in Wiltshire.

The Scheme would resolve traffic problems and, at the same time, protect and enhance the WHS. Key components comprise:

- a) A bypass to the north of Winterbourne Stoke with a viaduct over the River Till valley;
- A new junction between the A303 and A360 to the west of and outside the World Heritage Site, replacing the existing Longbarrow roundabout;
- c) A twin-bore tunnel approximately 3km in length past Stonehenge;
- d) A new flyover at Countess roundabout.



Executive Summary

A number of geophysical anomalies have been highlighted by an academic paper (Gaffney et al. 2020), which sets out a theory that they form a circle around Durrington Walls Henge. The paper's figure 9 also notes similar isolated and discrete large geophysical circular anomalies (greater than 5m in diameter) across the landscape, both within and outside the Stonehenge element of the Stonehenge, Avebury and Associated Sites World Heritage Site boundary.

This ES Addendum has considered the information presented, reviewed changes to the ES baseline, assessed the impacts of the Scheme upon the anomalies and noted the residual significance of effects following mitigation.

The results of an HIA Addendum have also been summarised.

The ES Addendum has not identified any new Likely Significant Effects.

The conclusions of the Main ES and the Main HIA remain valid.



1 Introduction

1.1 Reason for this ES Addendum

- 1.1.1 The Secretary of State (SoS) has requested further information from Highways England (the Applicant) and other stakeholders following a recent archaeological publication of a discovery (the Durrington Walls discovery) by the Stonehenge Hidden Landscapes Project (SHLP; see Gaffney, V. et al. 2020, A Massive, Late Neolithic Pit Structure associated with Durrington Walls Henge, Internet Archaeology 55 https://doi.org/10.11141/ia.55.4) which lies partly within the Stonehenge part of the Stonehenge, Avebury and Associated Sites World Heritage Site (the WHS) in June 2020.
- 1.1.2 The 2020 SHLP paper describes a series of geophysical anomalies discovered south of the Durrington Walls Henge identified during fluxgate gradiometer survey undertaken by the Stonehenge Hidden Landscapes Project (SHLP) in 2012–13. The results are described as "preliminary" (Gaffney et al. 2020, 6. Conclusions). The paper describes these features for the first time and considers them in the context of known pit-like anomalies and excavated sinkholes/ dolines/ solution features noted to the north, at Larkhill and Durrington.
- 1.1.3 A number of additional isolated or discrete anomalies over 5m in diameter are illustrated in the 2020 SHLP paper (figure 9) across the wider landscape. These may be purely natural sinkholes with no cultural material associated, form natural repositories for cultural material, or be deliberately modified, dug or exploited for some cultural purpose.
- 1.1.4 The SoS has received representations from the Consortium of Archaeologists ('the Consortium') and the Blick Mead Project Team dated 25 June 2020 [TR010025-001960] and also the Stonehenge Alliance dated 26 June 2020 [TR010025-001961], which cite the discovery.
- 1.1.5 The representations are based on the proposition that the Durrington Walls discovery have so changed understandings of the range of human activities and archaeological evidence of these, as to invalidate the assessments and related mitigation strategies submitted with Highways England's Application ('the Application') for a Development Consent Order (DCO) for the A303 Amesbury to Berwick Down scheme ('the Scheme').
- 1.1.6 The SoS has decided it would be appropriate to consult on the archaeological discovery and the representations received before determining the Application. He has requested that Highways England, Historic England, Wiltshire Council and other recipients respond on:
 - "implications of the archaeological find for the Development and any harm it may cause to the World Heritage [Site]; and
 - implications for the Applicant's Environmental Statement, including the Heritage Impact Assessment, and the proposed Detailed Archaeological Mitigation Strategy."



- 1.1.7 This Environmental Statement (ES) Addendum considers the Durrington Walls discovery and the implications of the discovery for the ES that was undertaken for the Scheme [APP-044].
- 1.1.8 The ES and accompanying Appendix 6.1 Heritage Impact Assessment [APP-195] (HIA, described as the 'Main HIA' in this document), form part of the DCO Application documents. This ES Addendum should be read alongside the Main ES and the Main HIA.
- 1.1.9 This ES Addendum focusses on the nature of the Durrington Walls discovery as a heritage asset and its significance within the context of the WHS landscape and beyond.
- 1.1.10 This ES Addendum assesses the impacts and Likely Significant Effects of the construction and operation of the Scheme on the Durrington Walls discovery, heritage assets potentially related to the discovery, and discrete and isolated anomalies identified elsewhere in the WHS, including those identified beyond the WHS boundary, as highlighted in the 2020 SHLP paper (Gaffney et al. 2020).
- 1.1.11 With regards to whether the features are 'new' information that needs to be considered by this ES Addendum:
 - The majority of the 'northern arc' of anomalies (that form part of the Durrington Walls discovery) were known about when the Main ES and Main HIA were written. These anomalies are natural sinkholes, solution hollows or dolines that follow a dry valley. They are situated to the north of the WHS and c. 2km from the Scheme. For these reasons they were not considered in the Main ES. Of the ten anomalies, eight of them (10D, 11D, 12D, 13D, 14D, 15D, (iii) and (iv)) are in areas that have been developed by the Ministry of Defence, six of them being identified by geophysical survey and partially excavated and two of them identified in areas being archaeologically monitored during machine stripping. Of the two other features, one was known about (ii) and was identified from aerial photographic evidence in the National Mapping Programme, while (v) is 'new' information and was identified as a cropmark in an arable field recently by Paul Garwood.
 - With regards to the 'southern arc' of anomalies (that form part of the Durrington Walls discovery), ten anomalies have been selected and are identified by the 2020 SHLP paper. Six of these are 'new' information (1A, 2A, 3A, 5A, 8A and i) identified through the SHLP geophysical surveys. Four were previously known and were assessed as part of the Main ES [APP-044] and the Main HIA [APP-195] (4A is a Scheduled Monument, NHLE 1009138; 6A is a Scheduled Monument, NHLE 1009137; 9A is a Scheduled Monument, NHLE 1009145; and 7A was known from aerial photographic evidence in the National Mapping Programme and on the Wilshire and Swindon Historic Environment Record (WSHER) No. MWI72763).



- 1.1.12 Of the other 35 discrete and isolated anomalies identified in the 2020 SHLP paper (Gaffney et al. 2020, figure 9):
 - Two were known from previous published online information regarding pits found within the Greater Cursus by the SHLP (Anomalies 015 and 017).
 - Sixteen were identified by geophysical survey and trial trenching as part
 of the extensive archaeological evaluation programme undertaken for
 the Scheme (Anomalies 001, 002, 004, 005, 006, 007, 009, 010, 011,
 012, 013, 028, 029, 030, 032 and 033)
 - Three anomalies, upon checking the Applicant's geophysical surveys and trial trenching reports, are discounted as anomalies (Anomalies 003, 008 and 034)
 - Fourteen are identified solely in the 2020 SHLP paper (figure 9) and presumably rely on SHLP unpublished data alone (Anomalies 014, 016, 018, 019, 020, 021, 022, 023, 024, 025, 026, 027 and 031). It should be noted, however, that Anomalies 018, 019, 021, 022, 023 and 031 all lie within 30m of known Scheduled Monuments and it is not clear from figure 9 in the 2020 SHLP paper whether these are 'new' anomalies discovered by the SHLP or not, as the SHLP geophysical data remains largely unpublished.
- 1.1.13 This ES Addendum only considers new features not previously assessed in the Main ES [APP-044] and Main HIA [APP-195].

1.2 Relationship to the Main ES, Main HIA and HIA Addendum

- 1.2.1 The ES Addendum relies on baseline information presented in the HIA Addendum as well as information presented in the Main ES [APP-044] and its appendices, including the Main HIA [APP-195]. The preparation of the ES and HIA Addenda addressing the Durrington Walls discovery and the pit-like anomalies responding to Secretary of State letter dated 16 July 2020 has been coordinated closely. Both reports draw upon the same historic environment datasets and should be read in parallel.
- 1.2.2 As with the Main ES, this ES Addendum assesses the impacts of the Scheme and the resultant effects on heritage assets, in this instance the Durrington Walls discovery and the discrete and isolated anomalies highlighted in the 2020 SHLP paper, also summarising the results of the HIA Addendum.
- 1.2.3 The HIA Addendum focuses on the nature of the Durrington Walls discovery and the discrete and isolated anomalies highlighted in the 2020 SHLP paper, their contribution to Attributes expressing the Outstanding Universal Value (OUV) of the WHS; its relationship to known heritage assets, Asset Groups and the WHS landscape; and the distribution and potential significance of pit-like geophysical anomalies within the WHS and its setting.



1.2.4 The HIA Addendum assesses the impacts of the Scheme and the resultant effects on the Durrington Walls discovery, heritage assets potentially related to the discovery, and discrete and isolated anomalies identified elsewhere in the WHS and within the DCO boundary. In accordance with the Main ES and Main HIA, this ES Addendum reports the HIA Addendum's assessment of the impact of the Scheme on the OUV of the WHS and the Attributes that convey OUV. Impacts and resultant effects are assessed in relation to the OUV, Integrity and Authenticity of the WHS.



2 Legislation and policy

2.1 Introduction

2.1.1 Applicable legislation and policy are as set out in the ES and its relevant appendices and annexes [APP-044, APP-195 and APP-196]. These are not repeated here, unless there have been notable changes, or because it would be beneficial to this ES addendum to reiterate key requirements.

2.2 NPSNN

- 2.2.1 The NPSNN has not been updated since the publication of the DCO Application.
- 2.2.2 Paragraphs 5.127 and 5.128 state:
 - 5.127 'The applicant should describe the significance of any heritage assets affected, including any contribution made by their setting. The level of detail should be proportionate to the asset's importance and no more than is sufficient to understand the potential impact of the proposal on their significance. As a minimum the relevant Historic Environment Record should have been consulted and the heritage assets assessed using appropriate expertise. Where a site on which development is proposed or has the potential to include heritage assets with archaeological interest, the applicant should include an appropriate desk-based assessment and, where necessary, a field evaluation.
- 2.2.3 Section 2 of this ES Addendum outlines the updated baseline.
 - 5.1.28 'In determining applications, the Secretary of State should seek to identify and assess the particular significance of any heritage asset that may be affected by the proposed development (including by development affecting the setting of a heritage asset), taking account of the available evidence and any necessary expertise from:
 - Relevant information provided with the application and, where applicable, relevant information submitted during examination of the application;
 - Any designation records;
 - The relevant Historic Environment Record(s), and similar sources of information
 - Representations made by interested parties during the examination; and
 - Expert advice, where appropriate, and when the need to understand the significance of the heritage asset demands it.
- 2.2.4 Section 3 of this ES Addendum outlines the significance of the discoveries.



2.3 Planning policy and guidance

- 2.3.1 The NPSNN policies relating to the applicant's assessment are the primary source of policy guidance regarding this assessment.
- 2.3.2 Although the NPPF was revised in 2018 and the PPG was revised in July 2019, the requirements which relate to this assessment have not substantively changed, and the NPSNN remains the primary source of policy guidance.
- 2.3.3 Other International Conventions, National policy and guidance, Local policy and the WHS Management Plan (Simmons and Thomas 2015) remains unchanged (see the Main ES [APP-044] and the Main HIA [APP-195]).



3 Methodology

3.1 Methodological approach

- 3.1.1 The methodological approach utilised in this ES Addendum follows that of the Main ES Chapter 6 [APP-044], comprising:
 - Guidance [APP-044, paragraphs 6.3.4 6.3.5];
 - Baseline Data Sources [APP-044, paragraphs 6.3.6 6.3.8]; noting, regarding the geophysical survey data supplied by the Stonehenge Hidden Landscapes Project, as set out in the Main ES assumptions and limitations was "kindly released to the project from the Stonehenge Hidden Landscapes Project Team. The data provided only covered the Scheme boundary and a limited buffer..." [APP-044, paragraph 6.4.1h]. As such, the SHLP data relating to the Durrington Walls discovery was not released to the Scheme and has not yet been released;
 - Methodology for determining effects [APP-044, paragraphs 6.3.9 -6.3.11];
 - Value Criteria [APP-044, paragraphs 6.3.12 6.3.17, including Table 6.2];
 - Magnitude of impact [APP-044, paragraphs 6.3.18 6.3.22, including Tables 6.3, 6.4 and 6.5];
 - Significance of effect [APP-044, paragraphs 6.3.23 6.3.24, including Table 6.6];
 - Assessment of setting of heritage assets [APP-044, paragraphs 6.3.25 -6.3.28]; and
 - Assessment of harm to designated heritage assets [APP-044, paragraphs 6.3.29].

3.2 Assumptions and limitations

- 3.2.1 The following assumptions and limitations are noted in relation to this ES Addendum:
 - Due to timescales for submission to the Secretary of State and Covid-19 restrictions, the position of each anomaly, as identified in the 2020 SHLP paper, has not been revisited since the release of the 2020 SHLP paper;
 - This ES Addendum focuses on the Durrington Walls discovery, updating the Main ES to take account of the findings of the 2020 SHLP paper. The 2020 SHLP paper is based on Stonehenge Hidden Landscapes Project data which, as noted above, has not been released to Highways England.
 - The Applicant assumes that all substantive and relevant new anomalies, identified by the SHLP team, have now been made available to the public through the publication of the 2020 SHLP paper, and that none is being withheld by any other interested party.
- 3.2.2 This ES Addendum takes the 2020 SHLP paper's interpretation of the Durrington Walls discovery, and the potential interrelationships with other heritage assets stated in the 2020 SHLP paper, at face value in order to



carry out a precautionary, worst-case scenario impact assessment. This does not mean that this ES Addendum, or the Applicant, endorses or agrees with the assertions, interpretations and theories presented in the SHLP 2020 paper. This ES Addendum does not debate the significance or interpretation of the findings stated in the 2020 SHLP paper. The Applicant notes only that, given its very recent publication, it is likely that the 2020 SHLP paper and its findings are likely to be the subject of academic review and debate in the future.

3.3 Referencing of heritage assets

- 3.3.1 To enable comparison with existing project unique identification numbers, unique ID numbers (e.g. **Anomaly 001**) have been assigned to large pit-like anomalies over 5m in diameter located away from the main 'arcs' of anomalies which are illustrated in the 2020 SHLP paper (Gaffney et al. 2020, fig. 9). These are illustrated on Figures 1 to 4.
- 3.3.2 Reference is also made to Asset Groups; the rationale for the definition of Asset Groups is set out in the Main ES [APP-044, paragraphs 6.6.59 6.6.61 and 6.6.63 6.6.66]. Asset Groups are described in the Main ES [APP-044, Scheme Narrative, paragraphs 6.6.80 6.6.111] alongside discrete and isolated assets.
- 3.3.3 The archaeological baseline is described in the Main ES, Appendix 6.2 Archaeology Baseline Report [APP-211]. Known archaeological assets are tabulated in the Main ES, Appendix 6.3 Gazetteer of Archaeological Assets [APP-212] and the Asset Groups are tabulated in the Main ES, Appendix 6.7 Gazetteer of Asset Groups [APP-216]. The contribution that setting makes to the significance of heritage assets is discussed in Appendix 6.9 Cultural Heritage Setting Assessment [APP-218].



