



Craig y Perthi Solar Farm

Environmental Statement

Chapter 08: Cultural Heritage

Prepared for



JBM Solar Projects 25 Limited

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CONTENTS

8.0	CULTURAL HERITAGE	1
8.1	Introduction	1
8.2	Methodology and Scope of Assessment	1
8.3	Baseline	11
8.4	Assessment of Effects	15
8.5	Cumulative	25
8.6	Mitigation	26
8.7	Residual Effects and Conclusion.....	27

TABLES

Table 8.1	Importance / value criteria of historic assets.....	8
Table 8.2	Impact Magnitude Criteria	9
Table 8.3	Assessment Matrix	10

FIGURES (ES Volume 3)

- Figure 8.1 – Designated Heritage Assets**
- Figure 8.2 – Non-Designated Heritage Assets**

APPENDICES (ES Volume 4)

- Appendix 8.1 – Historic Environment Desk-Based Assessment**
- Appendix 8.2 – ASIDOHL Report**
- Appendix 8.3 – Archaeological Geophysical Survey**



8.0 CULTURAL HERITAGE

8.1 Introduction

8.1.1 This chapter of the Environmental Statement (ES) assesses the effects of the Proposed Development on all aspects of cultural heritage, including buried archaeological remains, historic buildings and areas, and the historic landscape. In line with the terminology used in Planning Policy Wales (PPW) (Edition 11, Welsh Government, 2021)¹, these features are referred to as 'historic assets'.

8.1.2 The assessment addresses short-term construction effects as well as any longer-term effects resulting from the operation and maintenance of the Proposed Development. There would be no effects with regard to historic assets arising from the decommissioning of the Proposed Development, therefore this is not considered further within this chapter.

8.1.3 The assessment focuses on historic assets within the Site and its immediate vicinity. In addition, it considers designated historic assets of the highest level of significance further away from the Site, where it is considered that the Proposed Development may result in a change to their setting.

8.2 Methodology and Scope of Assessment

Legislation, Policy and Guidance

8.2.1 A detailed appraisal of the relevant legislation, policy and guidance regarding cultural heritage is presented with Appendix 8.1 of the ES.

8.2.2 Key legislation includes the following:

- i) Ancient Monuments and Archaeological Areas Act (1979) amended by the National Heritage Acts (1983 and 2002).
- ii) Planning (Listed Buildings and Conservation Areas) Act (1990).
- iii) Historic Environment (Wales) Act (2016).

¹ *Planning Policy Wales Edition 11 (2021) Welsh Government*

8.2.3 National policy principally comprises PPW Edition 11 in which Chapter 6 (Distinctive and Natural Places) includes a section (6.1) on The Historic Environment. Welsh Government objectives regarding the historic environment are defined in paragraph 6.1.6 of PPW Edition 11 and seek to:

- “- protect the Outstanding Universal Value of the World Heritage Sites;*
- conserve archaeological remains, both for their own sake and for their role in education, leisure and the economy;*
- safeguard the character of historic buildings and manage change so that their special architectural and historic interest is preserved;*
- preserve or enhance the character or appearance of conservation areas, whilst at the same time helping them remain vibrant and prosperous;*
- preserve the special interest of sites on the register of historic parks and gardens;
and*
- protect areas on the register of historic landscapes in Wales.”*

8.2.4 Local planning policy is set out in the Newport Local Development Plan (LDP).² Objective 5: Conservation of the Built Environment is:

“To ensure that all development or use of land does not adversely affect, and seeks to preserve or enhance, the quality of the historic and built environment”, whilst Strategic Policy SP9 states ‘The conservation, enhancement and management of recognised sites within the natural, historic and built environment will be sought in all proposals.”

8.2.5 Topic-specific policies in the LDP that are relevant to this chapter include:

- i) Policy CE4 – Historic Landscapes, Parks, Gardens and Battlefields.
- ii) Policy CE5 – Locally Listed Buildings and Sites.
- iii) Policy CE6 – Archaeology.
- iv) Policy CE7 – Conservation Areas.

² Newport Local Development Plan 2011-26 (2015) Newport City Council

- 8.2.6 Newport City Council has prepared a Supplementary Planning Guidance (SPG) document ‘Archaeology and Archaeologically Sensitive Areas’, which was adopted in August 2015. The SPG provides guidance on how the assessment of archaeological potential should be incorporated into the decision-making process.
- 8.2.7 Detailed guidance on the implementation of the policies on planning and cultural heritage is provided in Technical Advice Note 24 (TAN24)³. This includes specific guidance on how each aspect of the historic environment should be considered and protected within the planning process, but also contains the following statement (paragraph 1.9):
- “Changes in the historic environment are inevitable. This can be the result of decay caused by natural processes, damage caused by wear and tear of use, and the need to respond to social, cultural, economic and technological changes.”* (paragraph 1.8)
- 8.2.8 In a section regarding climate change, the TAN identifies that *‘The public benefit of taking action to reduce carbon emissions, or to adapt to the impact of climate change, should be weighed against any harm to the significance of historic assets.’* (paragraph 1.9)
- 8.2.9 Specific guidance on how to identify and appraise the values associated with historic assets is presented in the Conservation Principles⁴ document published by the Welsh Assembly Government (WAG). This document provides guidance on understanding heritage value and advises how to assess heritage significance.
- 8.2.10 According to the guidance published in Conservation Principles, heritage value falls into four inter-related groups:
- i) Evidential value – the potential of a place to yield evidence about past human activity.
 - ii) Historical value – the ways in which past people, events and aspects of life can be connected through a place to the present. This value tends to be illustrative

³ Welsh Government (2017) Technical Advice Note 24: The Historic Environment

⁴ WAG (2011) Conservation Principles for the Sustainable Management of the Historic Environment in Wales



(providing insights into past communities and their activities) or associative (association with a notable family, person, event or movement).

- iii) Aesthetic value – the ways in which people draw sensory and intellectual stimulation from a place.
- iv) Communal value – the meanings of a place for the people who relate to it, or for whom it figures in their collective experience or memory.

