

A30 Chiverton to Carland Cross TR010026

6.2 ENVIRONMENTAL STATEMENT CHAPTER 6 CULTURAL HERITAGE

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**The Infrastructure Planning
(Applications: Prescribed Forms and
Procedure) Regulations 2009**

**A30 Chiverton to Carland Cross
Development Consent Order 201[x]**

**6.2 ENVIRONMENTAL STATEMENT
CHAPTER 6 CULTURAL HERITAGE**

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6 Cultural Heritage

6.1 Introduction

- 6.1.1 This chapter presents the results of an assessment of the potential impacts of the Scheme on Cultural Heritage, and has been prepared in accordance with guidance provided by DMRB (Volume 11, Section 3 Part 2 'Cultural Heritage' (HA 208/07)). Individual archaeological sites, historic buildings and historic landscape types are known collectively as cultural heritage assets.
- 6.1.2 This chapter of the ES provides information on cultural heritage assets which may be subject to effects arising from the scheme. It assesses the likely significant effects of the scheme in respect of those heritage assets, which are within the footprint of the scheme, within 300m or 1km of the scheme.
- 6.1.3 The objectives of this Cultural Heritage chapter are to:
- Identify, describe and characterise the cultural heritage environment within the vicinity of the scheme;
 - Assess the value of the cultural heritage environment within the vicinity of the scheme;
 - Identify and assess the magnitude and significance of potential effects of the scheme on the cultural heritage environment;
 - Identify appropriate mitigation measures;
 - Assess the magnitude of the mitigated effects of the scheme with the mitigation measures in place; and
 - Assess the significance of the residual effects of the scheme.

6.2 Competent Expert

- 6.2.1 The cultural heritage specialist holds a BSc (Hons) in Heritage Conservation and a Postgraduate Diploma in Archaeological Resource Management. They have worked as a professional archaeologist for 19 years and are also a Member of the Chartered Institute for Archaeologists, a Member of the Institution of Environmental Sciences, and a Chartered Environmentalist.

6.3 Legislative and Policy Framework

Legislation

- 6.3.1 The legislation presented below is relevant to the assessment of effects on the historic environment for the scheme:
- Ancient Monuments and Archaeological Areas Act (AMAA) 1979; and
 - Planning (Listed Buildings and Conservation Areas) (P(LBCA) Act 1990.
- 6.3.2 The AMAAA largely relates to Scheduled Monuments and Section 61(12) defines sites that warrant protection due to their being of national importance as 'ancient monuments'. A monument is defined by the Act as:
- "any building, structure or work above or below the surface of the land, any cave or excavation; any site comprising the remains of any such building, structure or work or any cave or excavation; and any site comprising or comprising the remains of any vehicle, vessel or aircraft or other movable structure or part thereof".*

- 6.3.3 Section 61 of the Act states that deliberate damage to a monument is a criminal offence and any intrusive works taking place within one will require Scheduled Monument Consent (SMC) from the Secretary of State. For non-intrusive work, such as geophysical surveys, Historic England are responsible for issuing licences under Section 42 of the Act.
- 6.3.4 Section 1 of the P(LBCA) Act defines a listed building as:
- "a building which is for the time being included in a list compiled or approved by the Secretary of State under that section. For the purpose of the Act any object or structure fixed to the building, which, since on or before 1 July 1948, has formed part of the land and is comprised within the curtilage of the building is treated as part of the building".*
- 6.3.5 'Building' is defined as including any structure or erection and any part of a building. The key elements of this Act relevant to this assessment are outlined below:
- Section 66 places a responsibility upon the decision-maker in determining applications for planning permission for a scheme that affects a listed building or its setting to have special regard to the desirability of preserving the building or its setting or any features of special architectural or historic interest which it possesses; and
 - Section 72 of the Act places a duty upon the decision maker in determining applications for planning permission within conservation areas to pay special attention to the desirability of preserving or enhancing the character or appearance of that area.

National Networks National Policy Statement

- 6.3.6 The National Networks National Policy Statement (NN NPS) sets out the need for and Government's policies to deliver development of Nationally Significant Infrastructure Projects (NSIPs) on the national road and rail networks in England. The policies for the conservation of the historic environment are set out in Chapter 5, which states:

"Those elements of the historic environment that hold value to this and future generations because of their historic, archaeological, architectural or artistic interest are called 'heritage assets'. Heritage assets may be buildings, monuments, sites, places, areas or landscapes. The sum of the heritage interests that a heritage asset holds, or its value, is referred to as its significance. Significance derives not only from a heritage asset's physical presence, but also from its setting. Heritage assets of archaeological interest that are demonstrably of equivalent significance to Scheduled Monuments, should be considered subject to the policies for designated heritage assets. The absence of designation for such heritage assets does not indicate lower significance".

- 6.3.7 The NPS advises:

"the Secretary of State should also consider the impacts on other non-designated heritage assets (as identified either through the development plan process by local authorities, including 'local listing', or through the nationally significant infrastructure project examination and decision making process) on the basis of clear evidence that the assets have a significance that merit consideration in that

process, even though those assets are of lesser value than designated heritage assets”.

National Policy

- 6.3.8 National Planning policies on the conservation of the historic environment are set out in the revised National Planning Policy Framework 2018 (NPPF) and should be adhered to in conjunction with NPS, where the NPS does not cover a specific issue. The NPPF was first published on 27 March 2012, and revised on 24 July 2018 replacing all previous Planning Policy Statements, including Planning Policy Statement 5 (PPS 5): Planning for the Historic Environment. Guidance to help practitioners implement this policy, including the legislative requirements that underpin it, is provided in Planning for the Historic Environment Practice Guide (June 2012) produced to support the previous PPS 5 (2010). Non-designated heritage assets as well as those designated under the above legislation are given protection under the NPPF. Policies dealing with the conservation and enhancement of the historic environment is set out principally in Section 16 of the NPPF.
- 6.3.9 The NPPF places much emphasis on heritage “significance”, which is defined, in Annex 2, as:
- “The value of a heritage asset to this and future generations because of its heritage interest. That interest may be archaeological, architectural, artistic or historic. Significance derives not only from a heritage asset’s physical presence, but also from its setting.”*
- 6.3.10 The effects of any development on a heritage asset therefore need to be assessed against the four components of its heritage significance: its archaeological, architectural, artistic or historic interest.
- 6.3.11 Paragraph 189 of the NPPF places a duty on the local planning authority to require an applicant to describe the significance of any heritage assets affected by a proposal. However, the same paragraph makes it clear that the level of detail should be:
- i) proportionate to the importance of the heritage asset; and
 - ii) no more than is sufficient to understand the potential impact of the proposal on the significance of the heritage asset.
- 6.3.12 Paragraph 190 states that it is the “the particular significance of any heritage asset” that should be taken into account when considering the impact of a proposal on a heritage asset.
- 6.3.13 Paragraph 193 applies specifically to designated heritage assets, such as scheduled monuments, listed buildings and conservation areas. It states that great weight should be given to the conservation of designated heritage assets and it notes that significance can be harmed or lost through alteration or destruction of the heritage asset or development within its setting.
- 6.3.14 Paragraph 194 deals with substantial harm to, or total loss of significance, of a designated heritage asset. Paragraph 134, on the other hand, deals with less than substantial harm and notes that any such harm should be weighed against the public benefits of the proposal.

- 6.3.15 Paragraph 200 deals with the setting of heritage assets and states that applications that would preserve those elements of the setting that make a positive contribution to or better reveal the significance of the asset should be treated favourably. It is clear that this relates only to those aspects that positively contribute to significance. The NPPF does not require proposals to enhance the significance of heritage assets, as long as their significance is preserved (i.e. a similar provision to the Planning (Listed Building and Conservation Areas) Act 1990).

Local Policy

- 6.3.16 The Cornwall Local Plan (2010-2030) was adopted in November 2016 and contains the following policies which are relevant to the scheme:

Policy 2 - Spatial Strategy: 1. Respecting and enhancing quality of place

- 6.3.17 Proposals should maintain and respect the special character of Cornwall, recognising that all urban and rural landscapes, designated and undesignated, are important by:
- Ensuring that the design of development is high quality and demonstrates a cultural, physical and aesthetic understanding of its location;
 - Considering the impact of development upon the biodiversity, beauty and diversity of landscape and seascape, character and setting of settlements, wealth of natural resources, agricultural, historic and recreational value of Cornwall;
 - Identifying the value and sensitivity, of the character and importance of landscapes, biodiversity and geodiversity and historic assets;
 - Protecting, conserving and enhancing the natural and historic landscape, heritage, cultural, biodiversity and geodiversity assets of Cornwall in recognition of their international, national and local status, in accordance with national legislation and policy, as amplified by the other policies of this plan.

Policy 24 - Historic Environment

- 6.3.18 Development proposals will be permitted where they would sustain the cultural distinctiveness and significance of Cornwall's historic rural, urban and coastal environment by protecting, conserving and where appropriate enhancing the significance of designated and non-designated assets and their settings.
- 6.3.19 Development proposals will be expected to:
- sustain designated heritage assets;
 - take opportunities to better reveal their significance;
 - maintain the special character and appearance of Conservation Areas, especially those positive elements in any Conservation Area Appraisal;
 - conserve and, where appropriate, enhance the design, character, appearance and historic significance of historic parks and gardens; and
 - conserve and, where appropriate, enhance other historic landscapes and townscape, including registered battlefields, including the industrial mining heritage.

- 6.3.20 Development within the Cornwall and West Devon Mining Landscape WHS and its setting should accord with the WHS Management Plan. Proposals that would result in harm to the authenticity and integrity of the Outstanding Universal Value should be wholly exceptional.
- 6.3.21 If the impact of the proposal is neutral, either on the significance or setting, then opportunities to enhance or better reveal their significance should be taken.
- 6.3.22 All development proposals should be informed by proportionate historic environment assessments and evaluations (such as heritage impact assessments, desk-based appraisals, field evaluation and historic building reports) identifying the significance of all heritage assets that would be affected by the proposals and the nature and degree of any effects and demonstrating how, in order of preference, any harm will be avoided, minimised or mitigated.
- 6.3.23 Great weight will be given to the conservation of the Cornwall's heritage assets. Where development is proposed that would lead to substantial harm to assets of the highest significance, including undesignated archaeology of national importance, this will only be justified in wholly exceptional circumstances, and substantial harm to all other nationally designated assets will only be justified in exceptional circumstances.
- 6.3.24 Any harm to the significance of a designated or non-designated heritage asset must be justified. Proposals causing harm will be weighed against the substantial public, not private, benefits of the proposal and whether it has been demonstrated that all reasonable efforts have been made to sustain the existing use, find new uses, or mitigate the extent of the harm to the significance of the asset; and whether the works proposed are the minimum required to secure the long term use of the asset.
- 6.3.25 In those exceptional circumstances where harm to any heritage assets can be fully justified, and development would result in the partial or total loss of the asset and/or its setting, the applicant will be required to secure a programme of recording and analysis of that asset, and archaeological excavation where relevant, and ensure the publication of that record to an appropriate standard in a public archive.
- 6.3.26 Proposals that will help to secure a sustainable future for the Cornwall's heritage assets, especially those identified as being at greatest risk of loss of decay, will be supported.

