

11 CULTURAL HERITAGE

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APPENDICES

Presented in Volume 3 of this Environmental Statement:

Appendix 11.1: Desk Based Assessment

11.1 Introduction

- 11.1.1 Regulation 4(2) of the Town & Country Planning EIA (Wales) Regulations 2017 requires that the EIA ‘must identify, describe and assess... the direct and indirect significant effects of the Proposed Development on [inter alia]... cultural heritage...’.
- 11.1.2 This chapter describes and assesses the significance of known historic assets and potential archaeological remains. It provides an assessment of the likely impact of the Proposed Development on the significance of historic assets, and the contribution made to their significance by their setting, in order to identify any potential significant effects on the cultural heritage resource. This approach is consistent with the requirements of national and local planning policies on the historic environment.
- 11.1.3 The objectives of this assessment are to:
- Describe the nature and extent of any known historic assets or areas of archaeological potential which may be affected by the Proposed Development;
 - Provide an assessment of the importance of these assets;
 - Assess the likely magnitude of any impacts and significance of the effects on the historic environment posed by the Proposed Development and other development(s);
 - Outline suitable additional mitigation measures to avoid, prevent, reduce or, if possible, offset any identified significant adverse effects; and
 - Provide an assessment of any residual effects remaining after the provision of additional mitigation.

11.2 Statutory and planning context

- 11.2.1 The relevant heritage legislation and policy in the context of the present Site is described in **Table 11.1**.

Table 11.1 Relevant historic environment legislation and policy

Legislation	Key Issues
Ancient Monuments and Archaeological Areas Act 1979	It is a criminal offence to carry out any works on or near to a Scheduled Monument without Scheduled Monument Consent. Development must preserve in-situ protected archaeological remains and landscapes of acknowledged significance and protect their settings.
Planning (Listed Buildings and Conservation Areas) Act 1990	Section 1 of the Act requires the Secretary of State to compile and maintain lists of buildings of special architectural or historic interest. Buildings on the list are assessed and graded against the criteria of architectural and historic interest. Buildings listed at Grade I are defined as those considered to be of exceptional interest. Grade II* Listed Buildings are particularly important buildings of more than special interest, while Grade II Listed Buildings are of special interest. This may include the extent to which the exterior of a building contributes to the interest of a group of buildings, i.e. ‘group value’.

Legislation	Key Issues
	The Act requires Local Planning Authorities 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 when they are considering whether to grant planning permission for an application for development which affects a listed building or its setting.
The Planning Act (Wales) 2015	Outlines a legal framework for the National Development Framework, making provision for pre-application consultation and introduces a streamlined planning system “ <i>delivering timely, fair and consistent decisions that will enhance the built, natural and historic environment in Wales</i> ”.
The Historic Environment (Wales) Act 2023	<p>This Act makes amendments to the Ancient Monuments and Archaeological Areas Act 1979, primarily in relation to ancient monuments in Wales. It also makes provision for the Welsh Ministers to compile and maintain a register of Historic Parks and Gardens.</p> <p>It also makes amendments to the Planning (Listed Buildings and Conservation Areas) Act 1990 (c.9) in relation to buildings in Wales that are of special architectural or historic interest (‘Listed Buildings’).</p> <p>The Act makes other provisions including:</p> <ul style="list-style-type: none"> (a) for the compilation of a list of historic place names in Wales; (b) for the compilation of a historic environment record for each local authority area in Wales; and (c) for the establishment, constitution and functions of the Advisory Panel for the Welsh Historic Environment.
Planning Policy Wales Edition 12 2024	<p>Sets out the land use planning policies of the Welsh Government. It is supplemented by a series of Technical Advice Notes (TANs), Welsh Government Circulars, and policy clarification letters, which together with Planning Policy Wales provide the national planning policy framework for Wales.</p> <p>TAN 24: The Historic Environment includes guidance on World Heritage Sites, Scheduled Monuments, archaeological remains, Listed Buildings, Conservation Areas, Historic Parks and Gardens, historic landscapes and historic assets of special local interest.</p>

11.2.2 *TAN 24: The Historic Environment* provides guidance on how the planning system considers the historic environment during development plan preparation and decision making on planning and Listed Building Consent (LBC) applications.