8.2.11 In the Conservation Principles document, setting is defined as “*The surroundings in which an historic asset is experienced, its local context, embracing present and past relationships to the adjacent landscape.*” This definition has been updated thus in Annex D of TAN24:

“The setting of a historic asset includes the surroundings in which it is understood, experienced and appreciated, embracing present and past relationships to the surrounding landscape. Its extent is not fixed and may change as the asset and its surroundings evolve. Setting is not itself a historic asset, though land within a setting may contain other historic assets.”

8.2.12 The definition is repeated in guidance⁵ from Cadw regarding the issue of the settings of historic assets in Wales, which in summary makes the following points:

- i) Setting usually extends beyond the property boundary of an individual historic asset.
- ii) Intangible factors such as function, sensory perceptions or historical, artistic, literary and scenic associations can be important in understanding settings, as well as physical elements within the surroundings of the asset.
- iii) When development is proposed there is a need to assess the historic assets that may be affected and understand how their settings contribute to the significance of these assets.

8.2.13 The Cadw guidance continues to provide advice on a staged approach to decision-taking by outlining a four-stage approach:

⁵ Cadw (2017) *Settings of Historic Assets in Wales*



- i) Identify which historic assets and their settings could be affected by a proposed development.
 - ii) Define and analyse the setting of each historic asset and assess whether, how and to what degree the setting makes a contribution to the significance of the asset.
 - iii) Evaluate the effects of the proposed development, whether beneficial or harmful, on that significance.
 - iv) Consider options to mitigate or improve potential impacts on that significance.
- 8.2.14 Although assessments of changes within the settings of historic assets can involve non-visual issues, such as noise, it is more usually the visual aspects of a development that form the major part of the assessment.
- 8.2.15 The existence of direct lines of sight between the historic asset and the proposed development is an important factor in judging the visual impact of the development. However, it is possible for changes within the setting to occur even when such a relationship does not exist. For example, views towards a listed building from a frequently visited location, such as a park or a public footpath, may be affected by the presence of a larger development, even if the development is not directly visible from the building itself.
- 8.2.16 The assessment then needs to balance the impact of these various considerations on the basis of informed professional judgment. Assessment of visual impacts can be undertaken in accordance with the procedures expressed in GLVIA3.⁶ If there is the potential for changes within the setting of historic assets due to noise or other impacts than these would be considered using appropriate procedures.
- 8.2.17 There should also be consideration of the sensitivity to change of the setting of a historic asset. This requires examination of the current setting and identifying the elements that contribute to the significance of the asset, the elements that make a neutral contribution to the significance of the asset, and the elements that detract from the significance of the asset.

⁶ *Guidelines for Landscape and Visual Impact Assessment (3rd Edition) (2013), Landscape Institute*



8.2.18 Additional guidance has subsequently been published by Cadw with regard to heritage impact assessment,⁷ whilst further guidance⁸ on this issue has recently been produced jointly by a number of organisations working in the sector.

Assessment Methodology

8.2.19 The assessment of impacts and effects has been undertaken following the collation of information regarding the baseline environment for cultural heritage, including a number of site visits to review the current settings of selected designated historic assets.

8.2.20 Based on a matrix approach that measures asset value/importance alongside impact magnitude; professional judgement has been used to assess the level of effect of the Proposed Development on each identified historic asset.

8.2.21 The types of historic asset considered include:

- i) Nationally designated historic assets:
 - a) Scheduled Monuments.
 - b) Listed buildings.
 - c) A registered Landscape of Outstanding Historic Interest.
- ii) Undesignated historic assets:
 - d) Buried archaeological remains and other sites recorded on the regional Historic Environment Record (HER).
 - e) Potential buried archaeological remains recorded as anomalies by the geophysical survey.
 - f) Sites of former buildings or other features recorded on historic maps of the area or in primary and secondary documentary sources.
- iii) The overall historic landscape.

8.2.22 Historic assets may be affected during the construction and operation of the Proposed Development in several ways, principally:

⁷ Cadw (2017) *Heritage Impact Assessment in Wales*

⁸ IEMA, IHBC and ClfA (2021) *Principles of Cultural Heritage Impact Assessment*



- i) Physical loss of, or damage to, archaeological remains, historic buildings and historic landscapes.
- ii) Changes within the settings of heritage assets resulting in loss of asset significance.
- iii) Effects on the quality and integrity of the historic landscape.

Baseline Methodology

8.2.23 Data sources examined as part of the baseline study include:

- i) The regional HER held by the Glamorgan Gwent Archaeological Trust (GGAT).
- ii) The Cadw on-line database of designated historic assets - Cof Cymru.
- iii) Aerial photographs held by the Royal Commission on the Ancient and Historical Monuments of Wales (RCAHMW).
- iv) Aerial photographs held by the Welsh Government Aerial Photographs Unit.
- v) On-line historic maps including Tithe Maps and early Ordnance Survey (OS) maps.
- vi) The on-line database established for the Landscape Assessment and Decision Making Process (LANDMAP).
- vii) The results of a purposive archaeological geophysical survey undertaken across most of the Site.

8.2.24 Further information on these data sources is provided within Appendix 8.1: Historic Environment Desk-based Assessment.

Study Area

8.2.25 The study area for designated historic assets is a buffer zone extending 3 km from the Site. Designated historic assets beyond 3 km that have a designed view towards the Site or a particular 'iconic' status were also explored, specifically in relation to where the Proposed Development could result in a significant change to setting. However, no such designated assets were identified. The study area for non-designated historic assets is a buffer zone extending 1 km from the Site.



Assessment of Importance

- 8.2.26 To reach an understanding of the level of any effect that the Proposed Development may have on a heritage asset, it is necessary to understand the importance or value of that asset.
- 8.2.27 Table 8.1 presents the definitions of importance or value which are applied to historic assets for the purposes of this assessment.