Standards and Guidance

- 6.3.27 In addition to compliance with the NN NPS and NPPF, this assessment for ES has been compiled in accordance with professional standards and guidance. The standards and guidance which relate to this assessment are:
- ClfA, 2017, Standard and guidance for historic environment desk-based assessment;
 - ClfA, 2014a, Code of Conduct;
 - Highways Agency 208/07, Design Manual for Roads and Bridges, Volume 11, Section 3, Part 2;
 - Historic England, 2015, Good Practice Advice in Planning (GPA2) Managing Significance in Decision - Taking in the Historic Environment - this advice note

provides information to support the NPPF and Planning Practice Guidance (PPG), such as aiding in assessing the significance of heritage assets;

- Historic England, 2017, Good Practice Advice in Planning (GPA3) The Setting of Heritage Assets - this advice note sets out a staged approach for assessing the impact of a proposed development on the heritage significance of assets, due to changes in their setting;
- English Heritage, 2008, Conservation Principles, Policies and Guidance for the Sustainable Management of the Historic Environment - this document sets out the approach to making decisions and offering guidance about all aspects of England's historic environment;
- English Heritage, 2011, Seeing the History in the View, a Method for Assessing Heritage Significance within Views - this document presents a method for understanding and assessing heritage significance within views; and
- Department for Communities and Local Government, 2014, Planning Practice Guidance 18a: Conserving and enhancing the historic environment, Scoping and consultation.

6.4 Study Area

6.4.1 The Study Area considered in the assessment comprises:

- The area within the scheme boundary (hereafter known as the 'scheme footprint');
- 300m from the centreline of the scheme (hereafter known as the 'inner study area') was applied for the identification of all heritage asset types (designated, non-designated and potential) to establish archaeological context and potential; and
- 1km from the centreline of the scheme (hereafter known as the 'outer study area') was applied for the identification of all designated heritage assets.

6.4.2 The inner study area for the project was based upon guidance provided in DMRB Volume 11, Section 3 Part 2 Chapter 5 with regard to baseline data gathering. The 1km outer study area was founded upon professional judgement regarding the distance over which significant effects on the setting of heritage assets could occur, based on the authors' experience of undertaking historic environment EIA for a wide variety of development types.

6.5 Potential Impacts

Construction

- 6.5.1 Where the scheme is contained within the existing A30 corridor and alongside areas of prior disturbance, the potential for the presence of as-yet unknown archaeological remains would have been previously removed. However, where the scheme requires excavation below existing ground surface within areas of fields, including compound areas, possible remains may exist.
- 6.5.2 Construction activity, including movements of plant, temporary lighting and temporary compounds, would take place within the wider setting of listed buildings and upstanding non-designated heritage assets within the study area. These works would be temporary and of limited duration.

- 6.5.3 Views from heritage assets towards permanent works such as new roads, cuttings, embankments and other structures are considered to be construction impacts for the purposes of the assessment. Likewise, removal of elements of the existing A30, such as lighting of junctions, are considered to be construction effects.
- 6.5.4 The Zone of Visual Influence (ZVI) (developed for the Landscape assessment) was used to identify the potential extent of impacts on the settings of heritage assets within the wider study area. ZVI mapping can be found at **Visibility and Viewpoints** (Volume 6 Document 6.3 ES Figure 7.1).

Operation

- 6.5.5 Impacts on the historic environment during the operational phase will result from the use of the scheme; this will include traffic noise and the visibility of moving vehicles on the road. There will be no physical impacts on below-ground archaeology during operation, as these will have occurred during the construction phase.

6.6 Assessment Methodology

- 6.6.1 The DMRB provides a three-stage approach to assessment, determining the importance of the heritage asset, the magnitude of impact and the significance of effect. This approach is described in more detail in the following sections.

Assessment of value

- 6.6.2 The assessment methodology for assessing effects is based on the principle that the environmental effects of the scheme, in relation to a single heritage asset, should be determined by identifying the asset's value, assessing the magnitude of change the scheme would have on the asset's significance (where significance is defined as the attributes that give the asset its importance) and then combining these two elements to identify the significance of effect. The following tables provide further detail on the process for assessing effects.
- 6.6.3 The importance or value of each heritage asset within the study area was determined according to the DMRB criteria set out in Table 6-1.

Table 6-1 Importance/Value criteria for heritage assets

Criteria for establishing importance/value of heritage assets	
Value	Typical descriptors
Very High	<p>Internationally important assets, including World Heritage Sites and nominated sites.</p> <p>Assets that can contribute significantly to acknowledged international research objectives.</p>
High	<p>Nationally important assets, including Scheduled Monuments, Grade I and II* Listed Buildings, Grade I and II* Registered Parks and Gardens, Registered Battlefields, Protected Wreck Sites.</p> <p>Assets that can contribute significantly to acknowledged national research objectives.</p> <p>Other listed buildings, which can be shown to have exceptional qualities in their fabric or historical associations not adequately reflected in the listing grade.</p> <p>Conservation areas containing very important buildings.</p> <p>Undesignated structures of clear national importance.</p> <p>Undesignated assets of schedulable quality and importance.</p> <p>Assets that can contribute significantly to acknowledged national research objectives.</p>
Medium	<p>Regionally important assets, including designated assets, Conservation Areas containing buildings that contribute significantly to its historic character, Grade II Registered Parks and Gardens, Grade II Listed Buildings, and non-designated assets.</p> <p>Designated or undesignated assets that contribute to regional research objectives.</p>
Low	<p>Local important assets, including Locally listed buildings.</p> <p>Historic (unlisted) buildings of modest quality in their fabric or historical association.</p> <p>Assets compromised by poor preservation and/ or poor survival of contextual associations.</p> <p>Assets of limited value, but with potential to contribute to local research objectives.</p>
Negligible	<p>Buildings of no architectural or historical note.</p> <p>Features with very little or no surviving archaeological interest.</p>

Magnitude of Impacts

- 6.6.4 The approach used to assess magnitude of impacts on heritage assets considers the change upon the receptor. This takes into account the severity of impact of the scheme, together with the vulnerability of the receptor to change. The approach used is based on professional judgment and experience. It also reflects guidance on 'substantial harm' and 'less than substantial harm' in the NPPF and established methodologies in the DMRB. Table 6-2 summarises the types of impact and magnitude used in the assessment, adapted from DMRB.

Table 6-2 Broad criteria for assessing the magnitude of change/impact

Magnitude of impact	Description and nature of change/impact
Major	Substantial harm to, or total loss of, an asset's significance as a result of changes to its physical form or setting. This would include for example, demolition, removal of physical attributes critical to an asset, loss of all archaeological interest or the transformation of an asset's setting in a way that fundamentally compromises its ability to be understood or appreciated. The scale of change would be such that it could result in a designated asset being undesignated or having its level of designation lowered.
Moderate	Less than substantial harm to an asset's significance as a result of changes to its physical form or setting. For example, physical alterations that remove or alter some elements of significance but do not substantially alter the overall significance of the asset; notable alterations to the setting of an asset that affect appreciation of it; or the unrecorded loss of archaeological interest.
Minor	Limited harm to an asset's significance as a result of changes to its physical form or setting (less than substantial harm) For example, physical changes that alter some elements of significance but do not noticeably alter the overall significance of the asset; and small small-scale alterations to the setting of an asset that hardly affect its significance.
Negligible/Neutral	No appreciable change to an asset's significance. Negligible change or no material change to the site or feature. No real change in our ability to understand and appreciate the resource and its historical context and setting.
No Change	No change.

Significance of Effect

- 6.6.5 By combining the magnitude of impact (or change) and the importance of each heritage asset, an assessment has been made of the significance of effect, taking into account the possibility and nature of mitigation. The resultant effects may be either negative (adverse) or positive (beneficial) or neutral, depending on the nature of the impact.
- 6.6.6 In accordance with DMRB, significance of effect upon the heritage resource is assessed using the matrix in **Approach to EIA** (Volume 6 Document Ref 6.2 Chapter 4) Table 4-3.
- 6.6.7 Where the matrix suggests more than one likely outcome, for instance slight or moderate, professional judgement has been used in conjunction with the descriptors in Table 6-3 to arrive at a robust conclusion.

Evaluation of effect

- 6.6.8 The significance of the effects on the heritage assets has been assessed using the approach defined in

6.6.10 Table 6-3. Effects are defined on a nine-point scale (very large beneficial, large beneficial, moderate beneficial, slight beneficial, neutral, slight adverse, moderate adverse, large adverse or very large adverse).

Table 6-3 Evaluation criteria

Significance of effect	Effect
Very Large Adverse	Partial or total loss of a site of Very High Importance.
Large Adverse	<p>Result in the total, or almost total, loss of heritage assets.</p> <p>Be highly intrusive and would seriously damage the setting of the heritage resource such that its context is seriously compromised and can no longer be appreciated or understood.</p> <p>Be strongly at variance with the form scale and pattern of a heritage resource or conservation area.</p> <p>Be in serious conflict with government policy for the protection of the heritage resource.</p>
Moderate Adverse	<p>Be out of scale with or at odds with the scale pattern or form of the heritage resource or conservation area.</p> <p>Be intrusive in the setting (context) and adversely affect the appreciation and understanding of the resource.</p> <p>Result in loss of features such that their integrity of the heritage resource is compromised, but not destroyed.</p> <p>Be in conflict with local or regional policies for the protection of the heritage.</p>
Slight Adverse	<p>Have a detrimental impact on the context of a heritage feature such that its integrity is compromised and appreciation and understanding of it is diminished.</p> <p>Not fit perfectly with the form scale pattern and character of a heritage resource or conservation area.</p> <p>Be in conflict with local policies for the protection of the local character of the heritage resource.</p>
Neutral	<p>Maintain existing historic features in the townscape.</p> <p>Have no appreciable impacts either beneficial or adverse on any known or potential heritage assets.</p> <p>Result in a balance of beneficial and adverse impacts.</p> <p>Not result in severance or loss of integrity context or understanding within a historic landscape.</p> <p>Not be in conflict with and do not contribute to policies for the protection or enhancement of the heritage.</p>
Slight Beneficial	<p>Restore or enhance the sense of place of a heritage feature through good design and mitigation.</p> <p>Remove or mitigate visual intrusion (or other indirect impacts) into the context of heritage features such as that appreciation and understanding of them is improved.</p> <p>Not be in conflict with national regional or local policies for the protection of the heritage.</p> <p>Marginally enhance the integrity understanding and sense of place of a site or group of sites.</p>
Moderate Beneficial	<p>Provide potential for significant restoration of characteristic features or their setting through the removal, relocation or mitigation of existing damaging or discordant impacts on the heritage resource.</p> <p>Contribute to regional or local policies for the protection or enhancement of the heritage resource.</p> <p>Enhance the integrity, understanding and sense of place of a site or group.</p>

Significance of effect	Effect
Large Beneficial	<p>Result in the removal, relocation or substantial mitigation of very damaging or discordant existing impacts (direct or indirect) on the heritage.</p> <p>Result in extensive restoration or enhancement of characteristic features or their setting.</p> <p>Form a major contribution to government policies for the protection or enhancement of the heritage resource.</p> <p>Remove or successfully mitigate existing visual intrusion such as that the integrity understanding and sense of place of a site or group of sites is re-established.</p>
Very Large Beneficial	As 'Large beneficial' where the effect would be upon a site of Very High Importance

6.6.11 Adverse effects of moderate significance or above represent a significant effect that requires mitigation.

6.7 Baseline Conditions

6.7.1 This assessment has considered the known designated and non-designated heritage assets within the scheme footprint, inner study area and outer study area. Approximate historical periods, as defined by Historic England¹, are provided in Table 6-4.