11.2.3 This chapter contributes to meeting the following Policies on the historic environment contained in TAN 24 (paragraph numbers in bold text):

‘1.15 Heritage impact assessment is a structured process that enables the significance of a designated asset to be taken into account when considering proposals for change. Heritage impact assessments should be proportionate both to the significance of the historic asset and to the degree of change proposed, and should include sufficient information to enable both the significance of the asset and the impact of change to be understood. The results of the heritage impact assessment should be summarised in a heritage impact statement which must form

part of any listed building consent, conservation area consent and, when requested, scheduled monument consent applications.

1.23 *Planning Policy Wales identifies how local planning authorities must treat World Heritage Sites, scheduled monuments, unscheduled nationally important archaeological remains, listed buildings, conservation areas and registered historic parks and gardens in Wales in their consideration of planning applications and producing development plans. This includes the impact of proposed developments within the settings of these historic assets, buildings, conservation areas and registered historic parks and gardens in Wales in their consideration of planning applications and producing development plans. This includes the impact of proposed developments within the settings of these historic assets.*

1.25 *The setting of an 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. Elements of a setting may make a positive or negative contribution to the significance of an asset, may affect the ability to appreciate that significance or may be neutral. Setting is not a historic asset in its own right but has value derived from how different elements may contribute to the significance of a historic asset.'*

- 11.2.4 The Neath Port Talbot Local Development Plan contains policy SP 21 Built Environment and Historic Heritage, which states:

'The built environment and historic heritage will, where appropriate, be conserved and enhanced through the following measures:

- 1. Encouraging high quality design standards in all development proposals;*
- 2. Protecting arterial gateways from intrusive and inappropriate development;*
- 3. Safeguarding features of historic and cultural importance;*
- 4. The identification of the following designated sites to enable their protection and where appropriate enhancement:*
 - (a) Landscapes of Historic Interest;*
 - (b) Historic Parks and Gardens;*
 - (c) Conservation Areas;*
 - (d) Scheduled Ancient Monuments; and*
 - (e) Listed Buildings and their curtilage.'*

11.3 Consultation undertaken

- 11.3.1 This chapter has been prepared following the methodology outlined in informal archaeology and cultural heritage EIA scoping consultation note provided in **ES**

Appendix 4.1 and based on the cultural heritage **Desk-Based Assessment** provided in **Appendix 11.1**. Consultation has been undertaken as outlined in **Table 11.2**.

Table 11.2 Summary of consultation undertaken

Consultee	Issue	Action
Stewardship Officer for Gwent-Glamorgan Archaeological Trust (GGAT)	Study Area for designated assets needs to cover 5 km, Study Area for non-designated assets can remain at 1 km	Data collected for agreed Study Areas as outlined in Section 11.4: Approach to the assessment
Archaeological Planning Officer for GGAT	Approval of informal EIA technical note	N/A
Senior Historic Environment Planning Officer for Cadw	Assessments of the Significance of the Impact of the Development on the Historic Landscape (ASIDOHL) methodology is unsuitable for assessing the impact of developments on the setting of registered historic landscapes	Welsh Government document <i>The Setting of Historic Assets in Wales</i> is used as recommended instead as outlined in Section 11.4: Approach to the assessment

11.4 Approach to the assessment

- 11.4.1 Historic assets are assessed in this chapter in terms of their significance, following the requirements in TAN 24: The Historic Environment, and also taking account of Cadw's guidance on Heritage Impact Assessment in Wales and Setting of Historic Assets in Wales.
- 11.4.2 The significance of a historic asset will derive from many factors including fabric, setting, rarity, completeness, historic and cultural associations, community, research and place-making potential. Significance is assessed in relation to the criteria contained in Cadw's guidance on Heritage Impact Assessment in Wales (2017) and Setting of Historic Assets in Wales (2017), which are intended primarily to inform decisions regarding heritage designations. The criteria may also be applied more generally in identifying the 'special characteristics' of a historic asset, which contribute to its significance.
- 11.4.3 This use of the word 'significance', referring to the range of values or interest attached to an historic asset, should not be confused with the unrelated usage in EIA where the 'significance of an effect' reflects the weight that should be attached to it in a planning decision context.
- 11.4.4 Impact assessment is concerned with effects on significance, the value or interest that applies to all historic assets and relating to the ways in which the historic environment is valued both by specialists and the public.
- 11.4.5 In accordance with Cadw's guidance on Heritage Impact Assessment in Wales and Setting of Historic Assets in Wales and through an assessment of significance, a screening exercise has been undertaken to identify the historic assets that are likely to be significantly affected by the Proposed Development and therefore require detailed assessment.