4 Baseline

4.1 Update to Baseline conditions

- 4.1.1 As stated in the HIA Addendum (Highways England 2020), there is a continuum between natural features and human activity in the landscape. Natural geological and topographic features are fundamental in structuring landscapes. This is particularly true in the Stonehenge landscape, which demonstrates cultural development related to natural features, and the influence of natural features from the underlying geology of the Avenue to astronomical alignments on the layout, organisation, sequence and interrelationships between monuments in the landscape.
- 4.1.2 This continuum and the mutual influence of nature and culture are important. Like the Main ES [APP-044], the Main HIA [APP-195] and the HIA Addendum, this ES Addendum takes a nuanced approach, preferring the concept of a wide spectrum, a continuum and mutual influence and interplay between nature and cultural aspects, rather than labelling features into purely 'natural' or purely 'anthropogenic'.
- 4.1.3 The site history and description related to previously known and published heritage assets is as set out in the Main ES [APP-044] and the Main HIA [APP-195]. both published in October 2018.

4.2 Description of new discovery associated with Durrington Walls Henge

4.2.1 A series of geophysical anomalies has been discovered south of the Durrington Walls Henge (Asset Group AG33 – Durrington Walls, Woodhenge and Associated Sites in the Main ES). They were identified during fluxgate gradiometer survey undertaken by the Stonehenge Hidden Landscapes Project (SHLP) in 2012-13. The 2020 SHLP paper describes these anomalies for the first time and considers them in the context of known pit-like anomalies and the excavation of sinkholes/dolines/ solution features noted to the north, at Larkhill and Durrington. The locations of these anomalies are illustrated on Figures 2 to 4.

'Southern arc' of geophysical anomalies (1A – 9A)

- 4.2.2 Nine similarly sized, circular magnetic anomalies (Anomalies 1A 9A) were mapped between 812-979m south of the Durrington Walls Henge, an arc over 1.5km long, from approximately NGR 414170 14306 to 415460 142708. The anomalies "comprise a disc of enhanced magnetic readings, 15-20m in diameter, and surrounded by a slightly less magnetic 'halo'." (Gaffney et al. 2020, figure 3). A tenth anomaly (Anomaly (i)) is tentatively included in the 2020 SHLP paper.
- 4.2.3 Six of these anomalies 1A, 2A, 3A, 5A, 8A and (i) are new information identified through the SHLP geophysical surveys and not previously recorded in national or local heritage records. These were therefore not part



- of the baseline assessed in the Main ES [APP-044] and the Main HIA [APP-195].
- 4.2.4 Four anomalies were previously known and were assessed as part of the Main ES [APP-044] and the Main HIA [APP-195, 382–390, 473 and 474–475]. Three anomalies correspond to previously known features, scheduled monuments previously interpreted as levelled round barrows (Anomalies 4A, 6A, and 9A), and one coincides with a possible barrow previously recorded on aerial photographs (Anomaly 7A).
 - Anomaly 4A corresponds to the scheduled remains of a bowl barrow 400m north of the A303 on Countess Farm (NHLE 1009138; HER MWI12963; ES UID 4011; Site Amesbury 151 (RCHME 1979)). Noted as a cropmark on aerial photographs during the National Mapping Programme (Crutchley 2002).
 - Anomaly 6A corresponds to the scheduled remains of a bowl barrow 450m north of the A303, on Countess Farm (NHLE 1009137; HER MWI12962; ES UID 4008; Site Amesbury 146 (RCHME 1979)). Noted as a cropmark during the National Mapping Programme (Crutchley 2002).
 - Anomaly 7A is noted as a cropmark during the National Mapping Programme (Crutchley 2002). These are recorded in the Wiltshire and Swindon Historic Environment Record (WSHER) as "possible barrows northeast of the Avenue on Countess Farm" (HER MWI72763; ES UID 4077.02).
 - Anomaly 9A corresponds to the scheduled remains of a bowl barrow 170m south east of Strangways on Countess Farm (NHLE 1009145; HER MWI12957). Noted as a cropmark during the National Mapping Programme (Crutchley 2002).
- 4.2.5 A separate set of potentially related anomalies (not previously identified) is associated with these large anomalies: an alignment of smaller posts/pits runs parallel to anomalies 6A to 9A.
- 4.2.6 Further geophysical survey was undertaken by the SHLP on some of the anomalies in August 2019, with ground penetrating radar (GPR) survey on 1A, 7A and 8A, and electromagnetic conductivity survey on Anomalies 7A and 8A. Additional GPR survey was undertaken on anomalies 5A and 7A in October 2019.
- 4.2.7 The 2020 SHLP paper's interpretation of GPR profiles maintains that Anomalies 1A, 5A, 7A, 8A had vertical sides; at the same time, suggesting that the large surface diameter was interpreted as representing the effect of weathering cones, and any central shafts may be smaller in diameter. Timeslices indicated a depth of at least 3m for Anomalies 7A and 8A.
- 4.2.8 In October 2019, Anomalies 5A, 7A and 8A were subject to percussive coring by the SHLP "to assess the stratigraphy of the features and to assess whether they may have been the result of natural processes". This investigation found:



Anomaly 5A was at least 7m deep.

The sequence comprised reddish-brown, yellowish-brown and brown clay silts including occasional flint and clay clasts. Charcoal and bone fragments throughout the sediments between 4.5m to c. 5.25m. The core was fragmentary between 5.25m to 6m and, below this significant break, the sediments were characterised by firm and cohesive, yellowish-brown clay silts with small chalk clasts. These were bedded with very weakly defined darker brown horizons.

Neither visual inspection of the core, nor radar data, could provide certain evidence for a base to this feature. Geologically, this pit sits within an area mapped by the British Geological Survey as containing 'Head', a solifluction deposit that locally can achieve thicknesses of up to 6m, and it is likely that the feature is cut into these sediments.

Luminescence dating (OSL) BH3 indicated that the upper unit accumulated gradually over time, then age-related accumulation of rapidly deposited sediments occurred, with either a clear stratigraphic break, or a prolonged chronology to deposition of sediment.

Middle Bronze Age radiocarbon date at 95% probability: 1340 cal BC (13%) or 1310–1160 cal BC (79%) or 1150–1130 cal BC (3%).

Anomaly 7A reached bedrock at c. 4.8m Below Ground Level (BGL).

Upper fills characterised by yellowish brown clay silts and chalk rich silts. The lower layers have variously unconsolidated clay silts within chalk and flint clasts. Base of feature sharply defined and characterised by white fractured chalk bedrock.

Sampled shell yielded a Mesolithic radiocarbon date at 95% probability: 6080–5990 cal BC.

Anomaly 8A reached bedrock at c. 4.8m BGL.

Upper fills were characterised by yellowish brown clay silts and chalk rich silts. The lower layers have variously unconsolidated clay silts within chalk and flint clasts. Bone fragments and a struck flint in lower layers between 4.65m and 4.76m BGL. Base of feature sharply defined and characterised by white fractured chalk bedrock.

Luminescence dating (OSL) BH2 indicated redeposition at 1.35 to 4.52m BGL.

Radiocarbon dates at 95% probability: Late Neolithic/Early Bronze Age, 2460–2270 cal BC (78%) or 2260–2200 cal BC (17%).

'Northern arc' of geophysical anomalies (10D-15D)

4.2.9 A series of large anomalies have previously been investigated by Wessex Archaeology north of Durrington Walls as part of the Army Basing



Programme. They were recorded during geophysical survey and trial trench evaluation at the Larkhill (East Site) (Features 10D – 13D), and at the site of the former Ministry of Defence Headquarters building (Features 14D and 15D).

- 4.2.10 The 2020 SHLP paper notes that "The general presumption [...] in respect of this group of features was that, while the features were certainly associated with significant archaeological deposits and activity, they were likely to be of natural origin and probably related to a series of solution features following the dry valley."
- 4.2.11 Four features, 10D to 13D, were mapped through geophysical survey at Larkhill (East Site) (Thompson and Powell 2018; Schmidt and Crabb 2017; Urmston 2014):
 - Feature 10D (Anomaly 4008, Urmston 2014) "was partially excavated by Leivers and Thompson (2015) when the feature was identified as a sinkhole, and a machine slot was excavated to a depth of 2m across the hollow. Middle Bronze Age ceramics were recovered from this feature (Leivers and Thomson 2015)."
 - Feature 11D (Anomaly 4007, Urmston 2014; Anomaly 6014, Schmidt and Crabb 2017). Interpreted as a solution hollow on the basis of the similarity of magnetic response and the results of partial excavation trenched by Leivers and Thompson (2015) as feature 11207, in trench 112. This records that the feature was 'at least 18m in diameter and over 1.5m deep [2.7 metres below current ground surface]: the base of the sinkhole was not revealed due to health and safety concerns. The feature had a moderately steep (c. 40°) edge and was filled with a homogenous loose pale yellow brown silty clay.' (Leivers and Thompson 2015, 66). The presence of Bronze Age ceramics is also noted from within this feature (Schmidt and Crabb 2017, 4; Leivers and Thompson 2015, 11–12).
 - Feature 12D (Anomaly 4006, Urmston 2014; Anomaly 6015, Schmidt and Crabb 2017). Interpreted as a solution hollow by the excavators on the basis of the similarity of magnetic response and the results of partial excavation.
 - Feature 13D (Anomaly 6016, Schmidt and Crabb 2017). Interpreted as a solution hollow by the excavators on the basis of the similarity of magnetic response and the results of partial excavation.
- 4.2.12 A further alignment of 17 post-holes of varying sizes was recorded over some 260m, south of the line of large pits 11D to 13D (Leivers et al. 2020). The only readily datable material recovered from these features was Late Neolithic/Early Bronze Age pottery from one feature. The entire group is, however, considered likely to be of Late Neolithic date based upon a presumed connection with a similarly aligned group of post-holes at the former Ministry of Defence Headquarters at Durrington, described below, which if projected westwards could feasibly join to this group.



- 4.2.13 Two features, 14D and 15D, were partially excavated at the site of the former Ministry of Defence Headquarters building in Durrington (Thompson and Powell 2018, 40–41). Associated post-hole alignments were also recorded.
 - Feature 14D (Feature 6257; Thompson and Powell 2018). Excavated to 3.1m depth where its shaft was presumed to contain natural sediments (Thompson and Powell 2018, 15–16). Believed to have a narrower central [solution] shaft. Produced an early Middle Bronze Age date of 1690–1520 cal BC (95% probability; SUERC-50628, 3327±31 BP). Interpreted as a solution hollow by the excavators on the basis of the similarity of magnetic response and the results of partial excavation.
 - Feature 15D (Feature 6513; Thompson and Powell 2018). Interpreted as a solution hollow by the excavators on the basis of the similarity of magnetic response and the results of partial excavation. Only excavated to 1.2m depth, although its (assumed) central shaft was machineaugered to a depth of 6m (Thompson and Powell 2018, 40–41).
- 4.2.14 Two intersecting post-hole alignments were located south of features 14D and 15D over a distance of 240m (Thompson and Powell 2018, fig.3.1). Radiocarbon dates from these features provided a construction date for the post alignments between- 2670–2550 cal BC (87% probability; earliest sapwood) and a date for the decommissioning of the alignments within the range of 2575–2470 cal BC (at 95% probability; earliest bone; Thompson and Powell 2018, 111).

Potential features associated with 'southern arc' and northern sinkholes

- 4.2.15 The paper notes a further series of features, potentially forming part of the 'arcs', as follows:
 - Feature ii: noted during National Mapping Programme (Crutchley 2002), coincides with a dip noticeable in LiDAR data. On a projected line between the 'southern' and 'northern arcs'. Similar to cropmarks associated with Anomalies 4A, 6A, 7A and 9A.
 - Features iii & iv: "originally marked on the planning constraints map for the Army Basing plan at Larkhill (DIO 2017, 20; Daw 2018). These circular/ovoid features were identified following an area strip and fluxgate gradiometer survey [...] Unexcavated, they demonstrate a strong similarity, in dimensions and shape, to features 10D to 15D, and are also on the alignment of a larger group of features as the newly discovered Larkhill Causewayed enclosure is approached." Feature (iv) appears to coincide with a Prehistoric Ring Ditch, Larkhill Artillery Range noted on WSHER (MWI76661), derived from Larkhill East and West SFA Progress Plan, 2018 (Wessex Archaeology 2018).
 - Feature v: a "distinctive circular crop mark [...] identified by Paul Garwood in 2018, was located in open fields between Wessex



Archaeology sites at Larkhill and Durrington. This feature is included here as, potentially, a fifth related feature on the basis of its similarity in size and form to excavated features north of Durrington, and its relationship to the arc of known features to the north of Durrington".

5 Assessment of significance of Durrington Walls discovery

5.1 Introduction

- 5.1.1 The constituent elements of the Durrington Walls discovery include a 'southern arc' of geophysical pit-like anomalies and associated fence-line (Anomalies 1A-9A and post alignments, noting that it is only Anomalies 1A, 2A, 5A, 8A and (i) that are 'new' discoveries. Although some of these anomalies may be of natural origin, the paper claims evidence for human use and modification, interpreting a 'geometric' patterning, a 'monumental circle' centred on the area of the Durrington Walls Henge.
- 5.1.2 In contrast, although the features to the north of the henge (10D-15D & intersecting post alignments) appear to form a linear sequence, this reflects their location along the course of a dry valley. The professional archaeologists from Wessex Archaeology who investigated these northern pits, via both geophysical survey and excavation prior to development, have interpreted these as naturally occurring sinkholes/dolines, which are common in this landscape context. In such hollows created by natural solutions, the upper fills often become compacted, trapping archaeological material in the accumulating matrix of soil and stone. As noted above, there is a continuum between the natural and the cultural, and features can be both/and rather than either/or.
- 5.1.3 There is currently very limited information in the public domain regarding a number of anomalies or features that are said to form part of the new discovery, i.e. (i), (ii), (iii), (iv) and (v). Their significance is assumed to be related to the wider arc, and this is what the paper asserts; however, their value is presently unknown.
- 5.1.4 For the purposes of this assessment, those that are associated with the 'northern arc' of anomalies are taken to be of natural origin and related to sinkholes that follow a dry valley in the landscape, in line with Thompson and Powell's assessment described in para. 4.2.13. Often anomalies that form the 'northern arc', eight have already been archaeologically recorded and removed by development work by the Ministry of Defence. The other two are situated c. 2km to the north of the Scheme and these assets would not be physically impacted or have their settings changed by the construction or operation of the Scheme. On this basis, they are not considered further within this ES Addendum.
- 5.1.5 Anomaly (i) is assumed to have potential cultural origin or anthropogenic modification, as are the other anomalies picked out as forming the 'southern arc' and therefore anomaly (i) is taken forward into the assessment with the other anomalies that are claimed to form a 'southern arc' of geophysical anomalies.
- 5.1.6 The 2020 SHLP paper's authors suggest that the southern pit arc may have been constructed or enhanced to reflect the northern sequence of sinkholes.



Durrington Henge appears to be located broadly at the centre of the groups, with Larkhill Causewayed Enclosure possibly incorporated within the northwest of the 'pit ring', and apparently reflected in the northwest/ southeast axes of Durrington Henge.

5.1.7 The 2020 SHLP paper notes that "That general presumption that the group of features north of Durrington Walls were natural in origin and, probably, solution features gains some support in the geological literature. Such features are relatively common on the chalk and the available mapping is likely to provide an underestimate of their actual distribution (Hopson et al. 2006, 215). Some of the features recorded north of Durrington are set within a slight valley trending west-east towards the Avon. While such a topographic situation can provide the conditions that can lead to the development of solution features, the southern group of anomalies does not align with any similar topographic feature, and actually crosses higher ground above dry valleys. Consequently, the origins of the southern group of anomalies as solution features or doline is less likely."