Table 6-4 Definition of archaeological time periods

Period name	Date range	Additional periods, where needed
Palaeolithic	500,000 – 10,000BC	
Mesolithic	10,000 – 4,000BC	
Neolithic	4,000 – 2,200BC	
Bronze age	2,200 – 700BC	
Iron age	700BC – AD43	
Romano-British	AD43 - 410	
Early medieval (Anglo-Saxon)	410 - 1066	
Medieval	1066 - 1540	
Post-medieval	1540 - 1901	<p>Tudor - 1485 - 1603</p> <p>Elizabethan - 1558 - 1603</p> <p>Stuart - 1603 – 1714</p> <p>(Jacobean 1603 – 1625)</p> <p>Hanoverian – 1714 – 1837</p> <p>(Georgian 1714– 1830)</p> <p>Victorian - 1837 - 1901</p>
20th Century	1901 - 2000	
21st Century	2001 - 2100	

6.7.2 All heritage assets and archaeological findspots (the latter are included to provide contextual information on the likelihood of archaeological remains within the scheme boundary) are provided in **Heritage assets** (Volume 6 Document Ref 6.4

¹ Historic England, PastScape, <http://www.pastscape.org.uk/TextPage.aspx> (accessed 28 September 2017)

ES Appendix 6.1) and **Desk based assessment** (Volume 6 Document Ref 6.4 ES Appendix 6.2).

Designated heritage assets

- 6.7.3 One post-medieval designated heritage asset is recorded within the footprint of the scheme, a post-medieval milestone - Milestone at SW 771486 NE (NHLE no. 1140923).
- 6.7.4 Although not within the footprint of the scheme, six designated heritage assets are noted within 10m of the edge of the works area, which include a World Heritage Site (WHS), two Scheduled Monuments (SM), one Registered Park and Garden (RPG) and two listed structures:
- Two areas of scheduled Bronze Age barrows - Two bowl barrows 290m and 375m north of Higher Ennis Farm (NHLE no. 1017050, alongside the scheme) and a Bowl barrow 100m south west of Callestick Vean (NHLE no. 1016103, approximately 5m from the scheme);
 - The post-medieval Cornwall and West Devon Mining Landscape - Gwennap Mining District WHS (NHLE no. 1000105, alongside the scheme);
 - Chyverton Park, a post-medieval Grade II Registered Park and Garden (NHLE no. 1000512, approximately 0.5m from the scheme); and
 - Two post-medieval Grade II listed boundary stones - Boundary Stone at SW 778487 NE (NHLE no. 1140922) and a Boundary Stone at SW 773486 NE (NHLE no. 1136600), both approximately 10m from the scheme.
- 6.7.5 Within the inner 300m study area, 26 designated assets are recorded, eight SMs, eight Grade II Listed Buildings (LB) and ten Grade II listed structures, which comprise:
- Eight scheduled Bronze Age barrows, including one long barrow and the Heritage at Risk Warren's Barrow (NHLE no. 1016888, approximately 15m south of the scheme);
 - Four Grade II listed post-medieval farmhouses, including Chyverton Home Farmhouse (NHLE no. 1141552, approximately 145m west of the scheme);
 - The Grade II LBs post-medieval Church of Saint Peter (NHLE no. 1141481), Vicarage (NHLE no. 1328719) and Schoolroom (NHLE no. 1141482), all approximately 175m west of the scheme;
 - One Grade II listed Lodge south-east of Chyverton House (NHLE no. 1136926, approximately 60m west of the scheme);
 - One Grade II listed post-medieval guide stone (NHLE no. 1136693, approximately 250m north of the scheme); and
 - Nine Grade II listed post-medieval milestones.
- 6.7.6 Within the outer 1km study area, 30 designated assets are recorded, six SMs (one also designated as Grade II listed), one Grade II* LB, one Grade II* listed structure, 14 Grade II LBs, seven Grade II listed structures and one Conservation Area (CA), which comprise:
- Four scheduled Bronze Age barrows;
 - A scheduled Iron Age hillfort, 250m south west of Tresawsen (NHLE no. 1016445);
 - A scheduled and Grade II listed medieval cross (NHLE no. 1016290/1136597);

- The Grade II* listed post-medieval Chyverton House (NHLE no. 1141551);
- The Grade II* listed post-medieval Bridge east of Chyverton House (NHLE no. 1328680);
- Ten Grade II listed post-medieval houses, farmhouses and associated farm buildings;
- A Grade II listed post-medieval Wesleyan Chapel (NHLE no. 1328705);
- The Grade II listed post-medieval Plume of Feathers Public House (NHLE no. 1141450);
- Two areas of mining activity - the Grade II listed post-medieval Batters Engine House (NHLE no. 1141578) and mine buildings 400m north-east (NHLE no. 1136747);
- One Grade II listed post-medieval guide post (NHLE no. 1141580);
- Six Grade II listed post-medieval milestones; and
- Mitchell CA (approximately 300m east of the scheme).

6.7.7 These designated heritage assets are shown in **Designated heritage assets** (Volume 6 Document Ref 6.3 ES Figure 6-1) accompanying this ES.

Cornwall and West Devon Mining Landscape World Heritage Site

6.7.8 The Cornwall and West Devon Mining Landscape WHS was designated in 2006, recognising the international importance of the mining culture and the impact this had on the development of the modern, global, mining economy, throughout the world today².

6.7.9 It is the largest WHS in the UK, comprising 10 areas, each of which features distinctive patterns of buildings, monuments and sites. Together these form a unified, coherent cultural landscape and share a common identity as part of the overall exploitation of ore-bearing minerals here from the 18th to 20th centuries.

- Area 1: St Just Mining District;
- Area 2: The Port of Hayle;
- Area 3: Tregonning and Gwinear Mining Districts with Trewavas;
- Area 4: Wendron Mining District;
- Area 5: Camborne and Redruth Mining District with Wheal Peevor and Portreath Harbour;
- Area 6: Gwennap Mining District with Devoran and Perran and Kennall Vale;
- Area 7: St Agnes Mining District;
- Area 8: The Luxulyan Valley and Charlestown;
- Area 9: Caradon Mining District; and
- Area 10: Tamar Valley Mining District with Tavistock.

6.7.10 The scheme lies adjacent to 'Area 6: Gwennap Mining District with Devoran and Perran and Kennall Vale' area of the WHS. This rural mining district produced a major proportion of the world's supply of copper during the 18th and first half of the 19th centuries. Mining villages, important Methodist sites and the houses and estates of industrial entrepreneurs are included, together with major ancillary industrial sites, important early railway networks and the remains of an early 19th century mining port.

² Cornwall and West Devon Mining Landscape World Heritage Site Management Plan 2013–2018. Cornish Mining World Heritage

- 6.7.11 Gwennap was once described as the *"richest square mile in the Old World"*. The widespread and devastating landscape impact of copper mining may be seen together with remains of the network of railways that linked the mines to the ports.
- 6.7.12 The desolate, largely heathland landscape, considerably modified by mining, is carpeted with waste rock (deads), dotted with islands of consolidated building remains, and with shafts surrounded by distinctive Cornish mine hedges. The central and northern sections of this area are notable for their well-preserved landscape of smallholdings, interspersed with small mining settlements together with the mines, which they served. St Day, Carharrack and Chacewater are particularly fine examples of mining villages. Scorrier House, Tregulow and Burncoose are examples of the grand houses and estates built by mining industrialists.

Known Non-designated Heritage Assets

- 6.7.13 Six non-designated heritage assets and one findspot are recorded within the footprint of the scheme, ranging from the Mesolithic to the 20th century, with one of unknown date. These comprise:
- A large scatter of Mesolithic material, including a scraper, flint flakes and an arrowhead (HER no. MCO1858);
 - A possible dyke dating from the Iron Age to the medieval periods (HER no. 25228);
 - The site of a medieval cross (HER no. MCO5575);
 - A trackway dating from the medieval to post-medieval periods (HER no. MCO31937);
 - The settlement of Henver, occupied from the medieval to present (HER no. MCO14868);
 - The site of a 20th century observation post (HER no. MCO42673); and
 - A line of five small pits of unknown date (HER no. MCO32376).
- 6.7.14 Although not within the footprint of the scheme, one non-designated heritage asset is noted within close proximity (<10m) – a possible Iron Age to Romano-British round (HER no. MCO34825), approximately 3m from the scheme.
- 6.7.15 Within the inner 300m study area, 58 non-designated assets are recorded, along with seven findspots, ranging from the Mesolithic to modern periods, which include Bronze Age barrows, Iron Age to Romano-British enclosures, settlements dating to the early medieval and medieval periods and post-medieval mining activity.
- 6.7.16 These non-designated heritage assets are shown in **Non-designated Heritage Assets** (Volume 6 Document Ref 6.3 ES Figure 6-2) of this ES.

Historical background

- 6.7.17 In Cornwall, early prehistoric activity from hunter-gatherer groups is frequently evidenced by numerous surface collections of lithic scatters, especially on areas of uplands³. During the later prehistoric period, Cornwall was a widely populated

³ Hosfield, R., Straker, V. and Gardiner, P. Palaeolithic and Mesolithic, 23-62 in Webster, C.J. (ed.) 2008, The Archaeology of South West England, South West Archaeological Research Framework Resource Assessment and Research Agenda. Somerset Heritage Service

area and many hilltops were transformed with the construction of enclosures and funerary monuments known as round barrows.

- 6.7.18 The scheme is located within an area that was controlled by the Dumnonii tribe during the Iron Age. The Dumnonii occupied one of the largest regions of Britain, occupying Cornwall, Devon and parts of southern Somerset; their capital was at Isca Dumnoniorum, now modern day Exeter⁴.
- 6.7.19 By the Romano-British period, the extraction of tin and lead in the South-West became a significant element of the economy, which was exported to the rest of Britain and beyond⁴.
- 6.7.20 During the medieval period, a wide range of metal ores continued to be extracted, which has influenced the appearance of the landscape and character of the area. By the 1860s, however, the mining economy collapsed and the burden of unemployment saw a mass emigration from the area. The following years threw the local economy into a deep slump, and by the 20th century, the landscape had become predominantly rural in character, supporting a mixed farming regime and tourist industry⁵.
- 6.7.21 The development and form of Cornwall's roads was hugely affected by the county's unique topography and landscape⁶. From the 17th century, turnpike trusts were set up by Acts of Parliament⁷, with three turnpike routes noted in Cornwall. A large section of the A30 follows the course of the 17th century 'Land's End coaching road'⁸, which later became one of the longest A-roads in the UK⁹.

Archaeological background

- 6.7.22 Within the study area, archaeological evidence is noted from the prehistoric to modern periods; with the exception of the Romano-British period, of which none have been recorded.
- 6.7.23 Earliest prehistoric activity is recorded from finds dating to the Mesolithic period, followed by later Neolithic finds. The Bronze Age period is defined by the abundance of barrows, some termed as 'barrow cemeteries' within the area. Place-name evidence, a hillfort near Tresawsen and enclosure cropmarks, confirm activity from the Iron Age period. A pillar, together with Warren's Barrow being used as a beacon, represents early medieval activity. Medieval settlement is recorded throughout the study area, along with Christian crosses. Numerous milestones, settlement, ecclesiastical and mining activity dating to the post-medieval period is recorded. 20th century Cold War evidence is noted near to Carland Cross.