- 11.4.6 Visual impacts are most commonly encountered, but other introduced environmental factors can affect setting also such as noise, light or air quality. Impacts may be encountered at all stages in the life cycle of a development from construction to decommissioning, but they are only likely to lead to substantial harm during the prolonged operational life of the development.
- 11.4.7 Where potential impacts on the settings of a historic asset are identified, the assessment of significance includes “assessing whether, how and to what degree these settings make a contribution to the significance of the historic asset(s)”, following Step 2 of the staged approach to setting recommended in Cadw’s guidance on Heritage Impact Assessment in Wales and Setting of Historic Assets in Wales.
- 11.4.8 Historic assets identified as within a potential line-of-sight with the Proposed Development were visited and assessed with a view to identifying potential setting impacts. Whilst these visits were made in relation to an earlier iteration of the scheme, the observations made during these visits are applicable to the current iteration as it is considered that both iterations of the Proposed Development shared the same location and line of sight/zone of influence due to the size and massing of the Proposed Development, and any differences in the layout within the Site have been analysed extensively through Historic Environment Records (HER) data, listing data and LiDAR data for the Site to ensure robust assessment. This was agreed with GGAT via their approval of the informal EIA technical note.
- 11.4.9 The Site visit enabled an assessment of likely impacts of the Proposed Development, including; locations which will remain unaffected; locations which have some visibility but that is minimal and does not affect the baseline condition; and locations where visibility is possible/prominent.
- 11.4.10 This chapter has been prepared with reference to the following:
- The Chartered Institute for Archaeologists’ (CIfA) Standard and Guidance for Historic Environment Desk-Based Assessment (2020) and Code of Conduct (2022);
 - The Institute of Environmental Management and Assessment (IEMA), the Institute of Historic Building Conservation (IHBC) and CIfA’s Principles of Cultural Heritage Impact Assessment in the UK (2021);
 - The Planning Act (Wales) 2015;
 - The Historic Environment (Wales) Act 2023;
 - Planning Policy Wales Edition 12 2024;
 - Technical Advice Note 24: The Historic Environment 2017;
 - Cadw’s guidance on Heritage Impact Assessment in Wales and Setting of Historic Assets in Wales (2017) and Setting of Historic Assets in Wales (2017);
 - The Royal Commission on the Ancient and Historical Monuments of Wales (RCAHMW) Guidelines for Digital Archives Version 1 (2015); and
 - National Panel for Archaeological Archives in Wales’ National Standard and Guidance to Best Practice for Collecting and Deposition of Archaeological Archives in Wales (2017).

- 11.4.11 Any data submitted to the HER will conform to standards set out in the Welsh Archaeological Trusts' Guidance for the Submission of Data to the Welsh Historic Environment Records (HERs) (2018).

Study area

- 11.4.12 The Study Area for this assessment comprises a 1 km buffer surrounding the Red Line Boundary for non-designated assets, within which the archaeological and historical development in the Red Line Boundary and surrounding area has been considered. A 5 km buffer around the Red Line Boundary has been applied for the consideration of the setting of designated historic assets. Both buffers were a requirement of the GGAT Stewardship Officer (see **Table 11.2**).

Data sources

- 11.4.13 The assessment has been based on a study of all readily available documentary sources, following the ClfA standards and guidance. The following sources of information were referred to:
- Designation data from the Cof Cymru - National Historic Assets of Wales, downloaded from the Cadw website on 29 April 2024;
 - Records from the National Monuments Record of Wales (NMRW), produced by the Royal Commission on the Ancient and Historical Monuments of Wales (RCAHMW) received on 21 May 2024;
 - Archaeological records and aerial photographs held by the GGAT Historic Environment Record (HER) received on 3 May 2024;
 - Natural Resources Wales Lidar data;
 - Geological data available online from the British Geological Survey; and
 - Readily available published sources and unpublished archaeological reports, including a geophysical survey completed by Headland Archaeology as part of an earlier iteration of the Proposed Development.
- 11.4.14 Designated historic assets are referenced in this chapter by their Cadw reference number. Non-designated assets are referenced by their HER reference or RCAHMW reference. Any newly discovered assets are assigned a number prefixed 'HA' for Historic asset. A single asset number can refer to a group of related features, which may be recorded separately in the HER and other data sources.