Table 8.1 Importance / value criteria of historic assets

Importance	Typical Descriptors
Very High	World Heritage Sites, including nominated sites and structures or landscapes with coherence, time-depth or other critical factor(s) inscribed as being of universal value.
High	Scheduled Monuments (including proposed sites). Undesignated historic assets of schedulable quality and importance. Grade I and II* listed buildings. Other listed buildings that can be shown to have a level of importance not adequately reflected in their listing. Undesignated structures of clear national importance. Grade I and II* registered parks and gardens of historic interest. Other registered parks and gardens of historic interest that can be shown to have a level of importance not adequately reflected in their listing. Undesignated parks and gardens of clear national importance. Conservation Areas which contain several Grade I and II* listed buildings along with other listed and unlisted historic buildings. Designated historic landscapes of outstanding or special interest. Undesignated historic landscapes of clear national importance. Well-preserved historic landscapes with exceptional coherence, time-depth or other critical factor(s).
Medium	Designated or undesignated historic assets that contribute to regional research objectives. Grade II listed buildings. Unlisted buildings that can be shown to have exceptional qualities. Grade II registered parks and gardens of historic interest. Undesignated parks and gardens of historic interest of regional importance. Conservation Areas which contain one or two Grade I and II* listed buildings, along with other listed and non-listed historic buildings. Undesignated historic landscapes of clear regional importance. Averagely well-preserved historic landscapes with reasonable coherence, time-depth or other critical factor(s).
Low	Undesignated historic assets of local importance. Locally listed buildings. Unlisted historic buildings of local importance. Robust undesignated historic landscapes. Historic landscapes with importance to local interest groups.
Negligible	Undesignated historic assets with little or no surviving archaeological interest. Buildings or no architectural or historic note. Landscapes with little or no historic interest.
Unknown	The importance of the historic asset has not been ascertained.

Magnitude of Impact

- 8.2.28 The magnitude of an impact is assessed without reference to the sensitivity or value of the historic asset. In terms of the judgement of the magnitude of impact, this is based on the principle that preservation of the significance of the asset is preferred, and that total loss of significance (including loss resulting from substantial change within the setting) of the asset is least preferred.
- 8.2.29 Regarding buried archaeological remains, it is not always possible to assess the physical impact in terms of percentage loss, and therefore it can be important in such cases to assess the capacity of the historic asset to retain its character and significance following any impact. Impacts resulting from changes within the setting of buried archaeological remains may also be difficult to assess as they do not involve physical loss of the asset.
- 8.2.30 Table 8.2 presents the criteria used to assess the magnitude of impact on historic assets.

Table 8.2 Impact Magnitude Criteria

Magnitude	Typical Descriptors
High	Change to most or all key elements of the historic asset, or changes within the setting of the asset, such that the significance of the asset is lost or substantially harmed (Adverse).
	Change to most or all key elements of the historic asset, or changes within the setting of the asset, such that the significance of the asset is substantially enhanced (Beneficial).
Medium	Change to elements of the historic asset, or changes within the setting of the asset, such that the significance of the asset is clearly harmed (Adverse).
	Change to elements of the historic asset, or changes within the setting of the asset, such that the significance of the asset is clearly enhanced (Beneficial).
Low	Change to elements of the historic asset, or changes within the setting of the asset, such that the significance of the asset is slightly harmed (Adverse).
	Change to elements of the historic asset, or changes within the setting of the asset, such that the significance of the asset is slightly enhanced (Beneficial).
Negligible	Change to elements of the historic asset, or changes within the setting of the asset, such that the significance of the asset is barely affected (Adverse).
	Change to elements of the historic asset, or changes within the setting of the asset, such that the significance of the asset is barely affected (Beneficial).
No Change	No changes to elements of the historic asset, or within the setting of the asset.

Level of Effect

- 8.2.31 The level of the effect has been determined by considering the importance or value of the receptor and the magnitude of the impact. The method employed for this



assessment is presented in Table 8.3. Where a range of levels are presented, the final assessment for each effect is based upon expert judgement.

8.2.32 In all cases, the evaluation of receptor importance or value, impact magnitude and level of effect has been informed by professional judgement and is underpinned by narrative to explain the conclusions reached.

Table 8.3 Assessment Matrix

Importance or Value	Magnitude of Impact				
	No change	Negligible	Low	Medium	High
Unknown	No change	Unknown	Unknown	Unknown	Unknown
Negligible	No change	Negligible	Negligible	Negligible or Minor	Minor
Low	No change	Negligible	Negligible or Minor	Minor or Moderate	Minor or Moderate
Medium	No change	Negligible or Minor	Minor	Moderate	Moderate or Major
High	No change	Minor	Moderate	Moderate or Major	Major or Substantial
Very High	No change	Minor or Moderate	Moderate or Major	Major or Substantial	Substantial

8.2.33 Where a choice of level of effect is presented, the final assessment for each effect is based upon expert judgement.

8.2.34 For the purpose of this assessment, any effects with a level of minor or less are not considered to be significant in the context of the EIA Regulations. Effects should be considered adverse unless explicitly stated otherwise.

Limitations

8.2.35 All readily available data required for the assessment has been acquired and examined.

8.2.36 No intrusive archaeological fieldwork has yet been undertaken in connection with the Proposed Development, as it is considered that the information derived from the desk-based assessment and the geophysical survey provide sufficient information to form the basis of the assessment for EIA purposes.



Consultation

- 8.2.37 Consultation has been undertaken with GGAT regarding the methodology for the collection and presentation of baseline data. A Specification for a Historic Environment Desk-based Assessment was submitted to, and agreed by, GGAT. This Desk-based Assessment comprises Appendix 8.1 of the ES.
- 8.2.38 Further consultation has been undertaken with GGAT regarding the scope and extent of a programme of archaeological fieldwork. This programme has now been agreed with GGAT.
- 8.2.39 Consultation has been undertaken with Cadw regarding the requirement for a formal Assessment of the Significance of the Impact of Development on Historic Landscape (ASIDOHL) areas on the Register of Landscapes of Historic Interest in Wales. It was agreed that this formal assessment was required, and the report is presented as Appendix 8.2 of the ES.
- 8.2.40 Additional consultation was undertaken with Cadw regarding the designation status of Llanwern Park. This was formerly registered at Grade II on the non-statutory Register of Landscapes Parks and Gardens of Special Historic Interest in Wales. However, the statutory Register of Historic Parks and Gardens in Wales came into force in February 2022 and with regard to historic parks and gardens this replaces the non-statutory register. Llanwern Park is not included on the statutory Register and is therefore a non-designated historic asset rather than a designated historic asset.