Map summary

- 6.7.24 From the late 19th century, the study area roughly followed the route of a lane extending south-east from a crossroads 'Three Burrows'. Three Burrows was

⁴ Holbrook, N. (ed) Roman, 151-161, in Webster, C.J. (ed) The Archaeology of South West England, South West Archaeological Research Framework Resource Assessment and Research Agenda. Somerset Heritage Service, 2008

⁵ Schwartz, S.P. and Parker, R. Tin Mines and Miners of Lanner, The Heart of Cornish Tin. Halsgrove, 2012

⁶ An introduction history of transport in Cornwall, <http://www.cornwallheritagetrust.org/discover/history-of-transport/> (accessed 11 October 2017)

⁷ Turnpike Roads in England, <http://www.turnpikes.org.uk/The%20Turnpike%20Roads.htm> (accessed 12 October 2017)

⁸ 'Roads', in A History of the County of Wiltshire: Volume 4, ed. Elizabeth Crittall (London, 1959), pp. 254-271. British History Online <http://www.british-history.ac.uk/vch/wilts/vol4/pp254-271> (accessed 12 October 2017)

⁹ A30, <http://www.cbrd.co.uk/motorway/a30> (accessed 12 October 2017)

shown as a settlement featuring a church, school and public house, with at least three tumuli and a number of standing stones in the vicinity.

- 6.7.25 Eastwards from Three Burrows, the lane traversed through enclosed post-medieval field systems containing significant numbers of tumuli, concentrated close to the route. Post-medieval quarries also peppered the landscape, along with intersecting lanes crossing areas of farmland. Two manor houses, Higher Ventogimps and Nancarrow, were depicted in the central part of the study area with their curtilages intact, surrounded by farmland. Larger settlements were infrequent and concentrated around the lane and its intersections, with Zelah being the most prominent. Immediately north of Zelah, a number of small settlements such as Polstain, Henver and Cralsa are recorded.
- 6.7.26 At the north-eastern end of the study area, a dense concentration of tumuli cluster in fields close to the Carland Cross Junction and former mine shafts are recorded. North of the study, the remains of Cargoll Mine and the extant West Chiverton Mine, are evidence of past and current mining.
- 6.7.27 Little change was recorded in the study area until the mid-20th century, when the route from the Three Burrows to Carland Cross was formalised as the A30 and recorded as a major trunk road. The course of the route remains unaltered and the landscape through which it passes it largely remains unchanged.

Heritage at Risk Asset

- 6.7.28 Within the study area, one heritage asset is recorded upon the Heritage at Risk register, Warren's Barrow (NHLE site no. 1016888). The barrow is a Scheduled Monument comprising a bell barrow situated on the tip of a south facing hill slope to the east of Newlyn Downs. Warren's Barrow is the most northerly barrow of a group of barrows that formed a prehistoric barrow cemetery at Carland Cross; the other barrows are designated under separate scheduling. Warren's Barrow is on the 'Heritage at Risk' register due to significant localised problems resulting from scrub/tree growth on the monument.

Previous archaeological investigations

- 6.7.29 Within the inner 300m study area, 45 archaeological investigations have been undertaken, ranging from desk-based studies to field evaluations and excavations. This assessment has focused on archaeological investigations within the footprint of the scheme, to provide an understanding of activities within this area only.
- 6.7.30 The footprint of the scheme has been subject to archaeological investigations from 1980 to 2014, which has included desk-based assessments, watching briefs, geophysical surveys, management plans, walkover surveys and scheduled monument recording and repairs. Results of these found Bronze Age barrows at Chiverton Cross and Carland Cross, and evidence of prehistoric, medieval and post-medieval agricultural activity across the scheme. However, historic deep ploughing over some areas was found to have destroyed any potential below ground archaeology.

Archaeological investigations for the scheme

- 6.7.31 In June 2017, a non-intrusive geophysical survey was undertaken by SUMO Survey¹⁰, within 69 areas along the scheme corridor. Further geophysical survey was undertaken on compound areas at Carland Cross and Chiverton Cross in 2018.¹¹
- 6.7.32 The 2017 survey identified numerous anomalies of probable and possible archaeological interest, scattered along the length of the survey corridor but with concentrations to the south of Newlyn Downs (areas 8-10), approximately 1.4km north-east of Zelah (areas 14-15), directly south of Zelah (areas 23-24) and approximately 850m south-west of Chyverton Park (areas 26-32). By far the most common features identified were linear anomalies, which may represent enclosures or field systems. Possible ring ditches were also detected. Elsewhere, occasional lengths of linear anomalies and isolated pit-like anomalies were recorded. Pipes and anomalies of natural origin were also identified and past agriculture was visible throughout the survey area. The result of this survey is provided in **Geophysical report** (Volume 6 Document Ref 6.4 ES Appendix 6.3). The 2018 survey identified a pit alignment and other possible archaeological features at the Carland Cross compound site. The result of this survey is provided in **Geophysical Survey Report** (Volume 6, Document Ref 6.4 Appendix 6.5).
- 6.7.33 Archaeological Trial Trenching was undertaken in 2017 to investigate geophysical anomalies, where site constraints enabled access. Features identified included a Late Mesolithic/Early Neolithic flint scatter and a possible Middle Neolithic structure, at Ventonteague, potential Bronze Age barrows or cairns at Ennis Farm, Ventonteague, and Trevalso. Evidence of Bronze Age settlement, including a pit containing a whole Trevisker urn, was identified at Nancarrow and Marazanvose. Iron Age and/or Romano-British field ditches were identified at Tolgroggan, Nancarrow, and Marazanvose. Medieval ridge and furrow cultivation was identified at various locations along the route and field ditches of medieval date were found at Marazanvose and Nanteague, the former possibly representing a settlement. Medieval iron smelting was identified at Nancarrow. Post-medieval enclosure was identified in many of the former areas of downland along the route, and 19th century mining remains were found at Ennis Farm. Further information is provided in **Trial trenching report** (Volume 6 Document Ref 6.4 ES Appendix 6.4). In 2018 further evaluation was undertaken in response to the discovery of the Middle Neolithic remains at Ventonteague in order better understand their significance and the potential impact upon them from the proposed scheme. This investigation identified 'post-rings' which possibly represent the remains of temporary Neolithic structures, pits containing Neolithic pottery, and ditches representing the remains field boundaries.

6.8 Consultation

- 6.8.1 Consultation has been undertaken with Historic England to inform the scheme design. A Scoping Opinion has been received from Historic England and from the Planning Inspectorate, and a Consultation response has been received from Historic England. A meeting with Historic England to discuss their consultation response was held on 12 June 2018. Further consultation was undertaken with Historic England and Cornwall County Council in July 2018. Consultation

¹⁰ Gater, J. and Tanner, J. Geophysical Survey Report, A30 Carland to Chiverton, Cornwall, 2017

¹¹ Wessex Archaeology A30 Chiverton to Carland Cross, Cornwall Detailed Gradiometer Survey report, Ref:203520.04 June 2018

responses can be found at **Consultation Report** (Volume 5 Documents 5.1) and **Consultation Report Appendices** (Volume 5 Document Ref 5.2) and **Responses to scoping opinion** (Volume 6 Document 6.4 ES Appendix 4.2).

6.9 Assessment Assumptions and Limitations

6.9.1 The following assumptions and limitations apply to this assessment:

- ;
- It is assumed that all data acquired from the Cornwall and Scilly Historic Environment Record (CSHER) and Historic England digital datasets are the most recent available. These datasets are 'live' and continually being updated; therefore this assessment does not take account of information that may have been added to these datasets after the baseline data gathering was completed;
- The assessments of setting impacts have been undertaken by means of views from publicly accessible locations only;
- While a geophysical survey has been undertaken to establish the nature of the archaeological resource within the vicinity of the scheme, the techniques used are not able to identify the total archaeological resource that may be affected by the scheme. Therefore, there remains the possibility that some sites remain undetected beneath the ground;
- Aerial photographic evidence is limited by seasonal, agricultural, meteorological and environmental factors which affect the extent to which either buried or upstanding archaeological features can be detected from the air. The visibility of archaeological features may differ from year to year, dependent on the type of crop or land use, prevailing weather and levels of moisture in the soil over the crop growing season.

Limits of deviation

6.9.2 An assessment has been conducted within the limits of deviation outlined in Limits of Deviation within **Approach to EIA** (Volume 6 Document Ref 6.2 ES Chapter 4)

6.9.3 The worst case has been considered within the Cultural Heritage assessment (Volume 6 Documents Reference 6.2 Chapter 6). The proposed limits of deviation might lead to negligible changes to the impacts upon the settings of scheduled monuments and listed buildings in close proximity to the scheme. These potential changes are not considered likely to give rise to any new effects, or to any materially worse adverse or better beneficial landscape or visual effects from those predicted in the assessment.

6.9.4 The proposed limits of deviation are not considered likely to result in materially different effects on non-designated buried archaeological remains. Volume 6 Document Ref 6.4 Appendix 16.1 Outline CEMP Annex F Cultural Heritage Management Plan provides a means for preservation by record for features which might be encountered within the LOD. This will be developed into a full Written Scheme of Investigation (WSI) at detailed design.

6.10 Design, Mitigation and Enhancement Measures

Engineering design

- 6.10.1 The engineering design for the proposed scheme has incorporated specific measures to mitigate impacts upon heritage assets, or specifically to achieve enhancement of heritage assets.
- 6.10.2 At CH 12+890, to the south west of the proposed scheme, a scheduled round barrow (NHLE 1017050) would be retained in-situ, behind a purpose-designed retaining structure. This would avoid a direct impact upon the scheduled monument that would result from a cutting in this area without a retaining structure in place.
- 6.10.3 Following a request from Historic England, the existing A30 will be removed from its current location at Carland Cross, to enable a group of scheduled round barrows to be reunited with Warrens Barrow, which is currently isolated to the north of the existing A30.

Construction mitigation

- 6.10.4 Mitigation of construction impacts would take the form of measures to ameliorate direct impacts (physical damage), and indirect impacts (changes to setting that affect the significance of the assets).

Archaeological remains

- 6.10.5 Mitigation of direct impacts on archaeological remains would take the form of 'preservation by record', that is, the investigation of archaeological remains prior to construction, and the analysis of artefacts and publication of results following the construction of the scheme. This would be governed by a Written Scheme of Investigation, as noted in **Outline CEMP** (Volume 6 Document Ref 6.4 Appendix 16.1 Annex F Outline Cultural Heritage Management Plan).
- 6.10.6 Preservation by record can involve a number of levels of detail, commensurate with the significance of the assets being impacted directly by the scheme. These may include detailed archaeological excavation of high value buried archaeological remains, strip-map-sample where archaeological remains are expected to be present dispersed over a wide area, or archaeological watching brief in areas of lower archaeological potential. A detailed Cultural Heritage Management Plan will be written and agreed with the Cornwall Council Archaeological Officer, and implemented prior to construction. The plan will contain clear commitments for post excavation analysis, archiving, reporting, and where appropriate, publication.

Milestones

- 6.10.7 The two listed milestones along the route, should they need to be removed during construction, will be replaced as close to their original locations as possible. **Outline CEMP** (Volume 6 Document Ref 6.4 Appendix 16.1 Annex J Milestone Protection Plan) provides guidance on the safe removal, storage and replacement for the two milestones affected by the construction works for the scheme.

Operation mitigation

During operation, it is expected that no mitigation will be required as all potentially significant effects will have occurred during the construction phase.

6.11 Assessment of Effects

- 6.11.1 The following assessment takes into account the construction and operation of the scheme, including any proposed landscape, noise and ecology mitigation.
- 6.11.2 Effects on historic hedgerows are assessed in **Landscape** (Volume 6 Document Ref 6.2 Chapter 4 ES Chapter 7).