5.2 Location

- 5.2.1 The 'southern arc' is located on land to the west of Countess Farm, on the western side of the River Avon Valley. The anomalies are situated within parcels of arable agricultural land which are bisected by a track and PRoW. To the south lie the Nile Clumps, which are woodland features associated with the former extent of Amesbury Park. High voltage pylons cross the landscape to the south of the arc and are a prominent feature. Trees and shrubs border the A303, located c. 377m to the south of the southernmost element of the arc, Anomaly 4A. To the east there are views of Beacon Hill, with further pylons in the distance, while to the south-east the Boscombe Down aircraft hangars and development south of Amesbury are apparent.
- 5.2.2 Unlike the northern series of sinkholes/dolines which are located along a dry valley to the north of Durrington Walls, the 2020 SHLP paper suggests that the 'southern arc' appears to disregard dry valleys, which occur between Anomalies 7A and 8A, and between 2A and (i), and crosses slight ridges (see Gaffney et al. 2020, fig. 18).

5.3 Relationship with AG31, Countess Farm Barrows

- 5.3.1 Some of the 'southern arc' anomalies coincide with known cropmarks, previously tentatively interpreted as possible barrows. This area contains a scattered group of features identified as possible Bronze Age round barrows, which appear as cropmarks on aerial photographs. The nature of many of these possible barrow features is uncertain, as stated in the Main HIA in the section on AG31, Countess Farm Barrows [APP-195, 382-390].
- 5.3.2 Four of the 'southern arc' of geophysical anomalies coincide with features previously identified on aerial photographs (National Mapping Programme) as possible barrows or ring ditches (4A, 6A, 7A & 9A). Many cropmark features with possible barrow or ring-ditch forms within the WHS have been



scheduled as a precautionary measure; three of the anomalies coincide with scheduled cropmark sites (4A, 9A & 6A).

- Anomaly 4A corresponds to the scheduled remains of a bowl barrow 400m north of the A303 on Countess Farm (NHLE 1009138; HER MWI12963; ES UID 4011; Site Amesbury 151 (RCHME, 1979)). Noted as a cropmark on aerial photographs during the National Mapping Programme (Crutchley 2002). The Main HIA considered this feature as a designated discrete asset which conveys Attributes of OUV of the WHS [APP-195, 474–475].
- Anomaly 6A corresponds to the scheduled remains of a bowl barrow 450m north of the A303, on Countess Farm (NHLE 1009137; HER MWI12962; ES UID 4008; Site Amesbury 146 (RCHME, 1979)). Noted as a cropmark during the National Mapping Programme (Crutchley 2002). The Main HIA assessed this feature as part of AG31A Countess Farm barrow group – north [APP-195, 382–390].
- Anomaly 7A is noted as a cropmark during the National Mapping Programme (Crutchley 2002). These are recorded in the Wiltshire and Swindon Historic Environment Record as "possible barrows northeast of the Avenue on Countess Farm" (HER MWI72763; ES UID 4077.02).
 Main HIA assessed this feature as part of AG31A Countess Farm barrow group – north [APP-195, 382–390].
- Anomaly 9A corresponds to the scheduled remains oa bowl barrow 170m south east of Strangways on Countess Farm (NHLE 1009145; HER MWI12957). Noted as a cropmark during the National Mapping Programme (Crutchley 2002). The Main HIA considers this feature as a designated discrete asset [APP-195, 473] that conveys Attributes of the OUV of the WHS.
- 5.3.3 The Main HIA noted that heritage assets within AG31 Countess Farm barrow group had largely been identified from aerial photographs rather than ground-truthed: "[...] possible barrows or ring ditches have been noted on aerial photographs, although their identification is uncertain [...]. The barrows have been truncated by ploughing with no visible surface expression, though some appear to be identifiable at ground level by subtle colour changes of the ploughsoil". [APP-195, 384].
- 5.3.4 As demonstrated by the excavation of the Wilsford Shaft (UID 2016; NHLE 1010833), it is possible that Bronze Age barrows were constructed over earlier shafts, including natural shafts enhanced by humans. These sites may combine barrows built over sinkholes/dolines, and/or natural sinkholes expanded into shafts/wells. The temporal sequences of features is presently poorly understood, as are questions of memory in the landscape, and our understanding of the purpose and meaning of the continuing modifications to and development of the monumental landscape.
- 5.3.5 The 'new' anomalies located within the 'southern arc' have not been subject to the formal periodic condition assessment undertaken in 2010–2011 for



other heritage assets in the WHS (Wessex Archaeology 2012). This survey did, however, consider the condition of the known features previously interpreted as barrows in this area, some of which coincide with anomalies. The condition survey indicated that most of the barrows had been levelled; extant barrows were in poor or fair condition. Several had experienced negative change since they were last surveyed in 2002 and many had undergone cultivation impacts. A number of barrows were affected by mole burrowing.

- 5.3.6 Both designated and non-designated assets were taken into consideration in identifying Asset Groups for the Main ES and the Main HIA and the contribution that setting makes to their significance. The identification of Asset Groups takes account of sites and monuments with no surface expression, including ploughed-down earthworks.
- 5.3.7 The anomalies lack surface expression, which greatly reduces their superficial legibility. The visitor perceives only arable fields with a backdrop of historic and modern vegetation, electricity pylons, and both the sight and sound of traffic on the A303. Other monument groups are visible from this area, most prominently the wooded King Barrow Ridge. Overall, the visitor gains no sense of place, nor of meaningful visual connections either intragroup, or more widely within the landscape. The visual aspects of setting therefore do not contribute to the significance of this group, though an archaeological setting appreciable through aerial photography, mapping and digital survey plots does exist.
- 5.3.8 The viewshed analysis presented in the paper suggests that although few of the pits would have been visible from ground level at Durrington Walls, they may have been visible from a viewer standing on the bank, assuming a former height of 3m. "Pits 1A to 9A to the south as well as 14D and 15D and areas further east, are in view. There is no visual link to the area of the causewayed enclosure at Larkhill." (Gaffney et al. 2020, Viewshed Analysis). The paper concludes that the strength of relationships with other monuments lies in the positioning of the features at a broadly similar distance from Durrington Walls Henge, rather than in its visual relationships.
- 5.3.9 Taking all of the above into consideration, and taking the interpretation of the Durrington Walls discovery at face value as set out in 3.2.2 above, the anomalies have the potential to contribute to the OUV of the WHS, they are assessed as of potentially Very High value.

5.4 Other large pit-like anomalies in the landscape

5.4.1 As noted above natural sinkholes/dolines/ solution features are "relatively common on the chalk and the available mapping is likely to provide an underestimate of their actual distribution" (Hopson et al. 2006, 215). Also as noted above there is a continuum between natural features and human activity in the landscape and a spectrum, a continuum and mutual influence and interplay between natural and cultural aspects, rather than creating false dichotomies and dividing features into purely 'natural' and 'anthropogenic'.



- 5.4.2 A number of anomalies are illustrated within the 2020 SHLP paper (Gaffney et al. 2020, fig. 9) across the landscape that are over 5m in diameter. These may be purely natural sinkholes with no cultural material associated, form natural repositories for cultural material, or be deliberately modified, dug or exploited for some cultural purpose.
- 5.4.3 The majority of these anomalies are isolated in the landscape and their relationships with each other and other identified features within the Main ES and Main HIA are unknown/ uncertain. Some are only revealed on the 2020 SHLP paper (Gaffney et al. 2020, fig. 9), relying solely on unpublished geophysical survey data from the Stonehenge Hidden Landscape Project, including Anomalies 014 021; and Anomalies 023 028. Some are recorded on earlier alignments of the Scheme (south of Winterbourne Stoke), including Anomalies 004 007. Anomalies 009 013 were recorded during geophysical surveys undertaken for the development of the Stonehenge Visitor Centre.
- 5.4.4 The majority of the anomalies (Anomalies 004, 005, 006, 007, 009, 011, 012, 013, 014, 015, 016, 017, 018, 019, 020, 023, 024, 025, 026, 027, 028 and 035) will not be physically impacted by the Scheme and their setting will not change, being situated at approximately 1.5km or more from the Scheme's main construction activities and so, following assessment, given the distance from the site and the magnitude of impact being assessed as No change (in accordance with Table 6.3 in the methodology section of the Main ES [APP-044] and the resultant significance of effect as neutral, these Anomalies are not discussed further in the impact assessment below.
- 5.4.5 The following discrete and isolated anomalies are considered within this ES Addendum as the anomalies are situated within the Scheme DCO boundary or sufficiently close to it that there is potential for their setting to be affected:

<u>Anomaly 001</u> – East of Parsonage Down. This appears to correspond with geophysical anomaly 12005

Wessex Archaeology's Phase 4 Geophysical Survey Report, 2019 [REP1-041, para. 4.3.14] which states that: '9 m inside of 12000, is a concentration of large, moderately strong positive anomalies (12005). These are irregular in form and are surrounded by a weakly negative response. Together they cover an 18 x 9 m rectangular area that is roughly orientated on a northeast to south-west alignment. This is interpreted as archaeology and is most likely associated with a large area of pitting. The shape, size and character of the anomaly may suggest that it is associated with an extraction pit. However, it is not clear whether this is contemporaneous with 12000 [an irregularly shaped enclosure that correlates with the possible Romano-British settlement recorded in the WSHER].'

The anomaly was not tested by archaeological trial trenching, as it was situated within a Romano-British enclosure that the Scheme was excluding from construction activities (preservation of archaeological remains area). The anomaly is interpreted as a large area of pitting and perhaps best associated with the Romano-British enclosure rather than a large 5m



diameter single anomaly. The area is ploughed flat and is set within the enclosure on top of a flat top hill on High Down. It has the potential to contribute to research agendas and is considered, alongside the Romano-British enclosure (which was previously assessed in the Main ES [APP-044, UID 2039], to be of Medium value.

<u>Anomaly 002 – East of Parsonage Down</u>. This appears to correspond with geophysical anomaly 13003.

Wessex Archaeology's Phase 4 Geophysical Survey Report [REP1-041, para. 5.1.9] which states that: "a previously unidentified pond barrow (13003) has been hypothesised in the south-west of the area. However, this is located in an area of complex superficial geological deposits and may be associated with a solution hollow".

The Evaluation Report Winterbourne Stoke West [REP1-049, paragraph 5.2.4] confirmed that this anomaly was a natural solution hollow, in an area of complex geology – set on the south facing slope of a sinuous dry valley that crosses the East of Parsonage Down area. An ERT and borehole transect (Transect 4) showed that, "a typical sequence of superficial deposits overlie (sic.) the solid chalk bedrock, with Pleistocene periglacial coombe deposits (up to 1.7 m thick) being overlain by Holocene colluvium of generally 1.5-2 m but up to 3m thickness, with 3 m being recorded within a probable solution feature [the 'pond barrow'] ..." [REP1-051, 5.2.1]. The natural feature has the potential to capture anthropogenic and palaeoenvironmental material and therefore is of Medium value, and associated with a scatter of similar pit-like anomalies in this area within the Main ES [APP-044, UID 2038; MWI74875] on the east side of the East of Parsonage Down area.

<u>Anomaly 003 – East of the B3083</u>. This appears to correspond with geophysical anomaly 14040.

Wessex Archaeology's Phase 4 Geophysical Survey Report [REP1-041, para. 4.5.44] states that "Across the south-eastern part of NW10, there are a series of irregular and amorphous positive anomalies. These are randomly distributed and are very poorly defined. They are perhaps most clearly visible at 14040 and 14041, as well as at 14042 in NW10c (Figure 34). The widespread nature, lack of discernible pattern, and relatively weak nature suggests that these are most likely associated with periglacial weathering of the chalk bedrock. These anomalies also contribute to a slightly enhanced background response within the gradiometer results across the western part of NW10. The complex and variable nature of this may prevent the successful detection of more discrete features within this area".

The Evaluation Report Winterbourne Stoke East [REP1-052, Trench 721] confirmed that the geophysical anomalies in this area were created by periglacial weathering of the top of the chalk bedrock and so are natural in origin. The combination of geophysical survey data and ground truthing via archaeological trial trenching (the latter not referenced by the 2020 SHLP



paper) confirms that the area does not contain a large 5m+ diameter feature. There is therefore no feature for the Scheme to impact upon and Anomaly 003 is therefore discounted from further impact assessment.

Anomaly 008 – West of Winterbourne Stoke Hill. The Wessex Archaeology's Phase 4 Geophysical Survey Report, 2019 [REP1-041] does not identify a large geophysical anomaly or group of anomalies that could combine to form a single feature in this location. It is possible that the 2020 SHLP paper (Gaffney et al. 2020, fig. 9) uses a concentration of field edge ferrous debris in this location (a very common occurrence in geophysical survey), to suggest a 5m+ sized geophysical anomaly. On the basis of the interpretation and data produced by the Applicant's above survey, the data does not support the identification of a large 5m+ diameter anomaly in this part of the Scheme. Anomaly 008 (alluded to in the 2020 SHLP paper, fig. 9, which relies upon the Wessex Archaeology Phase 4 Geophysical Survey Report mentioned above) is therefore not an actual geophysical anomaly and is discounted from further impact assessment.

Anomaly 010 – Stonehenge Visitor Centre Car Park. Geophysical survey anomaly identified by Linford and Martin, 2009, in which they state that "An earthwork depression on historic mapping, no longer visible. Correlates with magnetic response [m5]. Significance of [m5] is difficult to fully ascertain although possible that it represents an in-filled borrow pit or, perhaps, a dew pond predating the more substantial Imber pond sunk against the road". (Linford and Martin 2009, 4). As this is adjacent to the dew pond, a shallow grassed depression set beside the A360 road and within the Stonehenge Visitor Centre car park, it is more probable that this is best interpreted as an earlier infilled dewpond or borrow pit close to the road of Low value. As this feature will not be physically be impacted by the Scheme, not will its setting (as it will be preserved in situ in its current setting within the Stonehenge Visitor Centre car park), it is not considered further in this impact assessment.

Anomaly 021 – Countess Farm West. Previously unpublished geophysical survey anomaly identified by the Stonehenge Hidden Landscapes Project. Anomaly 021 is next to a pair of Scheduled Monuments – it is c.28m northeast of a 'bowl barrow 250m north of the A303 on Countess Farm' (NHLE 1014087 / MWI12655) and is c.34m west of 'Bowl barrow 260m north of the A303 on Countess Farm' (NHLE 1009139 / MWI12719). This anomaly is situated within the AG31A Asset Group (Countess Farm Barrows (North)). Although of uncertain significance, as it has not been archaeologically investigated, it is set within arable fields on the eastern side of a dry valley. It could potentially be of Very High value if of anthropogenic origin / or modified and of Late Neolithic to Early Bronze Age date, therefore it is assumed on a precautionary basis to be that for the purposes of this assessment, as set out in para. 3.2.2 above.

<u>Anomaly 022 – East of Stonehenge Road</u>. Previously unpublished geophysical survey anomaly identified by the Stonehenge Hidden Landscapes Project – unidentified in the data and geophysical survey report supplied by SHLP to the Scheme. Anomaly 022 is situated c.15m northeast



of a Scheduled Monument –a 'Bowl barrow 50m south of A303' (NHLE1011231 / MWI13056). This anomaly is situated within the AG30 Asset Group (The Avenue Barrows). Although of uncertain significance, as it has not been archaeologically investigated, it is set within arable fields that slope down to a dry valley to the east. It could potentially be of Very High value if of anthropogenic origin / or modified and of Late Neolithic to Early Bronze Age date, therefore it is assumed on a precautionary basis to be that for the purposes of this assessment, as set out in para. 3.2.2 above.