Site visit

- 11.4.15 Site visits were undertaken on 4 November 2021 (to the steelworks and nearby Scheduled Monuments) and 3 February 2022 (to assess the local landscape and setting of nearby designated assets), during which notes were made regarding site characteristics, any visible archaeology such as earthworks or structural remains, any negative features, local topography and aspect, exposed geology, soils, watercourses, health and safety considerations, surface finds, and any other relevant information. These elements may have a bearing on previous land use and archaeological survival, as well as those which may constrain subsequent archaeological investigation.

Whilst these visits were made in relation to a previous iteration of the scheme, the observations made during these visits are applicable to the current iteration as it is considered that both iterations of the Proposed Development shared the same location and line of sight/zone of influence due to the size and massing of the Proposed Development, and any differences in the layout within the Site have been analysed extensively through HER data, listing data and LiDAR data for the Site to ensure robust assessment.

Historic map regression

- 11.4.16 The historic mapping sequence (superseded Ordnance Survey (OS) and pre-Ordnance Survey mapping) for land within the Red Line Boundary was consulted to collect information on former land use and development throughout the later historic periods.

LiDAR

- 11.4.17 LiDAR is an airborne mapping technique, which uses a laser to measure the distance between the aircraft and the ground. Up to 500,000 measurements per second are made of the ground, allowing highly detailed terrain models to be generated in which it is possible to identify shallow or otherwise imperceptible topographic features.
- 11.4.18 A Composite Digital Terrain Model (DTM) has been produced by removing objects from the Digital Surface Model (DSM) which is available at 1 m resolution for within the Red Line Boundary. Composite data breaks down by spatial resolution, i.e. 2m, 1m, 50cm and 25cm, and is made up from a combination of the full dataset which has been merged and re-sampled to give the best possible coverage. This means that a 1m resolution tile may contain decimated 50cm data as well as native capture data. It is not possible using only the composite to know which part of a given tile was surveyed at which resolution.
- 11.4.19 Analysis was undertaken by a professional archaeologist using QGIS imaging and geo-referencing/mapping software.

Importance of receptors

- 11.4.20 Relative importance of each identified historic asset potentially affected by the Proposed Development has been determined to provide a framework for assessment.
- 11.4.21 An assessment of the importance of a historic asset to change within its setting is a professional judgement, based on consideration of the asset's significance and the contribution its current and historical setting makes to that significance.
- 11.4.22 The assessment of importance of historic assets is based upon the criteria presented in **Table 11.3** based on professional judgement. It recognises that occasionally some historic assets have a lower or higher than normal importance within a local context. Additionally, this assessment process considers the component of the historic asset that is being affected, and the ability of the historic asset to absorb change without compromising the understanding or appreciation of its significance.

Table 11.3 Receptor importance

Importance	Definition
Very High	Assets and structures of acknowledged international significance. Examples include World Heritage Sites, and buildings of recognised international significance.
High	Assets and structures of acknowledged national significance. Examples include Scheduled Monuments, Listed Buildings at Grade I and II*, Registered Parks and Gardens at Grades I and II*, and Conservation Areas containing buildings of equivalent importance.
Medium	Assets and structures of acknowledged regional significance. Examples include Listed Buildings and Registered Parks and Gardens of less than the highest significance (i.e. listed at Grade II), Conservation Areas containing buildings of equivalent importance, non-designated assets of regional value within the HER.
Low	Assets and structures of acknowledged local significance. Examples include locally Listed Buildings, assets of local value registered in the HER.
Negligible	Assets and structures known to be of low archaeological or historical significance. Examples include remains previously subject to large-scale destruction, assets with very little or no surviving archaeological or historic interest and assets that hold little intrinsic archaeological value.
Unknown	Assets and structures of uncertain character, extent and/or date where the significance cannot be ascertained.