Construction effects

Designated heritage assets

- 6.11.3 The assessment has examined the potential construction impacts on the setting of designated heritage assets in the study area. A number of designated heritage assets were noted to have no impacts from the construction of the scheme, as a result of their location, and/or localised topography, and/or nearby mature/dense landscaping.
- 6.11.4 The assessment identified no impacts on the following:
 - Six scheduled barrows;
 - One scheduled and Grade II listed cross - Trevalsa Cross;
 - One Grade II* listed building - Chyverton House;
 - One Grade II* listed structure – Bridge east of Chyverton House;
 - Mitchell Conservation Area;
 - 18 Grade II listed buildings – Zelah Chapel, Chyverton Home Farmhouse, Rose Cottage, Shirley Farmhouse, Wellesley House, Primrose Farmhouse, Mitchell Farmhouse, Plume of Feathers Public House, Lower Ventongimps Farmhouse, Higher Ventongimps, Ventongimps Villa, Highlands, Tresawen Farmhouse, Wesleyan Chapel, Batters Engine House, Mine Buildings, Cartshed and stables; and
 - 17 Grade II listed structures – two boundary stones, a guide post, a guide stone and 13 milestones.

Cornwall and West Devon Mining Landscape World Heritage Site (NHLE no. 1000105)- Very High Value

- 6.11.5 The WHS comprises ten discrete but in the main, inter-visible landscapes, of which all encompass significant components. One of these landscapes, Area 6: Gwennap Mining District with Devoran and Perran and Kennall Vale, lies adjacent the scheme. This rural mining district produced a major proportion of the world's supply of copper during the 18th and first half of the 19th centuries. Mining villages, important Methodist sites and the houses and estates of industrial entrepreneurs are included, together with major ancillary industrial sites, important early railway networks and the remains of an early 19th century mining port. Gwennap was once described as the "richest square mile in the Old World".
- 6.11.6 The Gwennap Mining District boundary is located at the western extent of the scheme and is abutted by the A30 and the A390 with Chiverton roundabout being located at the northerly point of the boundary. The northern section of this area is

noted for its well-preserved landscape of smallholdings, interspersed with small mining settlements together with the mines, which they served.

- 6.11.7 The land of the WHS falls steeply to the west and south with little intervisibility to the area of the scheme. The majority of key views from the WHS are southwards, with the ridge on which Chiverton roundabout is located preventing most views to the north. Although much of the Cornish landscape contributes to the setting of the WHS, it is noted areas located outside of the WHS boundary generally have an insufficient survival of coherent mining landscape to be included.
- 6.11.8 Construction impacts – the scheme will remove the existing Chiverton roundabout and associated lighting, and an on/off slip road will replace it. This slip road will be constructed a short distance south-east of the existing junction. It is considered the new slip road would have a negligible impact upon the significance of the WHS. The permanent construction significance of effect of the scheme upon the WHS is considered to be **Slight Adverse**.
- 6.11.9 Temporary setting impacts - during construction, the field to the east of the WHS will be utilized as a main construction compound (Western Compound), in which proposed activities include: main office buildings and welfare facilities, car parking, material storage, satellite offices, fuel storage, washout pits for concrete and sweepers, waste segregation area and topsoil/subsoil storage. Although these works would be temporary and of limited duration, there would possibly be a minor adverse impact on the setting of the WHS, especially during the winter months with the loss of deciduous vegetation. This would result in a temporary **Slight Adverse** significance of effect.

Church of Saint Peter (NHLE no. 1141481), Schoolroom immediately east of Church of St Peter (NHLE no. 1141482) and Vicarage (NHLE no. 1328719) - Medium Value

- 6.11.10 This group of assets are all Grade II listed and date to the post-medieval period. They comprise the Church of Saint Peter, the former vicarage, which is now a private residence (both built in the Gothic style) and the school room/church hall. All were built in the mid-19th century, with William White designing the church and vicarage, and may possibly have designed the accompanying school room/church hall. The listed buildings form a cohesive group of buildings related to the Church of Saint Peter, which was constructed to serve the ecclesiastical district of Mithian.
- 6.11.11 Located at the peak of a ridge, the church tower forms a prominent landmark that can be noted from much of the surrounding area. The buildings screened from the wider landscape by mature vegetation and occasional residential developments. Views to the north of the church are of open countryside, with other views from the asset group as a whole consisting of occasional glimpsed views through to pasture fields. The local topography descends gently to the north and east, rising again to the location of the current road network. The current A30 and A3075 are currently well screened at their closest point to the church. However, the movement of vehicles along the roads can be noted in the middle distance. Despite the proximity of the road network, the A30 is located less than 250m of the church, the assets enjoy a largely rural outlook. The experience of the approach to the church and its setting from the road to the immediate west is that of a narrow country lane within rolling farmland. At a distance, the church is visible as an intentional focal point in the landscape, with a particular elevated

view of the church from the ridge at Four Barrows, approximately 1.8km north east of the church; this is an historic view that would have existed when the A30 was an historic routeway. The largely rural wider setting of the assets, and the secluded nature of their immediate surroundings, make a moderate contribution to their significance.

- 6.11.12 Temporary setting impacts - during construction, two construction compounds are proposed within the wider setting of the listed buildings:
- Western Compound (approximately 200m south of the listed buildings) - proposed activities include: main office buildings and welfare facilities, car parking, material storage, satellite offices, fuel storage, washout pits for concrete and sweepers, waste segregation area and topsoil/subsoil storage; and
 - Chiverton Junction Compound (approximately 350m north-east of the listed buildings) - proposed activities include: welfare facilities, storage for piling, formwork and reinforcement materials, fabrication area for bridge beams, plant lay down area and topsoil/subsoil storage.
- 6.11.13 Although these works would be temporary and of limited duration, there would possibly be a minor adverse impact on the wider setting of the assets, especially during the winter months with the loss of deciduous vegetation. This would result in a temporary **Slight Adverse** significance of effect.

The Three Burrows (NHLE no. 1016056) – High Value

- 6.11.14 The Three Burrows is a Scheduled Monument that includes a group of three Bronze Age barrows that have been ploughed and so reduced in height, they are located just east of Chiverton Cross and South East of St Peter's Church at Chiverton Cross. The three barrows are similar in diameter (20-22m) and in height (1-1.5m); only one of the barrows has any trace of a surrounding ditch. They are located within an open field; two barrows are located adjacent to a work yard and covered reservoir to the east. The presence of this reservoir within the setting of the barrows is considered to detract from their significance. The third barrow is located centrally within the field, approximately 100m south from the current A30.
- 6.11.15 The barrows were possibly part of a cohesive group, along with the scheduled bowl barrow 125m south of St Peter's Church, located on a plateau at the top of a ridge. These barrows form part of a wider visible Bronze Age monument landscape of symbolic value and meaning. The broad setting of the barrows consists of predominantly rural views, and this aspect of their settings is considered to contribute to their significance. Although the construction of the existing A30, Chiverton roundabout and A3075 has partially fragmented that setting, especially with the intrusion from lighting that is visible from the barrows at night.
- 6.11.16 Construction impacts – the scheme will remove the existing Chiverton roundabout and associated lighting, and an on/off slip road will replace it. This slip road will be constructed a short distance south-east of the existing junction, which would then run along the northern edge of the barrow field, approximately 10m closer to the barrows than the current A30. The A30 itself will be diverted to the north of its current alignment rising on embankment north-east of the barrows at a distance of 500m. It is considered the new slip road would have a negligible impact upon the significance of the barrows. The removal of lighting at the existing Chiverton

roundabout would result in a slight beneficial impact on the significance of the barrows during the hours of darkness. The presence of the scheme on embankment north-east of the barrows is considered to constitute a minor adverse impact upon the significance of the barrows. Overall, the permanent construction significance of effect of the scheme upon the barrow group is considered to be **Slight Adverse**.

- 6.11.17 Temporary setting impacts - during construction, the field to the west of the barrows will be utilized as a main construction compound (Western Compound), in which proposed activities include: main office buildings and welfare facilities, car parking, material storage, satellite offices, fuel storage, washout pits for concrete and sweepers, waste segregation area and topsoil/subsoil storage. The assets would be demarcated and protected during construction, however the site compound and associated activities within the setting of the barrows are considered to constitute a major adverse temporary impact upon their significance. This would result in a **Large Adverse** significance of effect. Following construction, the field would be returned to agricultural use, and this temporary effect would cease.

Bowl barrow 125m south of St Peter's Church at Three Burrows (NHLE no. 1016057)- High Value

- 6.11.18 The scheduled bowl barrow 125m south of St Peter's Church is a large Bronze Age bowl barrow (3m in height and 18m in diameter), which is enclosed within a garden plot of a house adjacent to the Grade II listed Church of Saint Peter (NHLE no. 1141481).
- 6.11.19 This barrow was possibly part of a cohesive group, along with the scheduled Three Burrows, located on a plateau at the top of a ridge. These barrows form part of a wider visible Bronze Age monument landscape of symbolic value and meaning.
- 6.11.20 Construction impacts – this bowl barrow is located behind and screened by dense mature vegetation and there would be no views through the vegetation towards or from the scheme. There would be no change to the setting of the asset due to the construction of the scheme; therefore, the significance of effect on this asset would be **Neutral**.
- 6.11.21 Temporary setting impacts – during construction, construction activity associated with the movement of plant, temporary lighting and resulting increased noise levels, would take place within the wider setting of the barrow. Although these works would be temporary and of limited duration, there would possibly be a minor adverse impact on the setting of the asset, especially during the winter months with the loss of deciduous vegetation. This would result in a temporary **Slight Adverse** significance of effect.

The Four Burrows (NHLE no. 1016054)- High Value

- 6.11.22 The Fours Burrows is a Scheduled Monument that includes a group of four Bronze Age barrows situated on a commanding hilltop at Four Burrows and fall into three separate areas. The barrows are situated between the parish boundary of Kenwyn and Perranzabuloe, with two barrows on each side. The four barrows are varying in height (2.5-3.9m) and diameter (16-24m), and two barrows have circular depressions in the centre, indicating possible antiquarian excavations. It is possible that the barrows are the surviving remnants of a Bronze Age barrow

cemetery. These barrows form part of a wider visible Bronze Age monument landscape of symbolic value and meaning.

- 6.11.23 The northernmost of the barrows is currently divided from the rest of the group by the existing A30, however to the north, east and west the views from the barrow are rural in character. This rural setting contributes to the significance of the northern barrow, whilst the presence of the A30 detracts from this significance. The barrows to the south of the A30 are divided by a lane that runs north-south. The single barrow to the west of this lane has views to the west and south, but this view is dominated by a solar farm located 30m from the barrow at its closest point. This modern feature within the setting of the barrow detracts from its significance, as does the A30 immediately to the north.
- 6.11.24 The twin barrows to the east of the lane have unobstructed rural views to the east and south, although the Carland Cross wind turbines are visible at a distance to the east. The rural views are considered to contribute to the significance of the barrows, although the presence of the A30 detracts from their significance.
- 6.11.25 Construction impacts – the scheme would realign the A30 as a dual carriageway approximately 50m north of the northernmost barrow of the group. This would remove the rural setting of this barrow, leading to a permanent moderate adverse impact on its significance; this would result in a Moderate Adverse significance of effect. The existing A30 would remain in situ as a local route, and therefore the current division of the barrow group would continue. This would constitute no change to the setting of the three barrows to the south of the A30, resulting in a **Neutral** significance of effect.
- 6.11.26 Temporary setting impacts – during construction, construction activity associated with the movement of plant, temporary lighting and resulting increased noise levels, would take place within the wider setting of the barrow group. Although these works would be temporary and of limited duration, there would possibly be a minor adverse impact on the setting of these assets, especially the northernmost barrow. This would result in a temporary **Slight Adverse** significance of effect

Milestone at SW 771486 NE (NHLE no. 1140923) - High Value

- 6.11.27 This Grade II listed milestone is a tall slender painted dressed granite monolith square-on-plan with a pyramidal head. This milestone is an original 18th century turnpike road milestone; however, it is suggested to have been re-sited, as the mileage shown is not in correct sequence with the mileage of a stone to the east.
- 6.11.28 The presence of the A30 and its function as a traversable route creates the setting of the milestone and contributes to its significance of a historical marker.
- 6.11.29 Construction impacts – the scheme would realign the A30 as a dual carriageway approximately 6m north of the milestone, so the asset will be removed and re-located next to the realigned A30. The construction of the scheme will result in a major adverse impact on the removal of the milestone; however, the asset will be relocated next to the realigned road. Whilst it will be moved from its existing location adjacent to the former turnpike road, this was not its original position, as it had previously been moved. Therefore, the overall construction impact on the milestone will be minor adverse resulting in a **Slight Adverse** significance of effect.