Anomaly 029 – South of the Western Portal Approach Cutting. This anomaly is visible as a geophysical anomaly [m46] in Linford et al. 2015 (Figures 4 and 11). It is located 38m northwest of a scheduled monument 'Henge monument 300m south of Longbarrow Crossroads, East of A360' (NHLE 1021349 / MWI12666) and 34m northeast of an 'undated pit, Druids Lodge' (MWI75672). It lies within an extensive prehistoric field system (MWI13128) between Druids Lodge and Wilsford Down. It is likely that Anomaly 029 and MWI75672 are the same anomaly. Although of uncertain significance, as it has not been archaeologically investigated, it is set within an arable field on the southern edge of a dry valley. It could potentially be of Very High value if of anthropogenic origin / or modified and of Late Neolithic to Early Bronze Age date, therefore it is assumed on a precautionary basis to be that for the purposes of this assessment, as set out in para. 3.2.2 above.

Anomaly 030 – South of the Western Portal Approach Cutting. This anomaly was identified in geophysical survey (anomaly 4410 in the AAJV (2017a): Phase 1 Geophysical Survey report [REP1-045, 27-8]) and was thought to be part of a dry valley system / natural depression. It was archaeologically trial trenched (Trench 241) and measured c.8m in diameter. It was hand-excavated to a depth of 1.28m and augered to refusal point at 1.6m. It was interpreted, following sample excavation as a natural sinkhole which contained an assortment of cultural material in its upper gradual silting fills (including worked flint, burnt flint, two sherds of abraded probable Beaker pottery, ten sherds of Roman pottery, two sherds of medieval pottery and an eroded tooth fragment (cattle), likely collecting within a natural capture point / hollow in the landscape. The top of the natural depression was used to light a fire(s) (in situ fire-reddened areas), probably during the medieval period. The solution hollow is largely of natural origin with scant use in the medieval period, set within an arable field on the south side of a dry valley / coombe.

At the eastern end of Trench 241 the soil sequence represented the shallow infilling of the dry valley or coombe, rather than a further solution hollow. Here the natural geology comprised soliflucted or heavily cryoturbated Chalk overlain by a thin colluvial deposit (<0.15 m deep), a mid-reddish brown silty clay, with the ploughsoil above.

As a natural feature and associated with the dry valley network identified in the Main ES [APP-044, UID 2098] it is assessed as being of Medium value.



Anomaly 031 – North of the Western Portal Approach Cutting and the A303. Previously unpublished geophysical survey anomaly identified by the Stonehenge Hidden Landscapes Project. Anomaly 031 is situated c.19m northeast of a scheduled monument 'Four bowl barrows 140m north of the A303 on Stonehenge Down' (NHLE 1012394 / MWI12966 to 12969). This anomaly is situated in close proximity to the scheduled bowl barrows. Although of uncertain significance, as it has not been archaeologically investigated, it is set within an area of pasture on the northern edge of a dry valley. It could potentially be of Very High value if of anthropogenic origin / or modified and of Late Neolithic to Early Bronze Age date, therefore it is assumed on a precautionary basis to be that for the purposes of this assessment, as set out in para. 3.2.2 above.

Anomaly 032 – West of the A360, North of Winterbourne Stoke Crossroads. Identified as a geophysical survey anomaly (AAJV 2017b: Phase 3, anomaly 8122, figs 4 & 9). It has not been archaeologically investigated by evaluation trenching as it lies on the DCO boundary to the north of the tie-in between the A360 North link road and the existing A360. The geophysical anomaly was interpreted as a cluster of three large pit-like anomalies. The anomaly lies on the eastern periphery of a probable Romano-British field system (MWI73257) and is located c. 97m southeast of a scheduled monument 'Bowl barrow 450m SSW of Airman's Corner on Winterbourne Stoke Down' (NHLE 1008949 / MWI7052), which is part of a group of Barrows on Winterbourne Stoke Down. Although of uncertain significance, as it has not been archaeologically investigated, it is set in arable fields on the northern edge of a dry valley. It could potentially be of Very High value if of anthropogenic origin/ or modified and of Late Neolithic to Early Bronze Age date, therefore it is assumed on a precautionary basis to be that for the purposes of this assessment, as set out in para. 3.2.2 above.

Anomaly 033 – West of the A360, North of Winterbourne Stoke Crossroads. Located in the same area as a non-designated heritage asset identified on the 'Bronze Age Barrow, North of Winterbourne Stoke Roundabout' (MWI6403). A geophysical survey identified two anomalies at this location (8103 and 8125) (AAJV 2017b: Phase 3, figs. 5 & 10). Trench 448 identified two separate depressions within the chalk bedrock.

The northernmost depression was sample excavated and was found to be a natural solution feature infilled with Pleistocene cryoturbated chalk deposits and Holocene colluvium. The colluvium contained worked flint flakes, burnt flint and five sherds of Romano-British pottery that was captured in the natural depression.

The southernmost anomaly was more geologically complex, formed as a solution feature but capturing a range of Pleistocene and Holocene deposits including a complex series of Pleistocene loess deposits, cryoturbated colluvium, coombe deposits under periglacial conditions and further colluvium.

The solution hollows were investigated by geoarchaeological boreholes to 7m in depth.



The natural features have evidenced their potential to capture anthropogenic and palaeoenvironmental material and therefore are of Medium value, along with their geoarchaeological interest. It is set within an arable field on the southern edge of a dry valley.

Anomaly 034 – West of Winterbourne Stoke Crossroads. Wessex Archaeology's AAJV Phase 4 Geophysical Survey Report (2017c) [REP1-041], does not identify a large geophysical anomaly or group of anomalies that could combine to form a single feature in this location. It is possible that the 2020 SHLP paper (fig. 9) uses a concentration of field edge ferrous debris in this location (a very common occurrence in geophysical survey), to suggest a 5m+ sized geophysical anomaly. On the basis of the interpretation and data from the Applicant's survey mentioned above, the data does not support the identification of a large 5m+ diameter anomaly in this part of the Scheme. Anomaly 034 (alluded to in the 2020 SHLP paper, fig. 9 which relies upon the Wessex Archaeology Phase 4 Geophysical Survey Report mentioned above) is therefore not an actual geophysical anomaly and is discounted from further impact assessment.

6 Mitigation

6.1.1 A variety of measures are proposed, depending on the position of the anomalies:

The 'southern arc' of anomalies

6.1.2 The 'southern arc' of anomalies is situated in farmland to the north of the DCO boundary. As they are beyond the DCO boundary, no specific mitigation measures are proposed.

Discrete / isolated Anomalies

- 6.1.3 The following discrete and isolated anomalies are situated in farmland beyond the DCO boundary: Anomalies 021, 022, 029 and 031. As they are beyond the DCO boundary, no specific mitigation measures are proposed.
- 6.1.4 Mitigation measures are proposed for the following discrete and isolated anomalies located within the DCO boundary:
 - Anomaly 001 Preservation of Archaeological Remains (PAR) within Site 9 PAR area (Parsonage Down East excavated material deposition area), Final Detailed Archaeological Mitigation Strategy (DAMS) [PINS Ref. TR010025-001951, 248–249].
 - Anomaly 010 Preservation of Archaeological Remains (PAR) within Site 36 PAR area (DAMS) [TR010025-001951, 353–354].
 - Anomaly 030 Preservation of Archaeological Remains (PAR) within Site 39 PAR area (A360 to Western Portal, land within DCO boundary excluding Site 24 (north and south of western approach cutting)) (DAMS) [TR010025-001951, 358–359].
 - Anomaly 032 situated within area X18 Outside construction working area - no Scheme impact (DAMS) [TR010025-001951, 185 and 443].
 - Anomaly 033 Preservation of Archaeological Remains (PAR) within Site 17.2 PAR area (Main Civils Compound) (DAMS) [TR010025-001951, 283–285].
 - Anomaly 002 a natural sinkhole / solution hollow within a dry valley on land East of Parsonage Down, to the northwest of the village of Winterbourne Stoke, will be subject to Archaeological Excavation and Recording (AER) as part of Site 10.3 (DAMS) [TR010025-001951, 250– 252].



7 Impact Assessment

7.1 Construction impacts: temporary

'Southern arc' of anomalies

7.1.1 Construction of the eastern portal and its approach road would be apparent from the 'southern arc' of anomalies in a similar way to the Countess Farm Barrows (AG31). Impacts here are fairly limited, due to the separating distance, the dominating presence of the existing A303, and therefore the low baseline quality of the setting and the intervening topography (the Eastern Portal being situated in a dry valley). Taking account of the potentially Very High value of the assets as set out in para. 3.2.2, a worst case Slight adverse effect (not significant) is assessed for all of the 'southern arc' of anomalies, derived from a Negligible impact on a Very High value asset.

Discrete and isolated anomalies

- 7.1.2 Construction of the eastern portal and its approach road would be apparent from Anomaly 021 within the AG31 Countess Farm Barrows Asset Group. Impacts again are fairly limited, due to the separating distance, the dominating presence of the existing A303, and therefore the low baseline quality of the setting and the intervening topography (the Eastern Portal being situated in a dry valley). Taking account of the potentially Very High value of the assets as set out in para. 3.2.2, a worst case Slight adverse effect (not significant) is assessed for Anomaly 021, derived from a Negligible impact on a potentially Very High value asset.
- 7.1.3 Similarly with regards to Anomalies 029, 031 and 032 and close to the Western Portal Approach Cutting and Longbarrow Compound, impacts again are fairly limited, due to the separating distance, the dominating presence of the existing A303 and A360, and therefore the low baseline quality of the setting and the intervening topography (the Western Portal and approach cutting being largely situated in a dry valley). Taking account of the potentially Very High value of the assets as set out in para. 3.2.2, a worst case Slight adverse effect is assessed for these Anomalies, derived from a Negligible impact on a potentially Very High value asset.
- 7.1.4 With regards to natural sinkhole / solution hollows Anomalies 030 and 033 the Scheme will not have a temporary construction impact on these natural features derived from a negligible impact to assets of Medium value and resulting in a Neutral significance of effect.

7.2 Construction impacts: permanent

'Southern arc' of anomalies

7.2.1 The Scheme will not result in any physical impact on any elements of the 'southern arc' of pit-like geophysical anomalies identified in the SHLP 2020 paper, or upon related sub-surface deposits.



7.2.2 The use of the retained cutting, the canopy and the positioning of the portal in a dry valley in the landscape will limit the impacts to the setting and therefore the low contribution this makes to the significance of the 'southern arc' of anomalies. Taking account of the potentially Very High value of the assets as set out in para. 3.2.2, a worst case Slight adverse effect (not significant) is assessed for all of the 'southern arc' of anomalies, derived from a Negligible impact on Very High value assets.

Discrete and isolated anomalies

- 7.2.3 Only one of the identified anomalies (Anomaly 002), located outside the WHS, will be physically impacted by the Scheme without archaeological mitigation. Archaeological mitigation is therefore proposed for this solution hollow in the form of Archaeological Excavation and Recording in advance of construction (DAMS Site 10.3) [TR010025-001951, 250–252]. As with pit scatter UID 2038, of which this anomaly is a southern outlier, this will result in a major impact on UID 2038 of Medium value, resulting in a Moderate Adverse effect (significant). The impacts on Anomaly 002 should not be read as a new significant effect, but rather as part of an effect already reported on the wider heritage asset UID 2038, which is already reported in the Main ES [APP-044].
- 7.2.4 There will be no physical impacts on all of the other discrete / isolated anomalies which will be either preserved in situ within the DCO boundary or outside the DCO boundary.

7.3 Operational impacts

'Southern arc' of anomalies

7.3.1 The 'southern arc' of anomalies will experience No change and a Neutral effect during the operation of the Scheme as did the AG31A Countess Farm West Barrows (North) Asset Group in the Main ES [APP-044].

Discrete and isolated anomalies

- 7.3.2 Anomaly 021 within the AG31A Countess Farm Barrows (North) Asset Group will also experience No change and a Neutral effect during the operation of the Scheme.
- 7.3.3 With regards to Anomaly 029, to the south of the Western Portal Approach Cutting and Anomaly 032 close to the A360 North sliproad from Longbarrow Junction, these anomalies will experience fairly limited impacts, due to the low baseline quality of the setting and the intervening topography (the Western Portal and approach cutting being largely situated in a dry valley). Taking account of the potentially Very High value of the assets as set out in para. 3.2.2 a worst case Slight adverse effect (not significant) is assessed for these Anomalies, derived from a Negligible impact on a potentially Very High value asset.
- 7.3.4 With regards to natural sinkhole / solution hollows Anomalies 030 and 033 the Scheme will not have an operational impact on these natural features,



derived from a negligible change to assets of Medium value, resulting in a Neutral significance of effect.

7.4 Impacts on the WHS as a whole and its OUV

- 7.4.1 It is assessed that the A303 Scheme will not have any significant impact on the Durrington Walls discovery. It will not result in any direct physical impacts on the suggested 'pit circuit', upon related sub-surface deposits or upon hypothetical associations and interrelationships with other monuments and Asset Groups in the landscape.
- 7.4.2 Construction of the eastern portal and its approach road would be apparent from the 'southern arc' of anomalies in a similar way to the Countess Farm Barrows (AG31). Impacts here are fairly limited, due to the separating distance, the dominating presence of the existing A303, the low baseline quality of the setting and the intervening topography (the Eastern Portal being situated in a dry valley).
- 7.4.3 The Main ES [APP-044] and Main HIA [APP-195] consider other large pit-like geophysical anomalies in the landscape, assessed as isolated and discrete non-designated heritage assets. Those located within the DCO boundary have been identified via geophysical survey and evaluation. Those situated within the WHS and its setting, and within the DCO boundary will not be physically impacted by the Scheme, as they will be preserved in place as set out in the DAMS [TR010025-001951].
- 7.4.4 Taking into account the discovery, it is assessed that the presence of the suggested Durrington Walls discovery or the other large pit-like anomalies referred to in the SHLP paper does not change the assessment of Scheme impacts on the WHS as a whole set out in the Main HIA [APP-195].
- 7.4.5 The Scheme is assessed to have a **Slight Beneficial** effect on the Integrity of the WHS as a whole and a **Slight Beneficial** effect on the Authenticity of the WHS as a whole.
- 7.4.6 Overall, the Scheme is assessed to have a **Slight Beneficial** effect on the OUV of the WHS as a whole.

7.5 Residual significant effects

7.5.1 This ES Addendum has not identified any new likely significant effects beyond those already identified in the Main ES [APP-044].

7.6 Cumulative impact assessment

- 7.6.1 The cumulative assessment reported within this addendum considers two forms of cumulative impact comprising:
 - a) combinations of impacts which have been identified as part of the Environmental Statement, which are considered likely to result in a new or different likely significant effect, or an effect of greater significance, than any one of the impacts on their own; and



- b) impacts which, in combination with impacts associated with other proposed development, are likely to result in an effect of greater significance, or a new or different likely significant effect, than the Scheme in isolation.
- 7.6.2 It is assessed that, following the identification of these anomalies, the Scheme will not result in Significant Cumulative Effects either in combination with other assessments reported in the main ES, or from impacts from other proposed developments upon them.

8 Conclusions

- 8.1.1 A number of geophysical anomalies have been highlighted by an academic paper (Gaffney et al. 2020), which sets out a theory that they form a circle around Durrington Walls Henge. The paper's figure 9 also notes similar isolated and discrete large geophysical anomalies across the landscape, both within and outside the WHS boundary.
- 8.1.2 This ES Addendum has considered the information presented, reviewed changes to the ES baseline, assessed the impacts of the Scheme upon these anomalies and noted the residual significance of effects following mitigation.
- 8.1.3 The results of an HIA Addendum have also been summarised.
- 8.1.4 The ES Addendum has not identified any new Likely Significant Effects.
- 8.1.5 The conclusions of the Main ES and the Main HIA remain valid.