8.3 Baseline

- 8.3.1 A detailed appraisal of the cultural heritage baseline is presented with Appendix 8.1 ES, with a summary presented below. The locations of identified historic assets within the defined study areas are shown on Figure 8.1 Designated Historic Assets and Figure 8.2 Non-Designated Historic Assets; with reference numbers taken from the National Monuments Record for Wales (for designated historic assets) and the regional HER (for non-designated historic assets).



Designated Historic Assets

- 8.3.2 There are no designated historic assets within the Site. A Scheduled Monument known as Bishton Castle is located between the eastern and central parts of the Site and this comprises the location of a former medieval castle or fortified house of medieval date (MM128). The castle site includes two possibly rectangular building platforms set within a partial enclosure.
- 8.3.3 Approximately 600 m to the east of the eastern part of the Site is a Scheduled Monument known as Wilcrick Hill Camp (MM127). This is a substantial hillfort of probable Iron Age date with the defences constructed around the upper part of a natural hill. Just to the northwest of Wilcrick Hill Camp is a further Scheduled Monument, comprising earthworks representing four rectangular enclosures with scarped terraces and low banks (MM202). This is a deserted village of probable medieval date.
- 8.3.4 The Grade II* listed Church of St Mary, Llanwern is located just to the west of the western part of the Site (2926). This aisleless, single-cell church was probably built in the 14th century and enlarged in the 15th century. A stone cross base in the churchyard is a Scheduled Monument (MM234). At Barn Farm to the south of the church is a Grade II listed barn (17078), whilst to the north-west is a Grade II listed house known as Great Milton (3064).
- 8.3.5 Close to the south-eastern edge of the central part of the Site is the Grade II listed Church of St Cadwaladr, Bishton (2907). This includes some elements of 14th and 15th century date with major restoration in the 19th century.
- 8.3.6 There are several other designated historic assets located within the defined study area and to the north of the M4 motorway, including the Grade II* listed Pencoed Castle (2904) with associated Grade II listed buildings and a Grade II registered historic park and garden, also the Grade II listed Church of St Martin at Llanmartin (2921) and several Scheduled Monuments (MM154; MM188; MM201; MM298; MM774; MM058; MM175; MM042; MM346; MM253 and MM049).
- 8.3.7 Two further Scheduled Monuments are located just to the south of the M4 motorway and within 3 km of the proposal site. These comprise a Bronze Age round barrow south of Stock Wood (MM170) and a medieval earthen motte and enclosure at



Langstone (MM059). One Scheduled Monument is located to the south of the proposal site and within the 3 km study area. This is a medieval moated site just to the east of Grangefield Farm (MM205) and was one of the monastic granges of Tintern Abbey.

- 8.3.8 The Site is located on the northern edge of the reclaimed former wetlands known as the Gwent Levels. A large proportion of the Gwent Levels has been placed on the Register of Landscapes of Outstanding Historic Interest in Wales. The registered historic landscape of the Gwent Levels is subdivided into a total of 21 defined Historic Landscape Character Areas (HLCAs), each of which has been subject to detailed classification and description. The boundary of the registered historic landscape is to the south of the Site, south of the Llanwern steelworks and A4810 road, therefore the Proposed Development is located well outside of this designation. However, land within the eastern part of the Site is within one of the defined HLCAs (HLCA009 Green Moor) that are a constituent of the registered historic landscape.

Non-designated Historic Assets

- 8.3.9 The Newport City Council SPG identifies 'The Levels' as one of the Archaeological Sensitive Areas (ASA) within Newport. This ASA covers the Gwent Levels and land within the southern part of the Site.
- 8.3.10 The archaeological potential of the northern section of the ASA was confirmed through a programme of archaeological investigation carried out in connection with the construction of the Gwent Europark immediately south of the railway. In one part of the Gwent Europark site were the remains of three rectangular buildings of Iron Age date (08651g), whilst further to the south-east the investigation uncovered a stone wall along with timber revetting and a cluster of oak piles (04705g). This was interpreted as a jetty or landing stage, or possibly the remains of a bridge. Adjacent to the structure was a well-preserved timber (oak) boat that has been dated to the Roman period (04703g), known as the Barland's Farm Boat.
- 8.3.11 Other archaeological features found at the Gwent Europark site include peat extraction pits of probable pre-Roman date (09019g; 11548g), a Roman brushwood structure (09172g), trackways and roads of Roman date (07553g), a pathway, platform and enclosure suggesting the presence of a medieval slaughterhouse (09026g; 09027g; 09028g), and a post-medieval stone structure (07554g).



- 8.3.12 Worked flints of prehistoric date have been found at a couple of locations close to the Site (03716g; 02492g), whilst to the north of the M4 motorway is the location of a possible Neolithic long cairn (09148g) along with the findspot of a Bronze Age axe (04361g) and a potential Iron Age burial (09479g).
- 8.3.13 In several locations cropmarks and/or earthworks recorded on aerial photographs indicate the presence of enclosures that could be of later prehistoric or Roman date (11826g; 08572g; 09147g; 08946g; 02458g, 11825g). One example (07730g) is located within the eastern part of the Site; this is a small subrectangular enclosure just c. 10 m across.
- 8.3.14 Roman activity is known at several locations within the defined study area in addition to the material described above at the Gwent Europark site. On the higher ground to the north of the western block is a possible Roman fort (09228g). Further to the south a scatter of Roman tile fragments has been recorded (03717g), whilst close to Llanwern Golf Club is the site of a Roman cemetery (05814g) and also the findspot of a 1st century coin (00240g). A Roman metal object in the shape of a dolphin was found towards the eastern edge of the study area (06175g).
- 8.3.15 Medieval activity within the vicinity of the Site includes a possible settlement close to the church at Llanwern (02493g; 09406g) that may have been removed as a result of the establishment of Llanwern Park in the 18th century.
- 8.3.16 Llanwern Park developed around an older estate that was purchased by Lewis Van in around 1630. A house was built in about 1760 for Charles Van, probably replacing an earlier house of late 17th century date. The estate passed to Sir Robert Salusbury following his marriage into the Van family in 1780 and the park was established for either Charles Van or Sir Robert Salusbury in the late 18th century.
- 8.3.17 An archaeological geophysical survey has been undertaken across most the Site. The report on the results of this survey is presented as Appendix 8.3. Geophysical anomalies representing features of potential archaeological interest were identified in several parts of the Site, most notably within the south-western part of the central area where the anomalies indicate the presence of the remains of several small irregular enclosures on the lower slopes just to the north of the unclassified road leading from Bishton to Llanwern. These appear comparable in form to enclosures of later Iron Age and Roman date which were identified in a similar topographic

location further to the east as part of the investigations for the M4 Corridor around Newport (M4CaN) highways scheme.