- 6.11.30 Temporary setting impacts – during construction, the milestone will be removed from its current location, this will have a temporary major adverse impact on the asset resulting in **Large Adverse** significance of effect. Following construction, the milestone will be re-sited and this temporary effect would cease.

Bowl barrow 100m south-west of Callestick Vean (NHLE no. 1016103) - High Value

- 6.11.31 This scheduled asset comprises a bowl barrow located 100m south-west of Callestick Vean and just north of the A30. The barrow survives as a low-lying mound, which is the result of ploughing, yet the barrow is still 0.5m in height and 20m in diameter. This barrow forms part of a wider visible Bronze Age monument landscape of symbolic value and meaning.
- 6.11.32 The barrow is partially screened from views of the A30 to the south and east by a dry stone wall, and intermittent hedgerow. A local overhead electricity transmission line runs north-south to the west of the barrow. Views from the barrow to the west and north are rural in nature; however, the northern view is interrupted by the B3284. The rural views to the west are considered to contribute to the significance of the asset, views to the north make a negligible contribution to its significance and the views to the south detract from the significance of the asset.
- 6.11.33 Construction impacts – the scheme would realign the A30 as a dual carriageway northwards at-grade, bringing it within approximately 5m of the barrow. Other aspects of the barrow's setting would be unaltered. This change to the setting of the barrow would result in a permanent moderate adverse impact upon the significance of the barrow, leading to a **Moderate Adverse** significance of effect.
- 6.11.34 Temporary setting impacts – the asset would be demarcated and protected during construction, however construction activity associated with the movement of plant, temporary lighting and resulting increased noise levels, would have a major adverse temporary impact upon its significance. Although these works would be temporary and of limited duration, these impacts would result in a **Large Adverse** significance of effect.

Hillfort 250m south-west of Tresawsen (NHLE no. 1016445) – High Value

- 6.11.35 The scheduled Iron Age fort is situated on a gentle north-facing hill slope approximately 500m west of a springhead. The internal area of 3.8ha was defended by a rampart, which survives with a height of 2m along its eastern circuit. The inner rampart was fronted by a ditch, which can be seen as a depression to the eastern side of the fort. An outer, near concentric enclosure formed of defences went around the inner sections of the hill fort although these are no longer visible on the ground.
- 6.11.36 The asset's current setting is rural in nature, with uninterrupted views across the valley to the north. As the hillfort is located on the north-facing slope, it is considered these views are its principal setting that contribute substantially to its significance. The existing A30 is 300m to the south of the hillfort, on the crest of the hill. This view is not considered to be a key part of the asset's setting, and the A30 makes a neutral contribution to the asset's significance.
- 6.11.37 Construction impacts – the scheme would be aligned 150m further south than the current A30, although the existing road will remain in place for local access.

Operational noise at this location will decrease slightly. Overall these changes would result in a **Slight Beneficial** significance of effect.

- 6.11.38 Temporary setting impacts – during construction, construction activity will be 150m further south than the current A30. Whilst the hillfort is located on the north-facing slope, activity associated with the movement of plant, temporary lighting and resulting increased noise levels, would take place within the wider setting of the asset. Although these works would be temporary and of limited duration, there would possibly be a minor adverse impact on the setting of the asset. This would result in a temporary **Slight Adverse** significance of effect.

Nancarrow Farmhouse, and attached Wall (NHLE no. 1136610) – Medium Value

- 6.11.39 This early 19th century farmhouse is a Grade II Listed Building positioned on the site of an earlier mansion, approximately 130m south-east of the A30. The farmhouse is set within a narrow river valley within a mixed arable and pasture landscape and is still in use as a working farm. It also operates as a wedding/holiday/event venue with accommodation.
- 6.11.40 The farmhouse is well enclosed by the surrounding topography and mature vegetation, with the land rising steeply to the north-east and south-west. The primary views from and to the asset is to the east and south-east, away from the A30. The landscape is of rolling countryside and surrounding farmland with minimal views of other development and no direct views of the road. Despite the presence of the road and background traffic noise, the setting of the farmhouse is picturesque and relatively tranquil with a low degree of dynamism, which contributes to its significance.
- 6.11.41 Construction impacts – the scheme would realign the A30 as a dual carriageway approximately 85m south-east closer to the farmhouse, with an east-bound lay-by and west-bound lay-by located at this point. The proximity of the scheme to the asset would result in a minor adverse impact upon its significance. The access road from the A30 will be removed and be replaced by a new access road that will join the realigned A30 approximately 650m south-east of the asset. This will result in a lengthened and new access to the farmhouse from the realigned A30, compared to its original historic route, thereby resulting in a moderate adverse impact upon its significance. Approximately 135m south-west of the farmhouse, an attenuation pond is proposed, to be located behind mature dense vegetation. Although the vegetation may experience a small deciduous loss during the winter months, it is considered that the construction of the pond would constitute no change to the setting of the farmhouse, resulting in a neutral effect. Overall, the permanent construction significance of effect of the scheme upon the farmhouse is considered to be **Moderate Adverse**.
- 6.11.42 Temporary setting impacts – during construction, construction activity associated with the movement of plant, temporary lighting and resulting increased noise levels, would take place within the wider setting of the farmhouse. Although these works would be temporary and of limited duration, there would possibly be a minor adverse impact on the setting of this asset. This would result in a temporary **Slight Adverse** significance of effect on the significance of the farmhouse.

Chyverton Park (NHLE no. 1000512) and Lodge at approximately 700m east-south-east of Chyverton House, including associated and adjoining walls and gate-piers (NHLE no. 1136926)- Medium Value

- 6.11.43 Chyverton Park is a Grade II Registered Park and Garden dating from the late 18th century, located on an earlier site that is now in divided ownership, of which part is an equestrian centre. The site comprises:
- Chyverton House (Grade II* Listed Building, NHLE no. 1141551);
 - a Bridge at approximately 150m east of Chyverton House (Grade II* Listed Structure, NHLE no. 1328680);
 - Stables at approximately 30m south west of Chyverton House (Grade II Listed Structure, NHLE no. 1312561);
 - Chyverton Home Farmhouse (Grade II Listed Building, NHLE no. 1141552);
 - a Lodge at approximately 700m east-south-east of Chyverton House, including associated and adjoining walls and gate-piers (Grade II Listed Building, NHLE no. 1136926).;
 - gardens and pleasure grounds that lie north-east of the house, including a wooded area of ornamental trees (planted 1870s then enhanced in 1920s);
 - a late 18th century park that is today an area of mixed plantations; and
 - a kitchen garden enclosed by stone walls 3m in height.
- 6.11.44 The parkland that forms Chyverton Park is apparent as an area of dense mature trees with an embanked boundary in a more open setting. There is little evidence of a formal boundary; however, estate style fencing is present around the area of the Lodge, which was once the formal entrance, suggests that it may once have been present. The road network largely creates the boundary to the parkland; the majority of which have embanked sides that prevent views and create a sense of privacy and enclosure. The local road network to the east of the park is single track and relatively quiet, with little in the way of passing traffic. The A30, which lies approximately 65m south of the edge of the park, allows for only traffic leaving the eastbound carriageway to pass adjacent to the park, thereby creating a lack of dynamism in the immediate vicinity. The traffic is both visible and audibly present at this location.
- 6.11.45 Chyverton Park has a primarily historic and aesthetic value as an important 18th century parkland, with important elements that reflect its high status residential site. Its sense of privacy and enclosure contributes to the park's significance, along with the north-eastern views from the asset towards Chyverton Castle; albeit now obscured. Functioning as the formal entrance to the park, the significance of the Lodge is its intrinsic interest and group value with the associated and adjoining walls and gate-piers, and that it forms a visible boundary to the park. The asset is well preserved and part of an intact group. The Lodge's setting makes some contribution to its significance, although the views from the asset make little or no contribution to its significance.
- 6.11.46 Construction impacts – the scheme will realign the existing Zelah side road so that east-bound traffic can re-join with the A30 Zelah Bypass. The construction of the scheme will not affect the setting of the Lodge, therefore it is considered the scheme will have a no change impact on the asset, thereby resulting in a **Neutral** significance of effect.
- 6.11.47 Temporary setting impacts – the Lodge would be demarcated and protected during construction, however construction activity associated with the movement

of plant, temporary lighting and resulting increased noise levels, would have a major adverse temporary impact upon its significance. Construction activity will also have a temporary moderate adverse impact upon the significance of Chyverton Park, especially during the winter months with the loss of deciduous vegetation. Although these works would be temporary and of limited duration, these impacts would result in a **Large Adverse** significance of effect on the Lodge and a **Moderate Adverse** significance of effect on Chyverton Park.

Bowl barrow 130m south east of Penglaze (NHLE no. 1016887)- High Value

- 6.11.48 This asset includes a bowl barrow situated at the southern end of Newlyn Downs. The barrow survives as a low lying mound due to cultivation and ploughing. The barrow is still 0.5m in height and has a diameter of 23m despite the ploughing.
- 6.11.49 The barrow lies approximately 40m to the north of the A30, and views to the south from the barrow are impacted by this and the traffic upon it. The views to the west are foreshortened by the presence of a hedgerow, whilst to the east the barrow has views along the A30 towards Carland Cross, though rural aspects of the landscape still predominate. To the north, the view is largely rural, though punctuated by wind turbines at a distance of approximately 600m. The overall rural setting is considered to make a positive contribution to the significance of the barrow, while the presence of the A30 to the south detracts from its significance.
- 6.11.50 Construction impacts –The construction of the scheme would move the alignment of the A30 to the south at a distance of approximately 190m from the barrow; the existing A30 would remain in place as a local access road.
- 6.11.51 The distance of the scheme from this asset would result in a negligible change to its setting, resulting in a **Slight Adverse** significance of effect.
- 6.11.52 Temporary setting impacts – during construction, construction activity associated with the movement of plant, temporary lighting and resulting increased noise levels, would take place within the wider setting of the barrow. Although these works would be temporary and of limited duration, there would possibly be a minor adverse impact on the setting of this asset. This would result in a temporary **Slight Adverse** significance of effect.