Magnitude of impact

- 11.4.23 Assessment of magnitude considers the impacts of the Proposed Development on the significance of the identified historic assets, or its assessed archaeological potential, including both positive ('beneficial') and adverse ('harm') impacts. The assessment of impact magnitude includes consideration of embedded mitigation.
- 11.4.24 The magnitude of impact as a result of the of the Proposed Development is assessed in accordance with the criteria presented in **Table 11.4** based on professional judgement.

Table 11.4 Definition of impact magnitude

Magnitude	Criteria
High	Total loss or fundamental alteration to a historic asset's significance and/or setting. Addition of new features that substantially alter the setting of a historic asset, particularly where setting contributes to the significance of the asset(s).
Medium	Partial loss or alteration a historic asset's significance and/or setting. Addition of new features that partially alter setting of a historic asset to the extent where the significance is impacted.
Low	Minor loss of an element of a historic asset and/or its setting. Addition of new features that form largely inconspicuous elements in the setting of a historic asset to the extent that its significance is slightly impacted.

Magnitude	Criteria
Negligible	Very minor loss of elements of a historic asset and/or its setting. Addition of new features that do not alter the setting of a historic asset.
No Change	No change to the historic asset or its setting.

Determination of effect significance

- 11.4.25 The significance of effect on the cultural significance of a historic asset, resulting from a direct or indirect physical impact or an impact on its setting, is assessed by combining the magnitude of the impact and the importance of the asset. The matrix in **Table 11.5**, based on professional judgement, provides a guide to decision-making but is not a substitute for professional judgement and interpretation, particularly where the asset importance or impact magnitude levels are not clear or are borderline between categories. A residual effect of high or very high is considered significant in this chapter.

Table 11.5 Residual effects matrix (shaded areas indicate significant effect)

Importance	Magnitude of impact (change)				
	High	Medium	Low	Negligible	No change
Very high (international)	Major	Major	Major	Moderate	Neutral
High (national)	Major	Major	Moderate	Moderate	Neutral
Medium (regional)	Major	Moderate	Minor	Minor	Neutral
Low (local)	Moderate	Minor	Minor	Negligible	Neutral
Negligible	Minor	Minor	Negligible	Negligible	Neutral

Residual effects

- 11.4.26 The residual effect is an overall measure of how the asset's significance is reduced or enhanced following the application of proposed additional mitigation measures.

Nature of effect

- 11.4.27 To comply with the EIA Regulations and in addition to determining the significance of the effect, the assessment process also includes a qualitative description regarding the nature of the effect as outlined in **Table 11.6**. These terms add additional information about how the effect would affect receptors.

Table 11.6 Assessment descriptors

Term	Nature of effect descriptors
Adverse	An effect which has the potential to decrease receptor value or status relative to baseline conditions.
Beneficial	An effect which has the potential to increase receptor value or status relative to baseline conditions.

Term	Nature of effect descriptors
Short-term	Effects that persist only for a short time, e.g. during the construction only; includes reversible effects.
Medium-term	Effects that may persist until additional mitigation measures have been implemented and become effective.
Long-term	Effects that persist for a much longer time, e.g. for the duration of the operational phase (essentially until the development ceases or is removed/ reinstated); includes effects which may decline over longer timescales.
Temporary	A reversible effect where recovery is possible and for which effects would persist only for a short or medium-term.
Permanent	An irreversible effect where recovery is not possible; effects would persist beyond the operational phase
Frequent	Refers to a recurring effect that occurs repeatedly; in some cases a lower level of impact may occur with sufficient frequency to reduce the ability of a receptor to recover effectively.

Difficulties and uncertainties

11.4.28 Information held by public data sources is generally considered to be reliable. However, the following general points are noted:

- Tithe mapping was not available for consultation;
- Documentary sources are rare before the Medieval period;
- Whilst it is accepted that historic documents may be biased depending on the author, with content seen through the lens of context, wherever such documentary sources are used in assessing archaeological potential, professional judgement is used in their interpretation in that the functionality of the document is considered;
- HER records can be limited because opportunities for research, fieldwork and discovery depend on the situation of commercial development and occasional research projects, rather than the result of a more structured research framework. A lack of data within the HER records does not necessarily equal an absence of archaeology;
- Where archaeological sites have been identified solely from aerial imagery without confirmation from archaeological excavation or supporting evidence in the form of find-spots for example, it is possible the interpretation may be revised in the light of further investigation;
- The significance of sites can be difficult to identify from HER records, depending on the accuracy and reliability of the original source; and
- There can often be a lack of dating evidence for archaeological sites.