8.4 Assessment of Effects

Embedded Mitigation

- 8.4.1 Embedded mitigation for cultural heritage is principally related to the location and design of the Proposed Development. All existing field boundaries would be retained and, in some locations, would be strengthened through additional planting. The placement of solar arrays would be offset from these boundaries to protect their integrity. This results in impacts on the character of the historic landscape that are reduced and are fully reversible following the decommissioning of the Proposed Development.
- 8.4.2 The development boundary has been pulled back to the east of the Grade II* listed Church of St Mary (Llanwern) and woodland planting is proposed here to extend the existing vegetation south of the road and fully screen any views from the church and churchyard towards the Proposed Development. This would reduce any impacts on the church and on the scheduled stone cross base in the churchyard resulting from change within their setting.
- 8.4.3 At the Grade II listed Church of St Cadwaladr (Bishton), the land to the west of the church would not be developed but would instead be seeded as a wildflower meadow for biodiversity enhancement. This would ensure that views towards the church from the Bishton-Llanwern road remain unchanged. Buffer zones of wildflower planting would be established to the north and north-east of the church; these measures would reduce any impacts on the church resulting from change within its setting.
- 8.4.4 The design elements described above are shown on the Indicative Landscape Masterplan (Figure 4.1 of the ES).
- 8.4.5 The geophysical survey (Appendix 8.3) identified areas where significant archaeological remains are likely to be present within the Site (see paragraph 8.3.17 above). Within these areas a 'no-dig' approach construction would apply such that the topsoil (and subsoil if present) would not be removed and the panels would be placed on concrete 'shoes' or similar to avoid ground penetration. Cables would be hung in troughs rather than placed within trenches.

Construction Phase

- 8.4.6 Construction impacts resulting from visual change and noise to the settings of historic assets are likely to be the same as those occurring during operation. Therefore, impacts resulting from visual change are set out in the assessment of Operational Phase effects below.
- 8.4.7 It is acknowledged that construction noise is likely to exceed operational noise for limited key activities within the construction programme, but this would be temporary and for very short periods. In addition, standard best practice measures would be implemented to ensure that construction noise impacts would be controlled and managed where practicable, to avoid significant adverse effects.
- 8.4.8 There may also be some limited visibility of taller construction equipment on the Site in views towards or across a small number of designated historic assets, but this would only occur over short periods of time and is very unlikely to impact on the ability to understand and appreciate the significance of these assets.
- 8.4.9 Construction impacts on the character of the historic landscape are considered to be the same as or less than those occurring during operation and are therefore set out in the assessment of Operational Phase effects below.

Buried Archaeological Remains

- 8.4.10 There is potential for buried archaeological remains to be present within all parts of the Site. One possible small enclosure is recorded on the HER in the eastern part of the Site, and the geophysical survey recorded anomalies of possible archaeological interest in several locations. However, the nature, extent and date of any buried archaeological remains is yet to be confirmed through intrusive site investigation. Based on the current information it is considered that the importance of such remains is likely to be up to High.
- 8.4.11 Impacts on buried archaeological remains can occur through the installation of the solar arrays and the excavation of trenches for cables, also the construction of the substation and the establishment of access tracks.
- 8.4.12 For those areas within the Site where the geophysical survey has identified the presence of possible buried archaeological remains whose importance could be up



to High, the mitigation would take the form of avoidance of impact through the use of appropriate 'no-dig' methodologies for construction as set out above (paragraph 8.4.5). In these areas therefore the level of effect would be No Change.

- 8.4.13 In other areas within the Site the desk-based assessment and geophysical survey has identified possible buried archaeological remains considered to be up to Low importance. Without further mitigation the magnitude of impact on these buried archaeological remains could be up to Medium and would be permanent. The subsequent level of effect would be up to Moderate Adverse, which is significant in EIA terms.

Deposits of palaeoenvironmental interest

- 8.4.14 Those areas within the southern part of the Site that are located in the reclaimed former wetlands of the Gwent Levels, have the potential to contain deposits of palaeoenvironmental interest such as peats or similar organic material. It is considered that the importance of such remains is likely to be up to Medium.
- 8.4.15 Depending on the depth below ground of such deposits, they may be impacted through the installation of the solar arrays and the excavation of trenches for cables, also the construction of the substation and the establishment of access tracks. It is unlikely that the construction and operation of the proposed development would cause any desiccation of waterlogged deposits as no element of the Proposed Development would affect groundwater flows.
- 8.4.16 Any deposits of palaeoenvironmental interest are likely to be quite extensive whereas the potential impact zones are relatively limited, so without further mitigation the magnitude of impact has been assessed as Low and would be permanent. The subsequent level of effect would be Minor Adverse, which is not significant in EIA terms.