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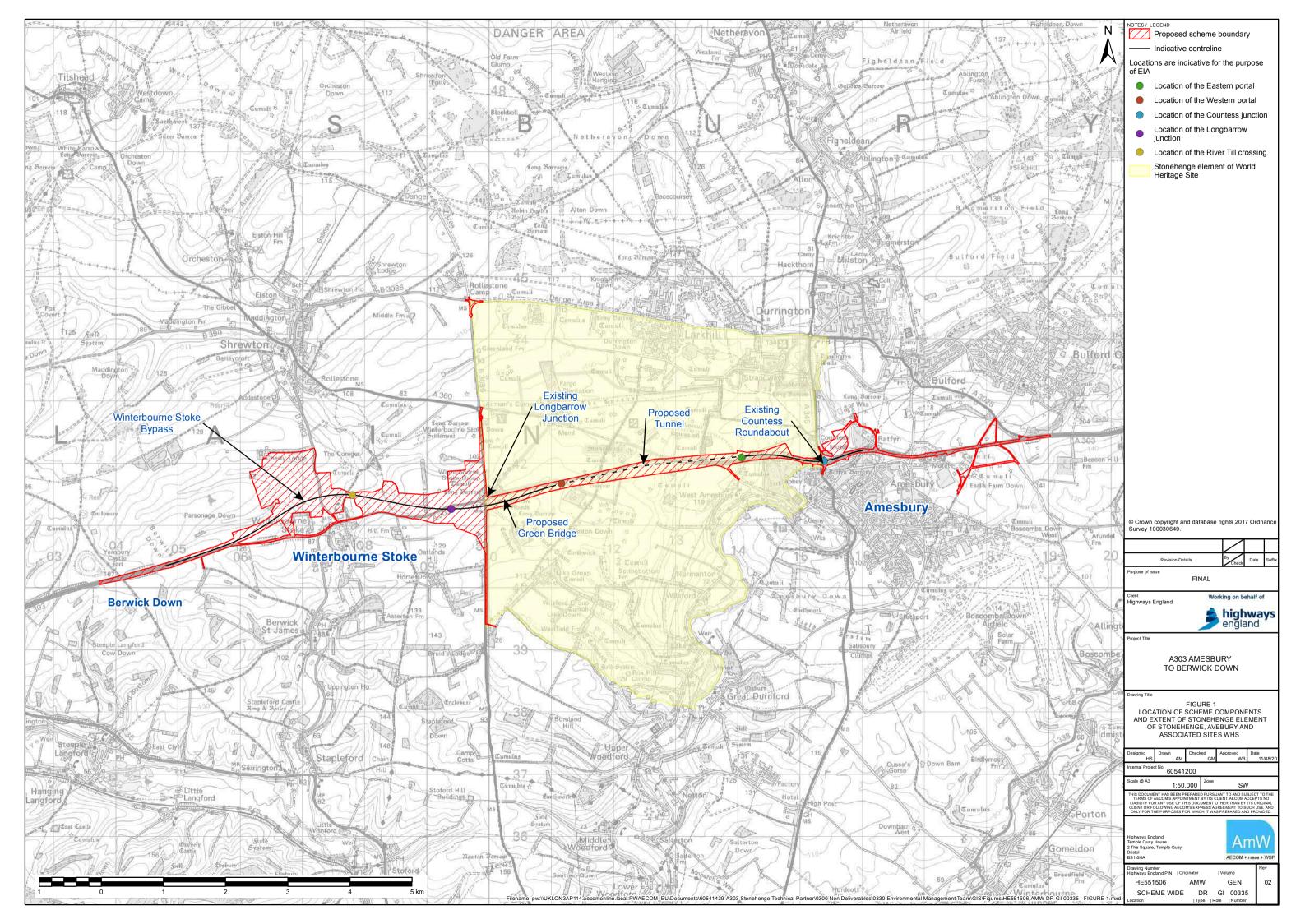
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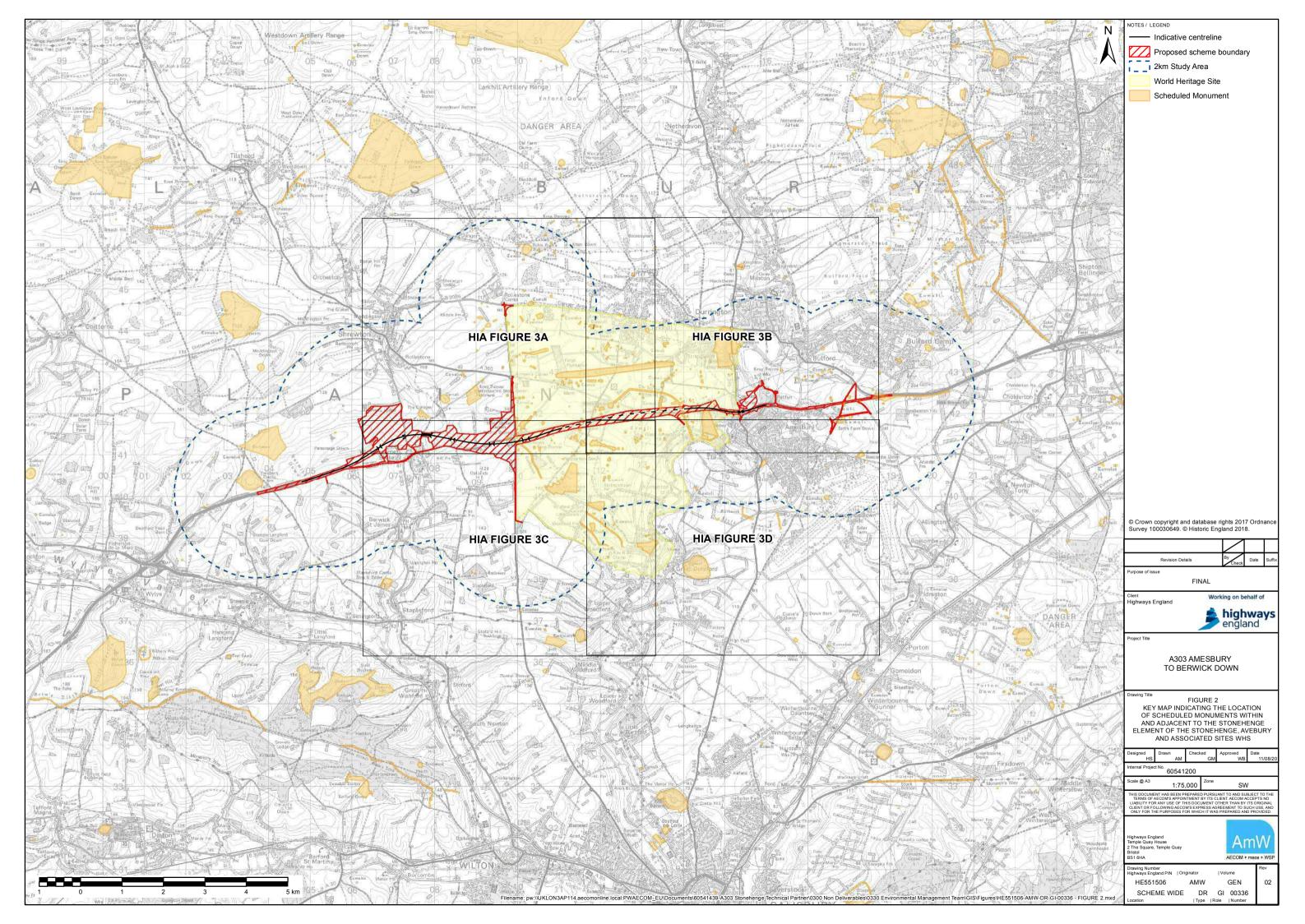
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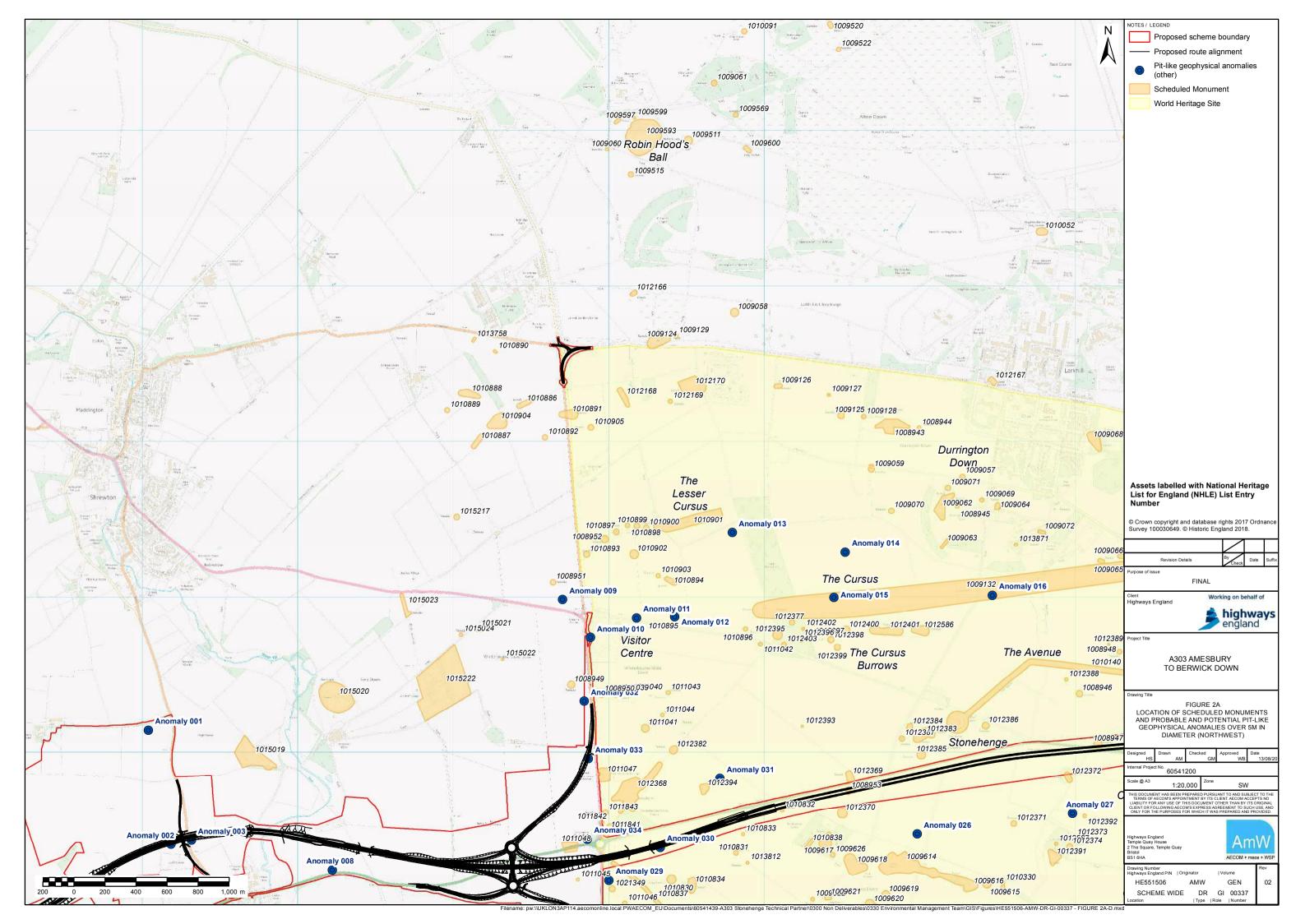
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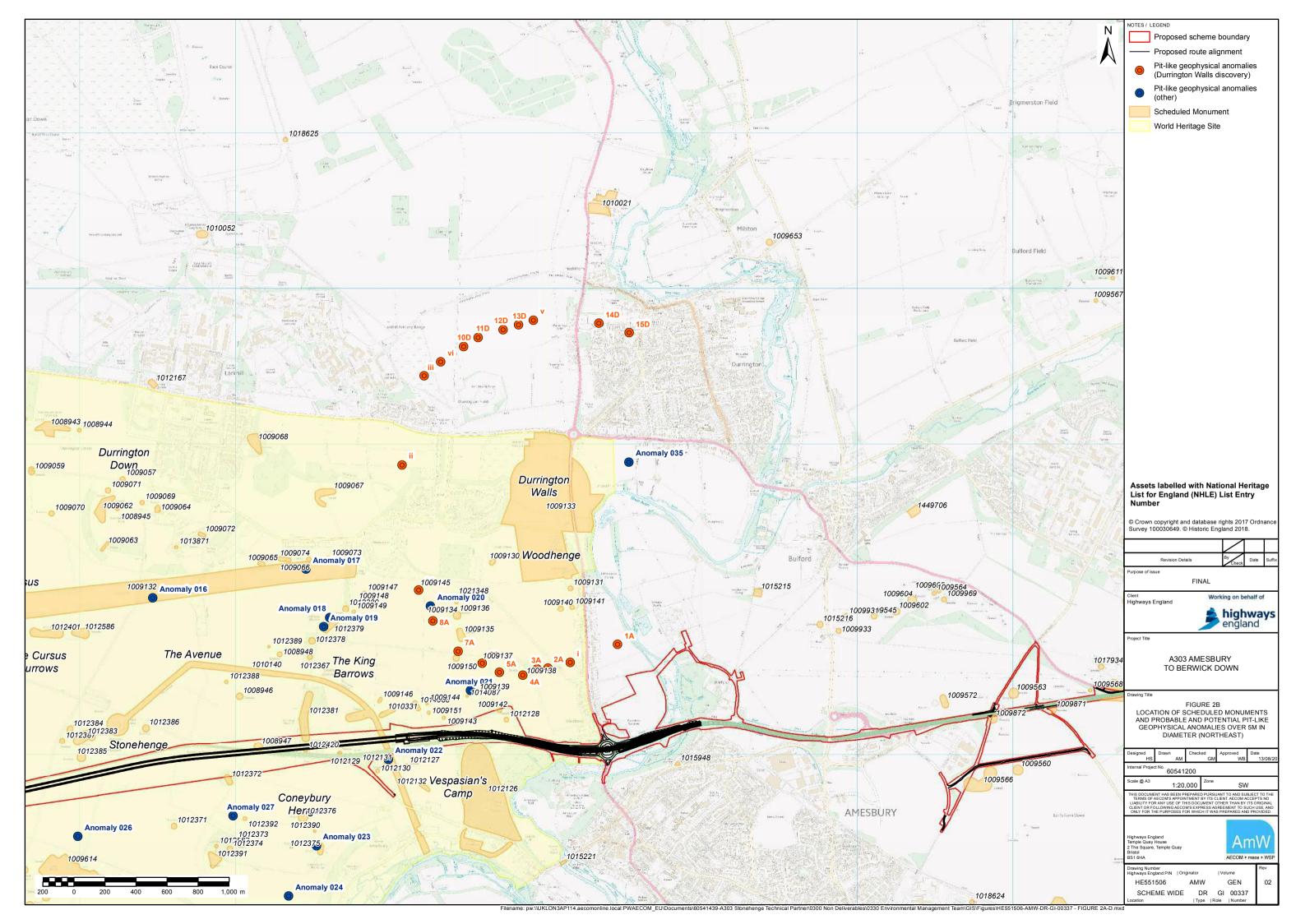