Bowl barrow 500m north-west of Higher Ennis Farm (NHLE no. 1017049)

- 6.11.53 This Scheduled Monument comprises part of a Bronze Age barrow located on the western edge of a ridge south-west of Carland Cross. The southern part of the barrow has previously been partially segmented by the construction of the A30. The mound is approximately 0.7m in height and 22m in diameter, with a slight 2m wide depression on the ground, thought to represent the barrow's surrounding ditch. The barrow was possibly part of a cohesive group in the area, which may have formed a round barrow cemetery.
- 6.11.54 The barrow has open rural views to the north, which make a positive contribution to its significance; however, the presence of the A30 within the setting of the barrow slightly detracts from the significance of the asset.
- 6.11.55 Construction impacts – the scheme would realign the A30 approximately 115m southwards from the barrow, resulting in a minor beneficial impact on the significance of the asset. However, the existing A30 would remain as a declassified road for local traffic. The construction impact of the scheme is

therefore considered to be negligible, resulting in a **Slight Adverse** significance of effect.

- 6.11.56 Temporary setting impacts – during construction, construction activity associated with the movement of plant, temporary lighting and resulting increased noise levels, would take place within the wider setting of the barrow. Although these works would be temporary and of limited duration, there would possibly be a minor adverse impact on the setting of this asset. This would result in a temporary **Slight Adverse** significance of effect..

Two bowl barrows 290m and 375m north of Higher Ennis Farm (NHLE no. 1017050)- High Value

- 6.11.57 The Scheduled Monument includes two Bronze Age bowl barrows, situated on the summit of a ridge south-west of Carland Cross. The scheduling is divided into two separate areas of protection. The northern barrow has a mound 9m in diameter and 0.7m high, with an irregular profile: the south and west sides have been cut into, and the top is uneven, possibly due to stone robbing. The mound of the southern barrow is 21.5m in diameter and 1m high, with an irregular rounded profile and a flattened but uneven top. A depression 2m-3m wide, to the north west of the mound, is considered to be the remains of an outer ditch.
- 6.11.58 Both barrows are located within an area of heathland and bracken, and due to this vegetation are not visible on the ground. This heathland area is enclosed by Cornish hedge approximately 1m high to the east and south of the barrows, and is bounded by the A30 to the north. The Cornish hedge acts as a barrier between the barrows and the contemporary barrow cemetery at Carland Cross to the east; this diminishes the relationship between these barrows, but not to the extent that the relationship cannot be understood. This relationship contributes to the significance of the assets. The northernmost of the barrows has clear views over the landscape, though interrupted by the A30; the southern barrow has views across the landscape to the south. These views also contribute to the significance of the assets.
- 6.11.59 Construction impacts – the scheme would pass in cutting immediately to the north of the northernmost barrow, which would be retained in place by means of a retaining wall. The setting of the barrows to the east and south would not be affected by the scheme. Views to the north would be interrupted by the immediate proximity of the scheme, as well as new views along the scheme to the north-east and south-west. This would constitute a permanent major adverse impact upon an asset of high importance. The resultant significance of effect would be **Large Adverse**.
- 6.11.60 Temporary setting impacts – the barrows would be demarcated and protected during construction, however construction activity associated with the movement of plant, temporary lighting and resulting increased noise levels, would have a major adverse temporary impact upon their significance. Although these works would be temporary and of limited duration, these impacts would result in a **Large Adverse** significance of effect.

Round barrow cemetery 420m north-east of Higher Ennis Farm (NHLE no. 1020758)- High Value

- 6.11.61 This scheduled round barrow cemetery contains five barrows of bowl, bell and platform type. All the mounds are substantially intact despite modern ploughing

on a four of the five and evidence for disturbance at two. The northern most barrow has the remains of the enclosed ditch as well as Killigrew Barrow, which is a prominent bell barrow in the cemetery with a mound of 17m in diameter and 2.5m in height, and the enclosed ditch shown by a 3m wide depression in the ground.

- 6.11.62 This group of barrows lie on a hilltop within a field of improved pasture, bounded by the A30 to the north, the A39 to the east and by Cornish hedge to the west and south. The group has uninterrupted rural views to the south, with the view to the west foreshortened by the crest of the hill. Views to the north and east are currently impacted by a wind farm, by the A30, and by the A39. The A30 is also considered to constitute a physical barrier between the cemetery and one of its outlying barrows, Warren's Barrow (NHLE no. 1016888), directly north. The rural views to the south and west are considered to be the elements of setting that make a contribution to the significance of the cemetery. The A30, A39 and the wind farm are elements within the cemetery's setting that are considered to detract from the significance of the Bronze Age cemetery.
- 6.11.63 Construction impacts – the scheme would realign the A30 approximately 100m further to the north, remove the existing A30 and replace this with a greened access track, which will re-establish the physical and visual connection between the cemetery and Warren's Barrow (NHLE no. 1016888). However, the realigned A30 would remain visible to the north, though at a greater distance than at present, and the A39, lit Carland Cross roundabout and wind farm that currently detract from the significance of the cemetery, would remain in place. Overall, it considered that the removal of the existing A30 and the re-establishment of the connection with Warren's Barrow (NHLE no.1016888) would constitute a minor beneficial impact, resulting in a **Slight Beneficial** significance of effect.
- 6.11.64 Temporary setting impacts – the cemetery would be demarcated and protected during construction, however construction activity associated with the movement of plant, temporary lighting and resulting increased noise levels, would have a major adverse temporary impact upon its significance. Although these works would be temporary and of limited duration, these impacts would result in a **Large Adverse** significance of effect.

Milestone approx. 253m south-west of Carland Cross (NHLE no. 1394843)- High Value

- 6.11.65 This Grade II listed milestone is approximately 1m in height and comprises square on plan with a pyramidal head, made from granite stone and painted white. The milestone erected in the late 18th century and was one of a number of milestones altered in the late 19th century to add extra inscriptions when the construction of new roads was implemented by the local Council.
- 6.11.66 The presence of the A30 and its function as a traversable route creates the setting of the milestone and contributes to its significance of a historical marker.
- 6.11.67 Construction impacts – the scheme would remove the A30 from its current location, and realign the A30 on embankment to the north of the milestone, so the asset will be removed and re-located next to the realigned A30. The construction of the scheme will result in a major adverse impact on the removal of the milestone; however, the asset will be relocated next to the realigned road. The overall construction impact on the milestone will be minor adverse resulting in a **Slight Adverse** significance of effect.

- 6.11.68 Temporary setting impacts – during construction, the milestone will be removed from its current location, this will have a temporary major adverse impact on the asset resulting in a **Large Adverse** significance of effect. Following construction, the milestone will be re-sited and this temporary effect would cease, and revert to **Neutral**.

Warren's Barrow (NHLE no. 1016888)- High Value

- 6.11.69 The scheduled Warren's Barrow is the most northerly barrow of the scheduled barrow cemetery 420m north-east of Higher Ennis Farm (NHLE no. 1020758), located to the south. The barrow has a stepped appearance with a central mound about 10m in diameter and contains a large central depression thought to be the cause of an antiquarian excavation. The whole barrow stands at a maximum height of 3.6m and is 36m in diameter in total, with a possible surviving ditch underneath the ground surrounding the barrow. The barrow currently has modern material over the top of the barrow due to a temporary track.
- 6.11.70 The barrow is currently bound to the south by the A30, screened from traffic by a low earth bund and a mature mixed hedgerow. To the east of the barrow lies the A30/A39 Carland Cross roundabout, which is lit at night. Views towards the roundabout are also screened by vegetation, although this does not prevent light pollution intruding into the setting of the barrow during the hours of darkness. The presence of the roundabout, as well as the A30, within the setting of the barrow is considered to detract from the significance of this asset.
- 6.11.71 To the north of the barrow lies an access track to the nearby wind farm, which is unlit and used irregularly for servicing, however the overall outlook to the north is rural. From the barrow, there are clear views west and north-west towards Newlyn Downs, although this is interrupted by the presence of wind turbines. These rural views to the north, and particularly to the west, are considered to enhance the significance of the barrow.
- 6.11.72 Construction impacts – the scheme would remove the A30 from its current location, and realign the A30 on embankment to the north and west of Warren's Barrow, joining the northern roundabout of a new 'dumbbell interchange' (Carland Cross Grade Separated Junction) to the east of the barrow. The existing A30/A39 Carland Cross roundabout would be retained as the southern roundabout for this junction. The removal of the A30 would reunite the barrow with the cemetery to the south, and would reopen views in that direction. However, the realigned A30 would block the existing rural views to the north and west, with the new westbound 'on-slip' being located on a new embankment immediately to the east of the barrow. The overall scale of the scheme at this location would be greater than existing situation. While the reuniting of Warren's Barrow with the barrow cemetery to the south is a beneficial impact, it is considered that this is outweighed by substantial changes within the setting of the barrow to the west, north and east. These elements would detract from the significance of the barrow, a permanent moderate adverse impact, which would result in **Moderate Adverse** significance of effect.
- 6.11.73 Temporary setting impacts – during construction, two construction compounds (Barrows Junction Underbridge Compound) are proposed within the wider setting of the barrow. Located approximately 70m north-east and 130m north, the two areas of compounds have proposed activities that include welfare facilities, a site office, storage for piling, formwork and reinforcement materials, fabrication area

for bridge beams and a plant lay down area. The asset would be demarcated and protected during construction, however the site compounds and associated activities within the setting of the barrow is considered to constitute a major adverse temporary impact upon its significance. This would result in a **Large Adverse** significance of effect.

Prehistoric long barrow and four round barrows 580m and 750m south west of Mitchell Farm (NHLE no. 1017350)- High Value

- 6.11.74 This Scheduled Monument includes a long barrow and four round barrows within two areas of protection. Together they form the western part of a prehistoric ridge top barrow cemetery located high above the east of Carland Cross. Three of the four round barrows are situated close together, whereas the last barrow is around 150m to their west. They all however share a similar size (15-16m in diameter, 0.2-0.3m in height). The long barrow is located north-west of the western round barrow, the long barrow measures approximately 22m long, 13m across and 0.4m in height. The barrows are no longer visible above the ground.
- 6.11.75 The setting of all barrows within the group is largely rural, with open fields to the south and east. The A30 is located in a shallow cutting to the north and screened from the barrows by hedgerow. A service station and car dealership lie to the west, however these are considered to be at a sufficient distance not to detract from the overall setting of the barrows.
- 6.11.76 Construction impacts – the existing cutting for the A30 would be widened southwards (approximately 30m) as part of the scheme. It is considered this would have a minor permanent impact on the significance of the barrows, resulting in a **Slight Adverse** significance of effect.
- 6.11.77 Temporary setting impacts – during construction, the field containing the long barrow and western round barrow will be utilized as a main construction compound (Eastern Compound), in which proposed activities include: main office buildings and welfare facilities, car parking, material storage, satellite offices, fuel storage, washout pits for concrete and sweepers, waste segregation area and topsoil/subsoil storage. The assets would be demarcated and protected during construction; however, the site compound and associated activities within the setting of the barrows are considered to constitute a major adverse temporary impact upon their significance. This would result in a **Very Large Adverse** significance of effect. Following construction, the field would be returned to agricultural use, and this temporary effect would cease, and the effect would revert to **Neutral**.

Non-designated heritage assets

- 6.11.78 The scheme is located close alongside the existing A30 and at other locations within areas of fields. Where the scheme lies alongside the A30, disturbance related to the construction of the existing road, is likely to have reduced the potential for the presence of as-yet unknown archaeological remains. However, where the scheme requires excavation below the existing ground surface within previously undeveloped fields, including compound areas, there is a higher likelihood that archaeological remains may exist and direct impacts to these possible below ground features will occur; these impacts are likely to be major adverse.