Operation Effects

Operational Phase

Bishton Castle

- 8.4.17 The site of a former medieval castle or fortified house, and the immediate area around these remains, is a Scheduled Monument and is referred to as Bishton Castle. Very little can be discerned at ground level other than a few indistinct earthworks. Its location here may relate to the need to defend or at least observe the valley within which the settlement of Bishton is located, and which would historically have been a route providing access between the coast to the south and the higher ground to the north.
- 8.4.18 The castle site is immediately east of Castle Farm, thus its immediate setting includes the adjacent farm buildings and a new access road leading to the farm from Bishton Road. There is also a substantial new farm building just to the north, on the opposite side of Bishton Road. However, the slightly elevated location of the monument means that there are clear views to the south and south-east, and glimpsed views to the south-west and north-east. The view to the east is largely screened by the existing mature vegetation along Bishton Road, particularly on the western side of the road.
- 8.4.19 These clear and glimpsed views take in a wider setting that contributes towards the significance of the Scheduled Monument in that the views may well have played an important role in the choice of location of the castle and also its function.
- 8.4.20 The Proposed Development would be visible in the foreground in the clear view to the south-east and the glimpsed views to the south-west and north-east but would not inhibit any of the views due to the low height of the elements of the Proposed Development. The proposed additional planting within the Site would also not block any of these views.
- 8.4.21 As a Scheduled Monument the importance of the site of Bishton Castle is High. The magnitude of impact has been assessed as Negligible, with the subsequent level of effect being Minor Adverse which is not significant in EIA terms. The effect would be time-limited and fully reversible.



Wilcrick Hill Camp

- 8.4.22 This is a Scheduled Monument comprising a multi-vallate hillfort of probable Iron Age date with the defences constructed around the upper part of a natural hill. It is heavily wooded but from the outer edge there are extensive views to the south, south-west and west. When initially constructed there may have been intervisibility with other contemporary hillforts, particularly one at Tredegar approximately 12 km to the west, but this is difficult to confirm given the amount of modern development within the intervening land. The presence of the woodland within the hillfort means that the form of the monument cannot really be discerned in views towards it from any direction, but its elevated location means that it is very visible in such views.
- 8.4.23 Elements of the Proposed Development would be visible in views from the edge of the hillfort towards the south-west and west. These elements would be at a lower elevation than the position of the viewer, so the longer distance views across the Gwent Levels and then over the Severn Estuary to the northern coastline of Somerset and Devon, would not be impeded in any way. The short to medium views incorporating the Proposed Development already include extensive modern development, including the Llanwern Steelworks, and the large buildings and wind turbines at the Gwent Europark.
- 8.4.24 In views towards the hillfort from the west and south-west the Proposed Development would be seen in the foreground with the monument on the higher ground beyond. These views already include modern development including the AB InBev UK brewery, which is less than 200 m east of the hillfort and which appears to sit adjacent to it in many views from the west and south-west, also the tall H-towers of the Prince of Wales Bridge which carries the M4 motorway over the Severn Estuary.
- 8.4.25 As a Scheduled Monument the importance of Wilcrick Hill Camp is High. The magnitude of impact has been assessed as Negligible, with the subsequent level of effect being Minor Adverse, which is not significant in EIA terms. The effect would be time-limited and fully reversible.

Earthworks north-west of Wilcrick Hill Camp

- 8.4.26 The Scheduled Monument to the north-west of Wilcrick Hill Camp is a deserted village of probable Medieval date, with the church of St Mary (Wilcrick) just to the



east of these earthworks. The setting of this Scheduled Monument principally comprises the adjacent buildings, with which there may be some historical association, including the church and Church Farm immediately to the north. The wider setting makes very little contribution to the significance of the deserted village other than to place it within a largely rural position.

8.4.27 The topography and the presence of mature vegetation including hedgerows means that it is unlikely the Proposed Development would be visible in views from or across the Scheduled Monument. Any views would be glimpsed ones, possibly in the winter months when there is less foliage on the trees and hedgerows.

8.4.28 As a Scheduled Monument the importance of this deserted village is High. The magnitude of impact has been assessed as No change, with the subsequent level of effect being No change which is not significant in EIA terms. The effect would be time-limited and fully reversible.

Stone cross base in churchyard of Church of St Mary, Llanwern

8.4.29 A stone cross base in the churchyard of the Church of St Mary, Llanwern is a Scheduled Monument. Its setting principally comprises the enclosed churchyard, and the wider setting beyond the churchyard makes very little contribution to the significance of this monument. The edge of the Site has been set back to a position approximately 50 m from the churchyard, and a proposed linear block of woodland planting at this western edge would screen the Proposed Development in views from or across the stone cross base.

8.4.30 As a Scheduled Monument the importance of this stone cross base is High. The magnitude of impact has been assessed as No change, with the subsequent level of effect being No change which is not significant in EIA terms. The effect would be time-limited and fully reversible.

Pen-Toppen-Ash Camp

8.4.31 This Scheduled group of three adjacent enclosures is located approximately 3 km to the north of the Site on elevated land at around 200 m aOD. This location enables an extensive setting with long-ranging views to the east, south-east and south. The southern and central enclosures here are roughly circular, whilst the northern one is



rectangular and almost certainly represents the remains of a Roman fort. The setting makes a strong contribution to the importance of the enclosures.

8.4.32 In the view towards the south from the Scheduled Monument, some areas within the southern part of the Proposed Development would be visible. However, this would be at a distance of around 4 km and the elements of the Proposed Development would be seen directly in front of the large buildings of the Llanwern Steelworks.

8.4.33 As a Scheduled Monument the importance of this group of enclosures is High. The magnitude of impact has been assessed as Negligible, with the subsequent level of effect being Minor Adverse which is not significant in EIA terms. The effect would be time-limited and fully reversible.

Medieval moated site east of Grangefield Farm

8.4.34 This Scheduled Monument is located approximately 2.35 km to the south of the Site. It was one of the monastic granges of Tintern Abbey that was established on the Gwent Levels following the drainage of the former wetlands in the medieval period. Its principal setting thus comprises these drained former wetlands and the associated field system with which the grange farm was associated.

8.4.35 There may be glimpsed visibility of the more elevated parts of the Site in views from or across this Scheduled Monument, but in all cases the large buildings of the Llanwern Steelworks and the Gwent Europark would be in the foreground with the Proposed Development beyond. A large operational solar farm is located immediately to the south-west of this Scheduled Monument.

8.4.36 As a Scheduled Monument the importance of this moated site is High. The magnitude of impact has been assessed as No change, with the subsequent level of effect being No change, which is not significant in EIA terms. The effect would be time-limited and fully reversible.