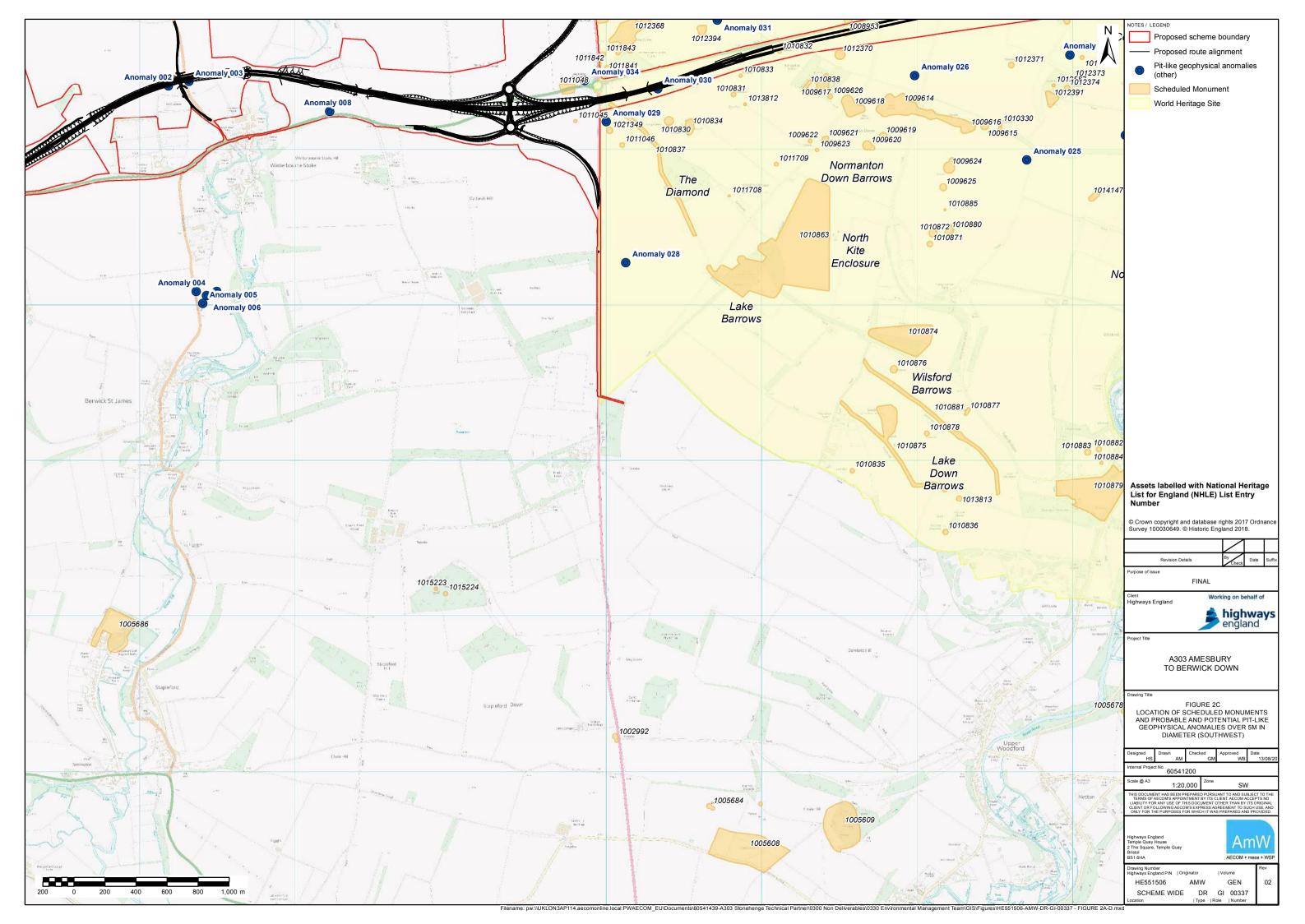
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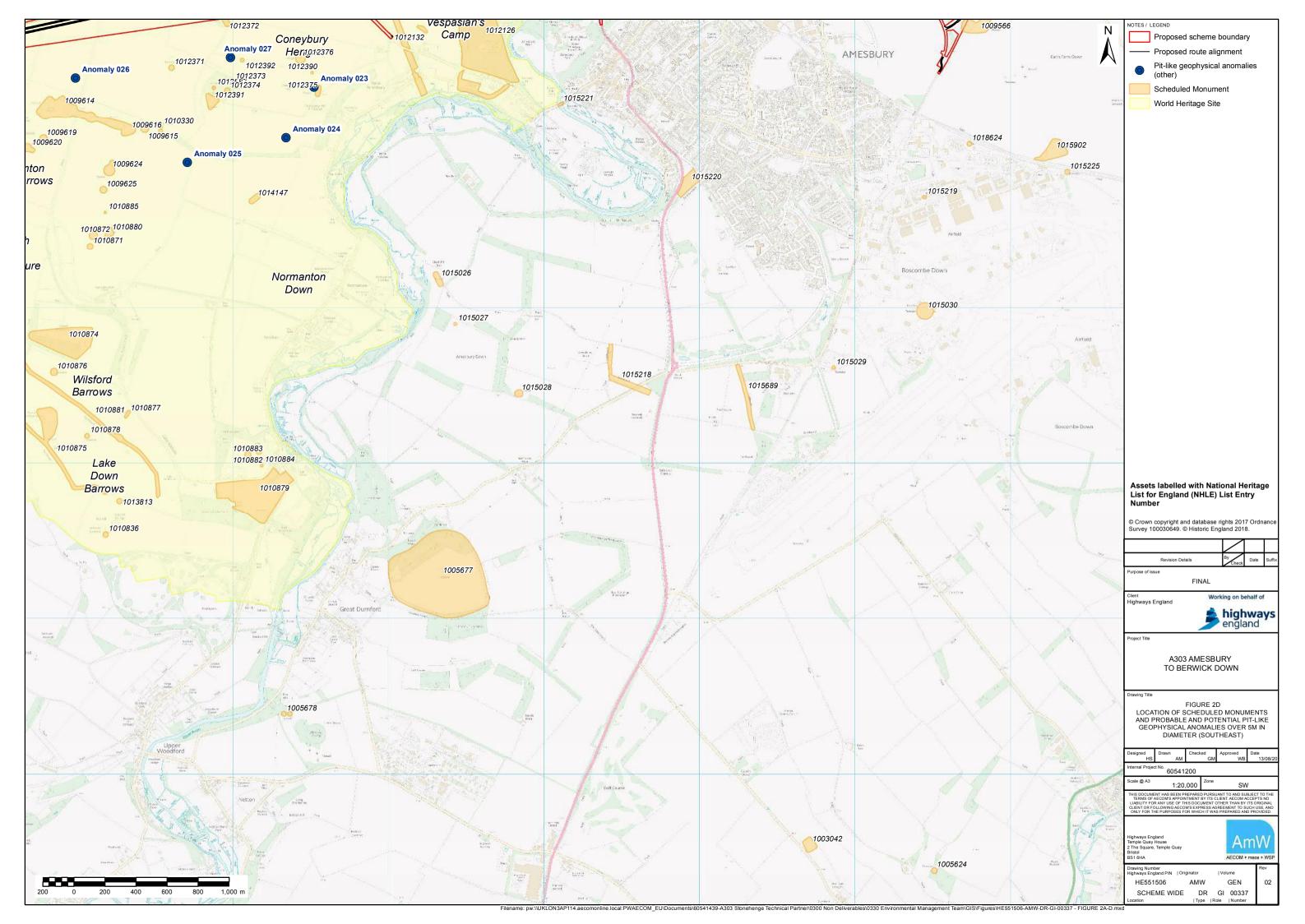