- 6.11.79 Significant features identified include a Late Mesolithic/Early Neolithic flint scatter and Middle Neolithic pits and post circles at Ventonteague, potential Bronze Age barrows or cairns at Ennis Farm, Ventonteague, and Trevalso. Evidence of Bronze Age settlement, including a pit containing a whole Trevisker urn, was identified at Nancarrow and Marazanvose. Iron Age and/or Romano-British field ditches were identified at Tolgroggan, Nancarrow, and Marazanvose. Medieval ridge and furrow cultivation was identified at various locations along the route and field ditches of medieval date were found at Marazanvose and Nanteague, the former possibly representing a settlement. Medieval iron smelting was identified at Nancarrow. Post-medieval enclosure was identified in many of the former areas of downland along the route, and 19th century mining remains were found at Ennis Farm.
- 6.11.80 Archaeological remains that vary from low to medium value, however for the purpose of this assessment all archaeological remains are considered to be of medium value, and it is considered therefore, the impact of the construction of the scheme would be Moderate Adverse.

Operational effects

Cornwall and West Devon Mining Landscape World Heritage Site (NHLE no. 1000105)

- 6.11.81 The WHS comprises ten discrete but in the main, inter-visible landscapes, of which all encompass significant components. These are described above at 6.11.5 -7.
- 6.11.82 The scheme will remove the existing Chiverton roundabout and associated lighting, and an on/off slip road will replace it. The removal of existing lighting at the Chiverton roundabout would result in a slight beneficial impact on the significance of the WHS during the hours of darkness. Overall, the operational significance of effect of the scheme upon the WHS is considered to be **Slight Beneficial**.

Church of Saint Peter (NHLE no. 1141481), Schoolroom immediately east of Church of St Peter (NHLE no. 1141482) and Vicarage (NHLE no. 1328719) - Medium Value

- 6.11.83 The scheme will remove the existing Chiverton roundabout and associated lighting, and an on/off slip road will replace it. This slip road will be constructed a short distance north-east of the existing junction, as part of the new Chiverton Grade separated junction approximately 560m east of the assets. From the ridge at Four Barrows, the Chyverton Junction would be visible, and detract from that aspect of the significance of the church which is derived from being a focal point in the landscape¹². On this basis the operational significance of effect of the scheme upon the listed buildings is considered to be **Slight Adverse**.

Hillfort 250m south-west of Tresawsen (NHLE no. 1016445)

- 6.11.84 The scheduled Iron Age fort is situated on a gentle north-facing hill slope approximately 500m west of a springhead and is described at 6.11.36 above.

- 6.11.85 Operation impacts – the scheme would be aligned 150m further south than the current A30, although the existing road will remain in place for local access. Operational noise at this location will decrease slightly. Overall there would be no change, resulting in a **Neutral** effect.

Two bowl barrows 290m and 375m north of Higher Ennis Farm (NHLE no. 1017050)

- 6.11.86 The Scheduled Monument includes two Bronze Age bowl barrows, situated on the summit of a ridge south-west of Carland Cross is described at 6.11.58-59 above.

- 6.11.87 Operation impacts – the scheme will pass in cutting immediately to the north of the northernmost barrow resulting in higher operational noise levels. Overall the change would be minor resulting in a **Slight Adverse** significance of effect.

Round barrow cemetery 420m north-east of Higher Ennis Farm (NHLE no. 1020758)

- 6.11.88 This scheduled round barrow cemetery contains five barrows of bowl, bell and platform type is described above at 6.11.62-3.

- 6.11.89 Operation impacts – the scheme would be aligned 100m further north than the current A30, although the existing road will remain in place for local access. Operational noise at this location will decrease substantially. Overall there would be a minor change, resulting in a **Slight Beneficial** effect.

Warren's Barrow (NHLE no. 1016888)

- 6.11.90 The scheduled Warren's Barrow is the most northerly barrow of the scheduled barrow cemetery 420m north-east of Higher Ennis Farm (NHLE no. 1020758), located to the south and is described at 6.11.70.

- 6.11.91 Vehicle movements on the realigned A30 to the west and north of the barrow would be a clearly visible within the setting of the barrow, and noise levels would also increase, compared to the existing A30. This is considered to be a Minor Adverse impact, which would result in a **Slight Adverse** significance of effect.

6.12 Monitoring

- 6.12.1 Monitoring will be required during construction to ensure that mitigation measures are applied as agreed with the consultees. No monitoring will be required during operation.

6.13 Summary

- 6.13.1 The assessment of impacts of the scheme on the historic environment has identified a range of effects upon heritage assets (see Table 6-5). Direct impacts would occur on buried archaeological deposits resulting in a likely moderate adverse significance of effect. No designated assets would experience direct impacts, however the scheme would lead to some adverse effects upon their settings; in particular, construction compounds at the eastern and western ends of the scheme would result in significant adverse effects upon the scheduled barrow groups. The scheme would also result in beneficial effects such as reuniting Warrens Barrow with the barrow cemetery to the south, assets that are currently separated by the existing A30. The two listed milestones along the route, should

they need to be removed during construction, will be replaced as close to their original locations as possible.

Table 6-5 Summary Table

Receptor	Range of Impact
Construction Effects	
Scheduled Monuments	Impacts upon the setting of Bonze Age round barrows within the study area, of which some are beneficial and some adverse. The cohesiveness of the Carland Cross barrow cemetery would be restored through the removal of the existing A30, though with a permanent moderate adverse effect upon the northernmost barrow of the group, Warrens Barrow.
Listed Buildings	The majority of listed buildings within the study area are expected to experience negligible permanent impacts as a result of the Proposed Scheme, although at Nancarrow the Grade II listed building would experience a moderate adverse effect. Listed milestones that would potentially experience direct impacts would be carefully removed, stored and replaced close to their original locations upon completion of construction. Where impacts upon the setting of listed buildings would occur these would be mitigated through appropriate screening.
Buried archaeological remains	Buried archaeological remains within the footprint of the scheme and construction compounds would experience direct impacts that would be mitigated through a programme of archaeological recording (preservation by record).

References

Bewley, R. Understanding England's Historic Landscapes: An Aerial Perspective. Landscapes 2, 74–84, 2001

Chartered Institute for Archaeologists (CIfA), Standard and guidance for historic environment desk-based assessment, 2017

Chartered Institute for Archaeologists, Regulations for Code of Conduct, 2014

Cornwall and West Devon Mining Landscape World Heritage Site Management Plan 2013–2018. Cornish Mining World Heritage

Cornwall Archaeological Unit. A30 Carland Cross to Chiverton Roundabout, Cornwall. Written scheme of Investigations for archaeological evaluation trenching, 2017

Cornwall County Council, Cornwall Historic Landscape Character texts (2008). Historic Environment (Advice and Information), 2011

Cornwall County Council, Cornwall: A Landscape Assessment 1994 report. Landscape Design Associates in association with Cornwall Archaeological Unit, 1996

Department for Communities and Local Government, Planning Practice Guidance 18a: Conserving and enhancing the historic environment, Scoping and consultation, 2014

Department for Communities and Local Government National Planning Policy Framework, 2012

Department for Transport, National Policy Statement for National Networks, 2014

English Heritage, Seeing the History in the View, 2011

English Heritage, Conservation Principles, Policies and Guidance for the Sustainable Management of the Historic Environment, 2008

Field, D. Introductions to Heritage Assets Prehistoric Barrows and Burial Mounds, English Heritage, 2011

Fitzpatrick, A. (ed) Later Bronze Age and Iron Age, 117-143, in Webster, C.J. (ed) The Archaeology of South West England, South West Archaeological Research Framework Resource Assessment and Research Agenda. Somerset Heritage Service, 2008

Gater, J. and Tanner, J. Geophysical Survey Report, A30 Carland to Chiverton, Cornwall, 2017

Herring, P. Cornwall's Historic Landscape Presenting a method of historic landscape character assessment. Cornwall Archaeological Unit, 1998

Historic England, Managing Significance in Decision-Taking in the Historic Environment, Historic Environment Good Practice Advice in Planning: 2, 2015

Historic England, Historic Environment Good Practice Advice in Planning, Note 3, The Setting of Heritage Assets, 2015

Holbrook, N. (ed) Roman, 151-161, in Webster, C.J. (ed) The Archaeology of South West England, South West Archaeological Research Framework Resource Assessment and Research Agenda. Somerset Heritage Service, 2008

Hosfield, R., Straker, V. and Gardiner, P. Palaeolithic and Mesolithic, 23-62 in Webster, C.J. (ed.) The Archaeology of South West England, South West Archaeological Research

Framework Resource Assessment and Research Agenda. Somerset Heritage Service, 2008

Rippon, S. and Croft, B. Post-Conquest Medieval, 195-207, in Webster, C.J. (ed.) 2008, The Archaeology of South West England, South West Archaeological Research Framework Resource Assessment and Research Agenda. Somerset Heritage Service, 2008

Sharpe, A. Cornwall and West Devon Mining Landscape World Heritage Site Condition Survey. Cornwall Archaeological Unit, 2014

Schwartz, S.P. and Parker, R. Tin Mines and Miners of Lanner, The Heart of Cornish Tin. Halsgrove, 2012

Young, A. Cornwall and Isles of Scilly Mapping Project, English Heritage HEEP Project 2710, A Report for the National Mapping Programme. Cornwall County Council, 2007

Electronic Sources

A30, <http://www.cbrd.co.uk/motorway/a30> (accessed 12 October 2017)

An introduction history of transport in Cornwall,
<http://www.cornwallheritagetrust.org/discover/history-of-transport/> (accessed 11 October 2017)

British Geological Survey – Geology of Britain viewer,
<http://mapapps.bgs.ac.uk/geologyofbritain/home.html> (accessed 25 September 2017)

Busby, P. Garvinack Farm, Truro, Cornwall: Archaeological Watching Brief. Cotswold Archaeology, 2014,
<http://archaeologydataservice.ac.uk/archives/view/greylit/details.cfm?id=49415&det=y> (accessed 15 September 2017)

Chyverton Park, Truro, England, <http://www.parksandgardens.org/places-and-people/site/4709/description> (accessed 11 October 2017)

Chyverton Park, <http://www.chyvertonpark.com/> (accessed 11 October 2017)

Cornish Crosses – Old Cornwall Societies,
www.oldcornwall.net/download/i/mark.../Crosses%20-%20An%20Introduction.pdf (accessed 11 October 2017)

Cornish Mining. The Gwennap-Chacewater Mining District,
<http://www.cornishmining.net/sites/gwennap.htm> (accessed 11 October 2017)

Cornwall Heritage Trust, Cornwall 410-1066,
<http://www.cornwallheritagetrust.org/discover/cornwall-410-1066/> (accessed 11 October 2017)

Cornwall Turnpike Trusts, <http://www.turnpikes.org.uk/Turnpikes%20in%20Cornwall.htm> (accessed 12 October 2017)

Harrison, T. S. Carland Cross Wind Farm, 2012. Archaeological Services WYAS.
<http://archaeologydataservice.ac.uk/archives/view/greylit/details.cfm?id=29106&det=y> (accessed 15 September 2017)

Historic England, PastScape, <http://www.pastscape.org.uk/TextPage.aspx> (accessed 28 September 2017)

Milestones & Waymarkers, <http://www.milestonesociety.co.uk/aboutmilestones.html>
(accessed 12 October 2017)

'Roads', in A History of the County of Wiltshire: Volume 4, ed. Elizabeth Crittall (London, 1959), pp. 254-271. British History Online <http://www.british-history.ac.uk/vch/wilts/vol4/pp254-271> (accessed 12 October 2017)

Turnpike Roads in England, <http://www.turnpikes.org.uk/The%20Turnpike%20Roads.htm>
(accessed 12 October 2017)

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