Church of St Mary, Llanwern

8.4.37 This Grade II* listed church is located to the west of the Site. Its principal setting comprises the churchyard, which is enclosed by a low wall over which views towards and from the church are possible. To the north the wider setting of the church comprises open land between the wooded Llanwern Park and the village of



Llanwern, where a considerable amount of residential development is currently under construction. To the south is flat land representing the northern extent of the reclaimed wetlands of the Gwent Levels, beyond which is the South Wales Main Line railway, with overhead electrification equipment, and the large area of the Llanwern steelworks. The railway is approximately 500 m from the church. The key elements within this wider setting of the church are the fields that surround it on all sides.

8.4.38 The edge of the Site has been set back to a position approximately 50 m from the churchyard, and a proposed linear block of woodland planting at this western edge along with the enhancement of existing hedged field boundaries would screen the Proposed Development in views from or across the church.

8.4.39 As a Grade II* listed building the importance of the Church of St Mary (Llanwern) is High. The magnitude of impact has been assessed as Negligible, with the subsequent level of effect being Minor Adverse, which is not significant in EIA terms. The effect would be time-limited and fully reversible and would reduce over time as the proposed planting matures.

Barn at Barn Farm

8.4.40 This Grade II listed barn of early 19th century date may have been part of the home farm for the Llanwern estate. It is now part of the extensive Ponderosa Equestrian Centre and has no intervisibility with any part of the Site due to the presence of intervening modern structures and also mature vegetation.

8.4.41 As a Grade II listed building the importance of the barn at Barn Farm is Medium. The magnitude of impact has been assessed as No change, with the subsequent level of effect being No change, which is not significant in EIA terms.

Church of St Cadwaladr, Bishton

8.4.42 Only one small field and an unclassified road separate this Grade II listed church from the busy South Wales Main Line railway with its visible overhead electrification equipment. As with the Grade II* listed Church of St Mary (Llanwern), the large area associated with Llanwern steelworks is immediately beyond the railway, which at this point is less than 100 m from the church. Mature vegetation to the north-west, north and north-east of the church means that its setting is less extensive in those



directions, although there are clearer views to and from the west, and the tower of the church is visible in views from the higher ground to the north and north-west.

- 8.4.43 The field immediately west of the church forms part of the Site, but would contain a wildflower meadow, which provides biodiversity enhancement in addition to protecting the setting of the church when viewed from the west and south. To the north and north-east of the church are additional areas of proposed wildflower meadow. No current view towards the church would be blocked or screened in any way. In views from the higher ground to the north and north-west the church tower would remain visible above the surrounding mature vegetation, with elements of the Proposed Development visible in the foreground in such views.
- 8.4.44 As a Grade II listed building the importance of the Church of St Cadwaladr at Bishton is Medium. The magnitude of impact has been assessed as Negligible, with the subsequent level of effect being Negligible Adverse or Minor Adverse, which is not significant in EIA terms. The effect would be time-limited and fully reversible.

Llanwern Park

- 8.4.45 This historic park is located immediately adjacent to the Site and was established in the late 18th century around an older estate. Llanwern Park was formerly a Registered Park and Garden of Special Historic Interest (Grade II), but this designation was recently removed when the Register was updated to become a statutory document.
- 8.4.46 The main house and the walled kitchen garden at Llanwern Park were demolished some time ago. Several outer woodland shelter belts enclose the parkland, some of which have reverted back to scrub and woodland where not currently grazed. The setting of the park outside of its historic boundary does not make any real contribution to its significance other than to provide a rural backdrop.
- 8.4.47 The Site lies just beyond the woodland shelter belt that was established around the eastern side of the park (Longditches Wood) and incorporates part of the southern woodland shelter belt which lies to the south of the unclassified road between Bishton and Llanwern. However, no development is proposed within the woodland here.



8.4.48 The importance of Llanwern Park is Medium. The magnitude of impact has been assessed as No change, with the subsequent level of effect being No change, which is not significant in EIA terms. The effect would be time-limited and fully reversible.

Gwent Levels Landscape of Outstanding Historic Interest

8.4.49 The Site is located outside the boundary of the registered historic landscape. However, land within the eastern part of the Site is within one of the defined HLCAs (HLCA009 Green Moor), which contributes to the registered historic landscape and corresponds with the drained former wetland area. Following consultation with Cadw, a formal Assessment of the Significance of the Impact of Development on Historic Landscape areas on the Register of Landscapes of Historic Interest in Wales has been undertaken. This is known as an ASIDOHL assessment and the results are presented in Appendix 8.2 of the ES.

8.4.50 This formal assessment found that the impact on the registered historic landscape as a whole would be Very Slight. In terms of the EIA methodology this equates to a Negligible magnitude of impact. The importance of the registered historic landscape is High and the consequent level of effect is Minor Adverse. This is not significant in EIA terms and the effect would be time-limited and fully reversible.

HLCA009 Green Moor

8.4.51 This Historic Landscape Character Area (HLCA) includes land within the southern part of the Site, also land now occupied by the Gwent Europark (including land to the east of this development where outline consent for similar use has been granted but not yet implemented) and land south of the A4810 road which is actually within the Gwent Levels Landscape of Outstanding Historic Interest.

8.4.52 The formal assessment (the ASIDOHL) found that the impact on HLCA009 Green Moor would be Severe. In terms of the EIA methodology this equates to a Medium magnitude of impact. The importance of this HLCA is High and the assessed level of effect is Moderate Adverse. This is significant in EIA terms and the effect would be time-limited and fully reversible. It should also be noted that the impact occurs wholly in respect of that part of HLCA009 Green Moor that is outside the registered historic landscape, and is separated from the registered historic landscape by the substantial Gwent Europark development.



General historic landscape

- 8.4.53 Those parts of the Site outside of HLCA009 Green Moor have not been subject to the same level of detail with regard to the examination of their historic landscape character. Field sizes vary from small to large and many (but not all) of the field boundaries are straight, which indicates some form of enclosure of the former open fields. There are several distinct areas but overall, the historic landscape lacks cohesion and shows different character types.
- 8.4.54 The importance of the general historic landscape within the Site and outside of HLCA009 Green Moor has been assessed as Low. All current field boundaries within and enclosing the Site would be retained so that the framework of the historic landscape would not be affected, and any effect on its character would be reversible. The construction and operation of the Proposed Development would change the character, mostly through visual change, and the magnitude of impact has been assessed as Low. The consequent level of effect would be Negligible Adverse or Minor Adverse which is not significant in EIA terms. The effect would be time-limited and fully reversible.