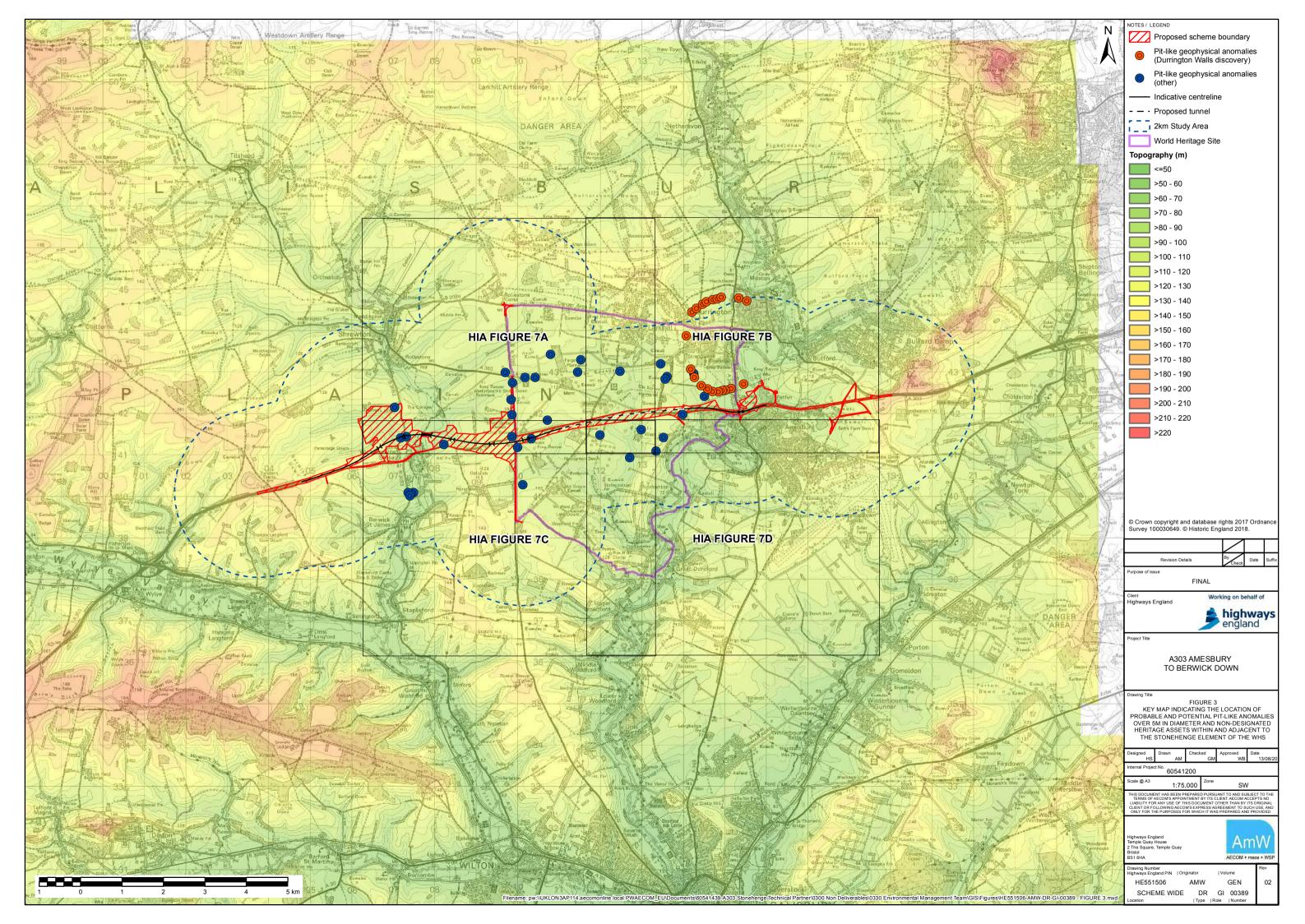


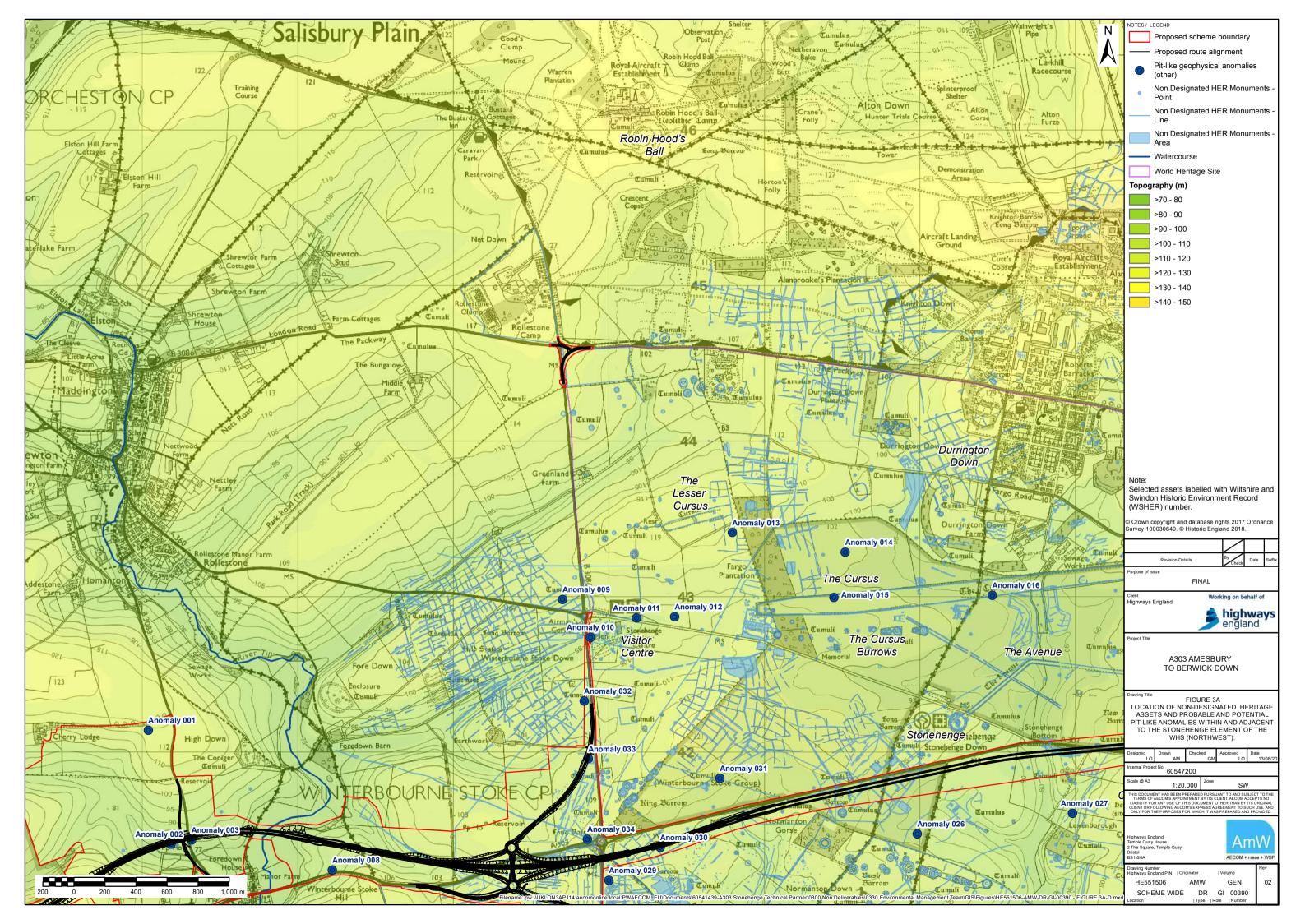


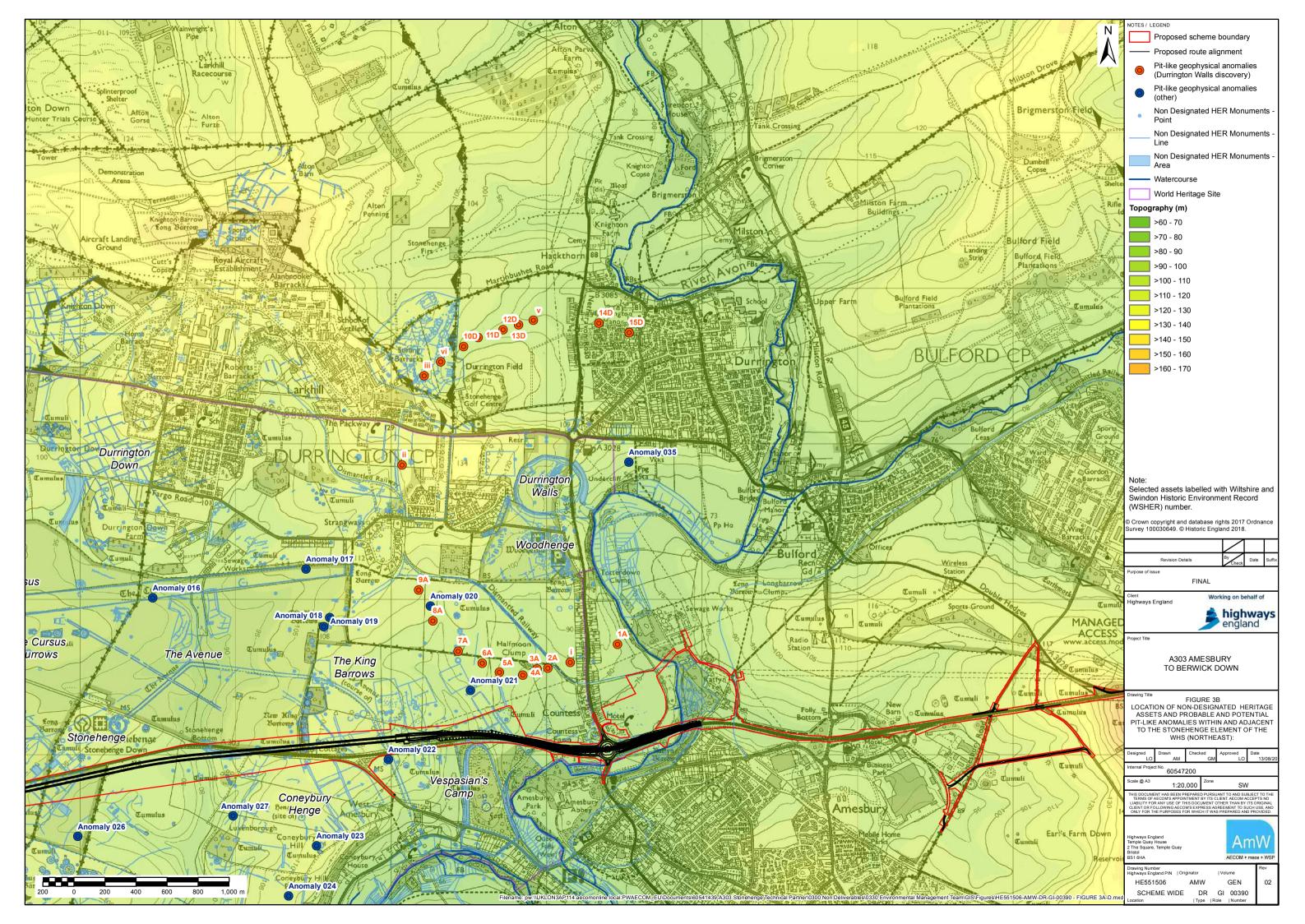


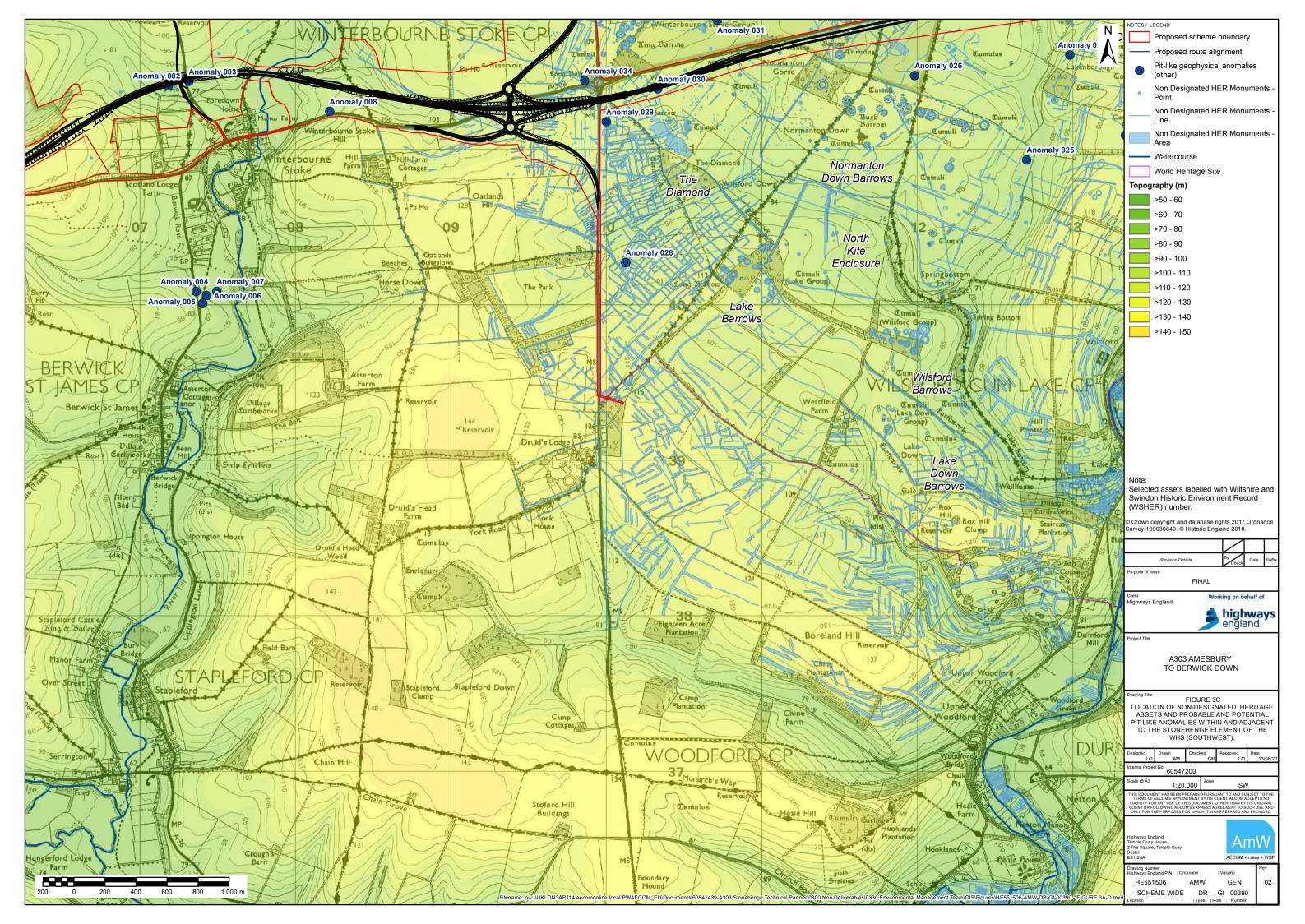


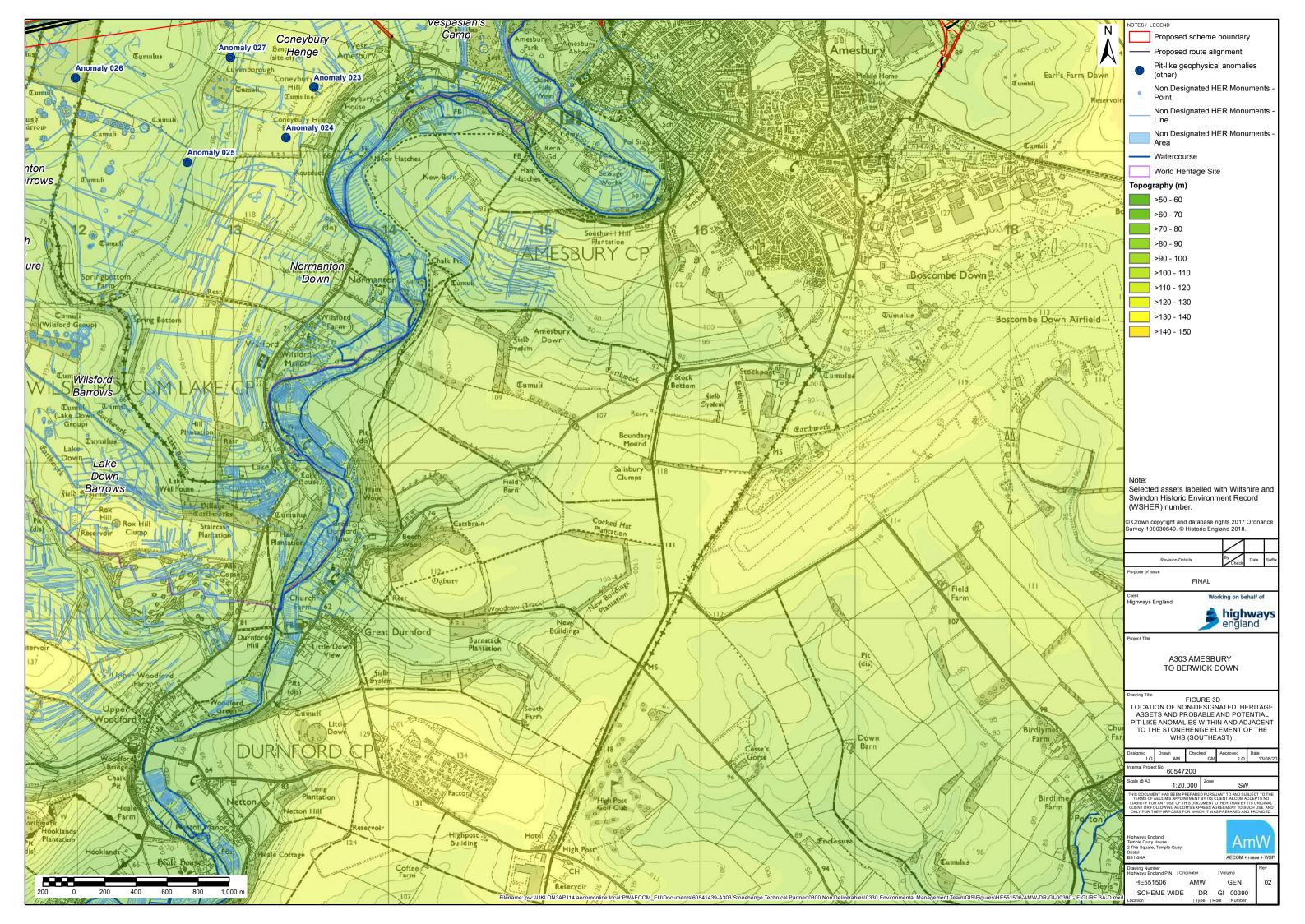


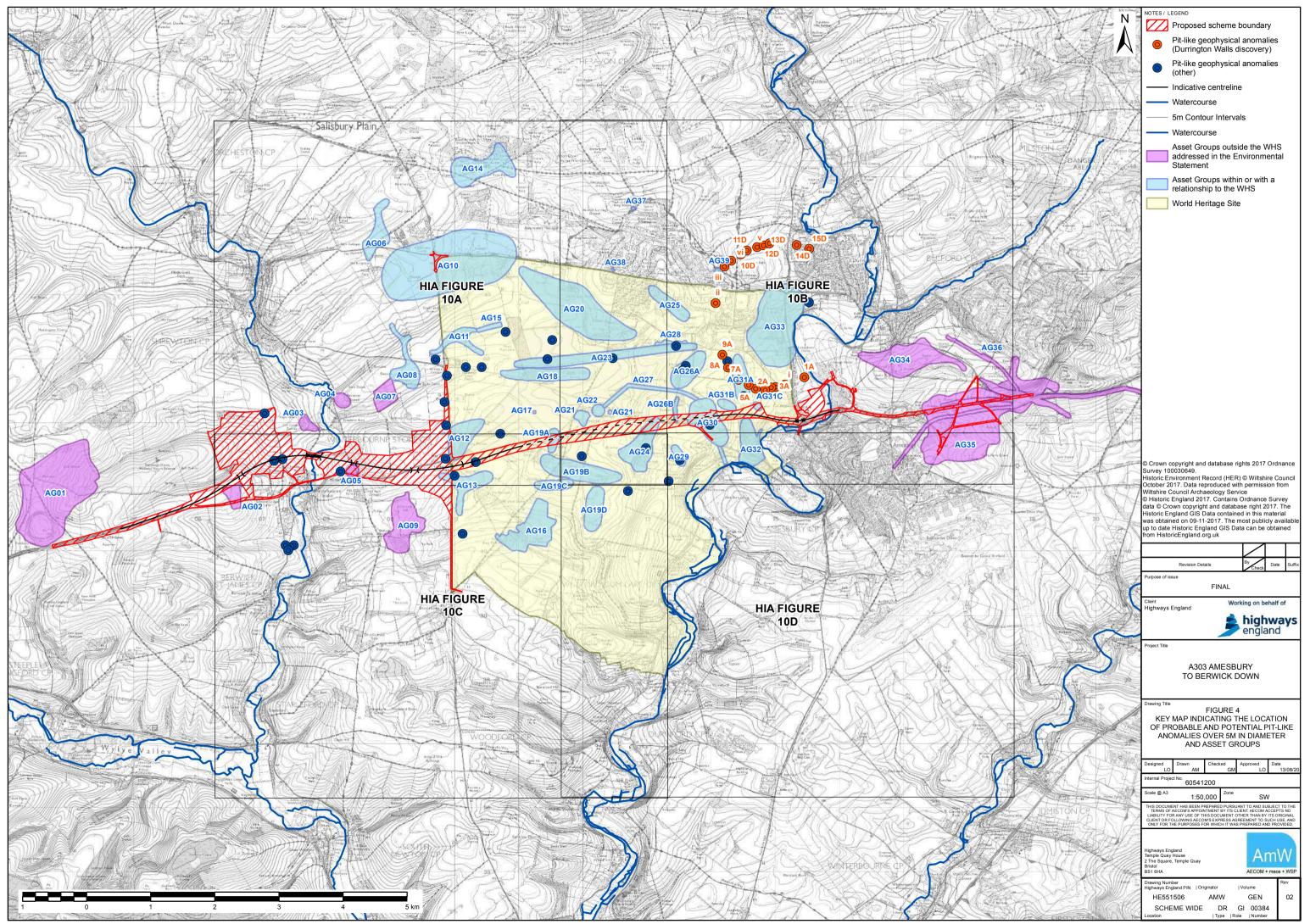