8.5 Cumulative

- 8.5.1 The approach undertaken for the assessment of potential cumulative effects is set out in Chapter 2 of the ES. A total of seven schemes have been identified that could give rise to cumulative effects and these are described in Table 2.3 of the ES. The ongoing residential developments at Rockfield Farm and Vinegar Hill near Undy (to the east of Magor), at Glas Lyn within what was the western part of the Llanwern Steelworks, and at Llanwern Village would not give rise to cumulative effects in respect of cultural heritage.
- 8.5.2 The remaining three schemes considered within the cumulative effects assessment include another solar farm (Rush Wall) and a further area of solar panels forming an element of the Magor Net Zero project. A further element of the latter project being the construction of hydrogen electrolyzers at the AB InBev UK brewery. A separate proposed development at the brewery comprises the erection of several fermentation vessels.

- 8.5.3 The Rush Wall Solar Farm and the solar farm element of the Magor Net Zero project have the potential to give rise to cumulative effects on the Gwent Levels Landscape of Outstanding Historic Interest. Although the Craig y Perthi Solar Farm is located wholly outside of the registered historic landscape, the assessed level of effect on this designated historic asset is Minor Adverse. In contrast, both the Rush Wall Solar Farm and the solar farm element of the Magor Net Zero project are located wholly within the registered historic landscape.
- 8.5.4 If two or more of these three developments were to be consented and constructed, then there would be potential cumulative effects on the Gwent Levels Landscape of Outstanding Historic Interest as a result of the quantum of ground-mounted solar panels in this area. However, the contribution of the Proposed Development to any cumulative effect would be much lower than those of the other two schemes as it is located wholly outside the registered historic landscape.
- 8.5.5 There is also some potential for cumulative effects in respect of the Scheduled Monument at Wilcrick Hill Camp as a result of the proposed developments at the AB InBev UK brewery, namely construction of the electrolyzers for the Magor Net Zero project and the separate scheme including several fermentation vessels. The level of effect of the construction and operation of the Craig y Perthi Solar Farm in this Scheduled Monument has been assessed as Minor Adverse, also time-limited and fully reversible. Given the amount of current built development at the AB InBev UK brewery, it is considered that the proposed additional developments would not result in unacceptable cumulative effects.

8.6 Mitigation

- 8.6.1 A targeted programme of further archaeological investigation in the form of trial trenches has been agreed with GGAT, as outlined above in paragraph 8.2.38. This would enable a better understanding of the presence, nature and date of any archaeological remains within the Site and allow for the development of an appropriate strategy to avoid, reduce or offset any impacts that could occur during the construction phase.
- 8.6.2 As a result of the programme of further archaeological investigation, avoidance or reduction of impacts could be achieved through design amendments, including removal of specific solar arrays, or through changes to construction methodologies.

Offsetting of impacts would be achieved through the undertaking of additional archaeological investigations, so that appropriate information can be recovered ahead of and during construction.

- 8.6.3 Subsequent additional investigations could include appropriate examination of the deposit sequence in those southern parts of the Site that are within the former wetlands of the Gwent Levels, subject to consultations with GGAT. This would be in the form of the drilling of boreholes producing cores that could be inspected off-site. The palaeo-environmental potential of such deposits would be assessed, and an appropriate strategy would be developed and agreed in order to avoid, reduce or offset any impacts that could occur during the construction phase.

8.7 Residual Effects and Conclusion

- 8.7.1 The implementation of the programme of further archaeological investigation described above would reduce the magnitude of impact on buried archaeological remains from up to Medium down to Negligible. The consequent level of effect would therefore be Negligible Adverse or Minor Adverse which is not significant in EIA terms. The effect would remain permanent.
- 8.7.2 The implementation of the programme of examination of the deposit sequence within the former wetlands of the Gwent Levels described above would reduce the magnitude of impact on deposits of palaeoenvironmental interest from Low to Negligible. The consequent level of effect would therefore be Negligible Adverse or Minor Adverse, which is not significant in EIA terms. The effect would remain permanent.
- 8.7.3 The assessment of effects on aspects of cultural heritage presented within this chapter of the ES has identified one significant adverse effect. This is in relation to Historic Landscape Character Area (HLCA) 009 Green Moor which is a defined area of historic landscape in the southern part of the Site, and which represents the northern edge of the former wetlands known as the Gwent Levels. This flat land to the north of the South Wales Mainline Railway was previously back-fen, i.e., that part of the former wetlands closest to the solid ground which rises to the north.
- 8.7.4 Although clearly part of the Gwent Levels, that part of HLCA009 Green Moor within the Site is outside the registered Gwent Levels Landscape of Outstanding Historic



Interest and is separated from the registered historic landscape by the substantial developments at the Llanwern Steelworks and the Gwent Europark, the latter including large wind turbines as well as substantial commercial buildings. Nonetheless, the part of HLCA009 Green Moor within the Site makes some contribution to the overall significance of the registered historic landscape as a reasonably well-preserved area of former back-fen. The assessed Moderate Adverse effect on HLCA009 Green Moor would be time-limited and fully reversible.

- 8.7.5 Other adverse effects on aspects of cultural heritage are Minor or Negligible and are not significant in EIA terms. Where possible and appropriate, impacts have been avoided or reduced through embedded mitigation within the scheme design or through proposed programmes of further investigation.
- 8.7.6 An assessment of potential cumulative effects has also been undertaken. There are two additional solar farms under consideration in the vicinity of the Proposed Development; these are the Rush Wall Solar Farm and the solar farm element of the Magor Net Zero project. The contribution of the Proposed Development to any cumulative effects on the Gwent Levels Landscape of Outstanding Historic Interest would be much lower than for the two other schemes as it is located wholly outside the registered historic landscape.