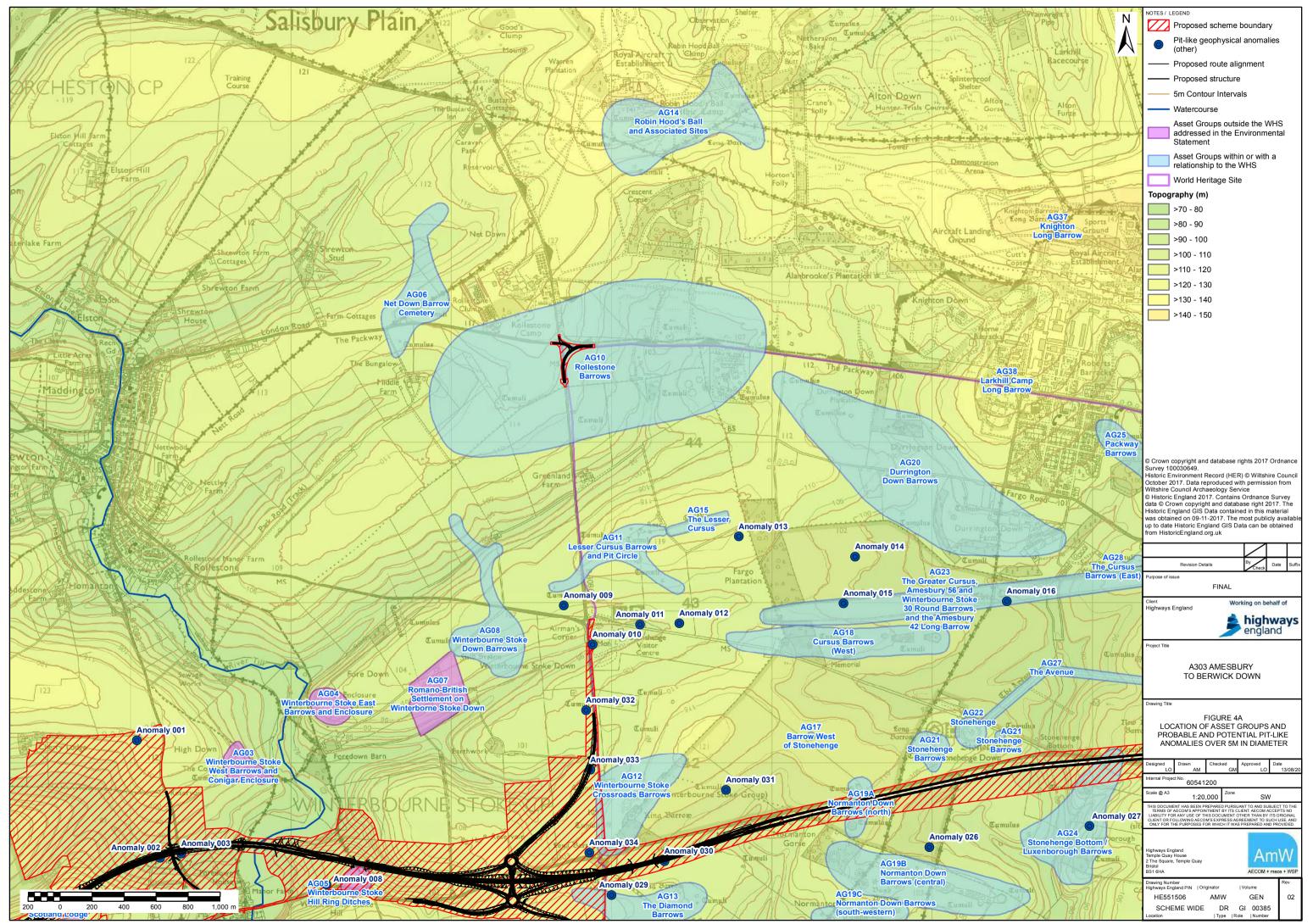


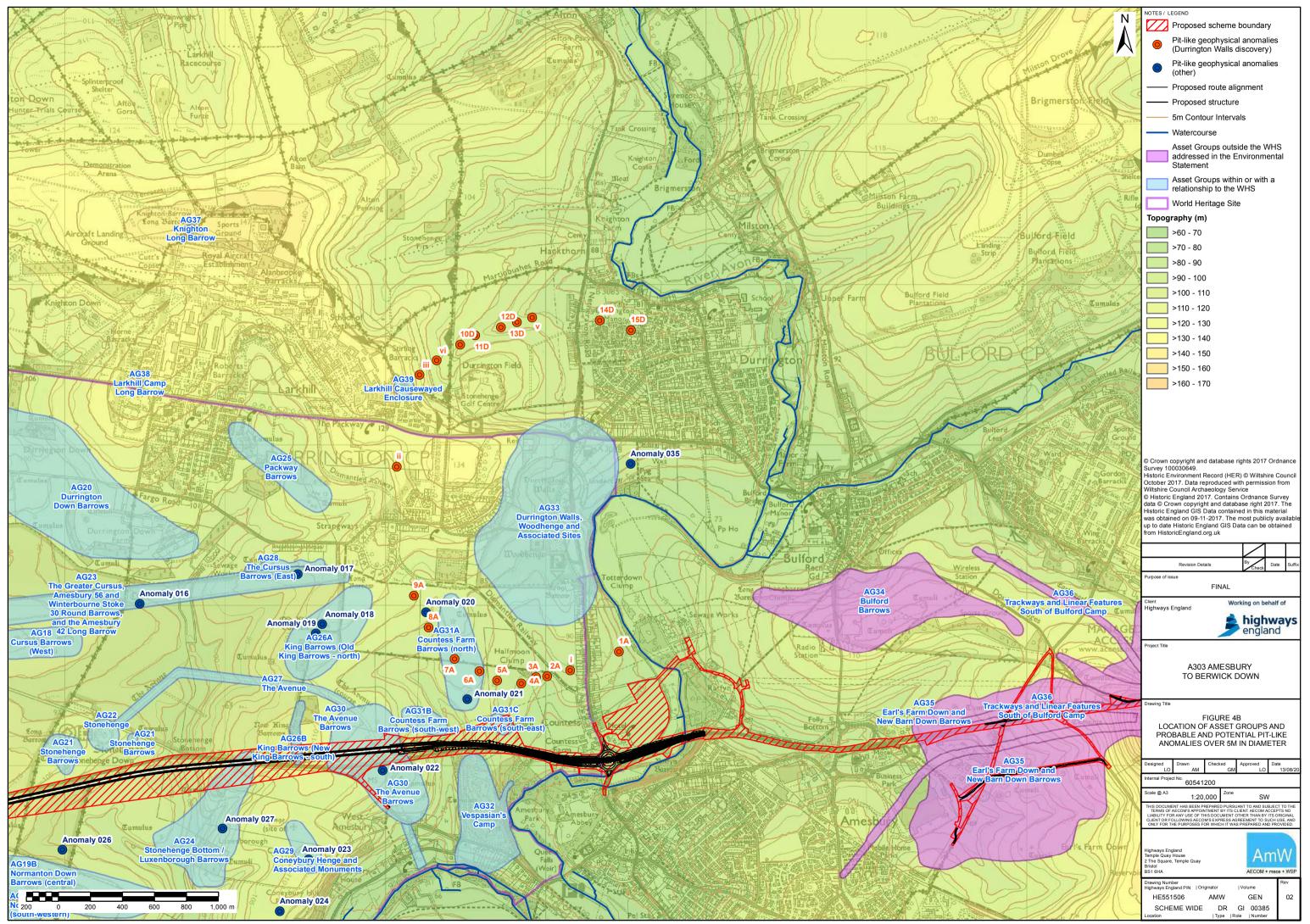


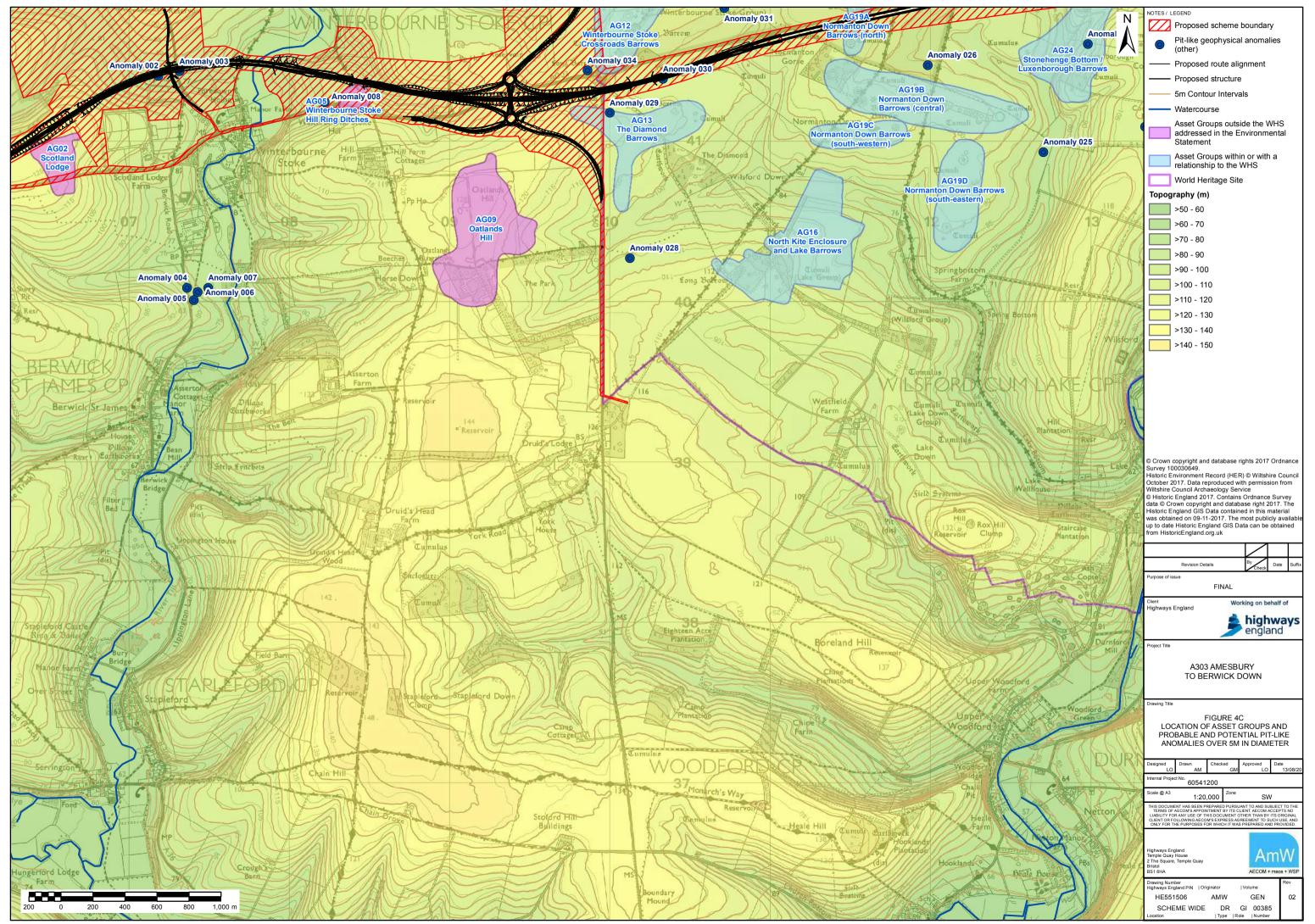


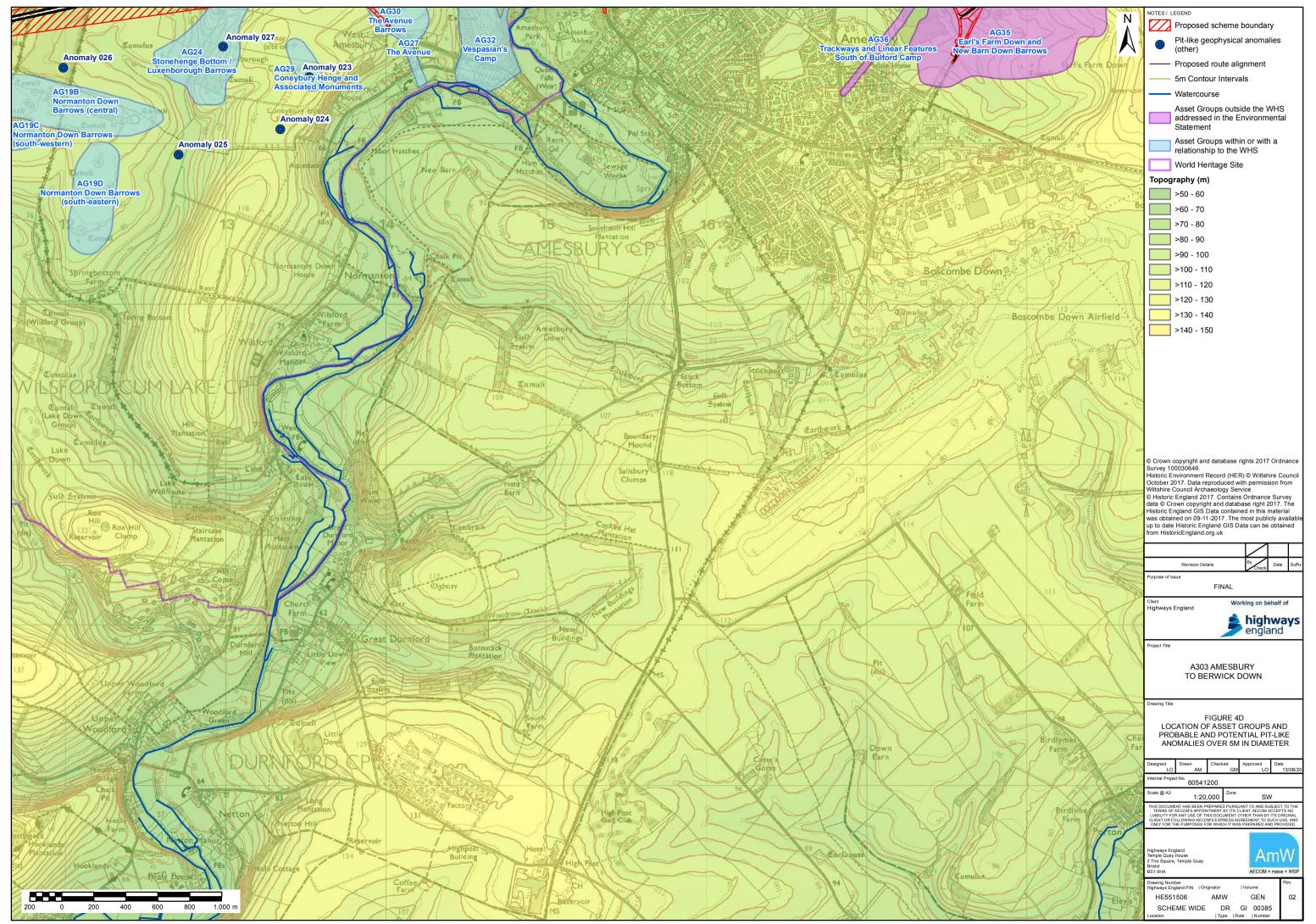




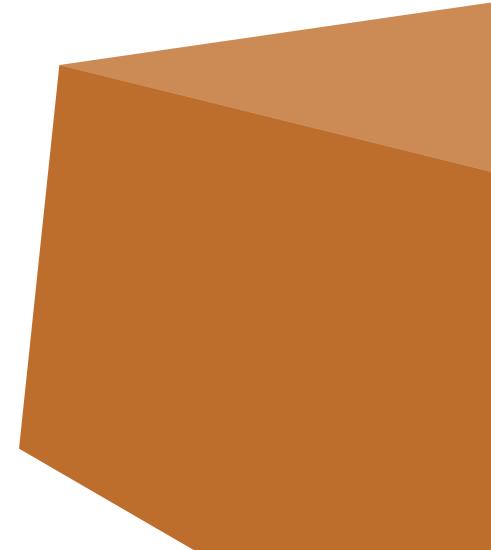








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