11.4.29 Any archaeological site visit has inherent limitations, primarily because archaeological remains below ground level may have no surface indicators.

11.5 Established, interim and future environmental baseline

Established baseline

11.5.1 There are no designated assets located within the Red Line Boundary.

- 11.5.2 There are 130 designated assets located within the 5 km Study Area. These comprise 19 scheduled monuments, seven grade I listed buildings, 14 grade II* listed buildings, 87 grade II listed buildings, one conservation area and two registered parks and gardens.
- 11.5.3 There are three non-designated historic assets located within the Red Line Boundary:
- Morfa Colliery (421174) is a 19th century colliery in the north-western area of the Site;
 - Morfa Colliery Gas Works (710277) was a private gasworks used to light the colliery buildings; and
 - Theodrics Grange (20041) is a ruined Medieval building which formed part of a monastic grange, possibly of a domestic function.
- 11.5.4 Adjacent to the Site's southern boundary is Margam Warren (24479), a rabbit warren of probable Medieval origin. Although this is recorded as a single point it is likely that it covered land in the immediate vicinity, which may include land within the Red Line Boundary.
- 11.5.5 There are a further 32 non-designated assets located within the 1km study area. Of these, two are historic landscapes of multiple periods, one dates to the Roman period, two date to the Medieval period, 13 date to the Post-Medieval period, 13 date to the modern period, and one is of unknown date.
- 11.5.6 These assets are discussed in detail in **Appendix 11.1: Desk-Based Assessment**.
- 11.5.7 The desk-based assessment identifies that there is:
- A low potential for below ground archaeological remains to be present from the Mesolithic to Early Medieval periods;
 - A medium potential for archaeological remains dating to the Palaeolithic, Post-Medieval and Modern periods likely to be associated with Morfa Colliery and the steelworks respectively;
 - A high potential for archaeological remains dating to the Medieval remains within the Site, likely to be associated with the grange located within the Site or associated agricultural activity; and
 - Large areas of the Site have been disturbed or truncated by Post-Medieval mining and modern development of the steelworks and associated railway tracks. However, borehole records indicate a layer of peat below much of the Site which may contain archaeological potential for remains of low (Local) importance.
- 11.5.8 Historic Landscape Characterisation of the Study Area defines the south-eastern part of the Site as: HLCA002 Margam Moors. This is reclaimed and enclosed salt marsh wetland pasture. There are Medieval and Post-Medieval fields and former Medieval monastic grange land with varied field patterns with typical ridge and furrow, earth bank and drainage features¹. The rest of the Site is not covered by HLC, due to it comprising the extant steelworks.
- 11.5.9 Eight previous archaeological investigations are recorded within the Red Line Boundary:
- A partial excavation was undertaken of Theodrics Grange (20041) by T. Gray in 1903 (E000456). A building found three years prior was cleaned back and a piscina was found amongst the ruins indicating the location of a chapel;

¹ Gwent-Glamorgan Archaeological Trust, 2021

- An archaeological watching brief was carried out for the Marlas-Raos sewage pipeline by GGAT in 1992 (E003718). Observations that were possible suggested that the potential for the preservation of archaeological remains, particularly from the prehistoric period, is high;
- A desk-based assessment for Ysgol Newydd, Margam was carried out by Rubicon Heritage Services in 2016 (E007984). The assessment identified 69 known cultural heritage assets in the Study Areas, and none in the development area itself. It was determined that there would be no direct or indirect impact on any known cultural heritage assets and nor an impact on the setting of any assets;
- A desk-based assessment was carried out on high-status settlement in Glamorgan-Gwent by GGAT in 2010 (E007242). A total of 277 medieval/post-medieval sites were initially assessed, following which 58 continued to a more detailed assessment. Of those, between 33 and 37 were considered to be/potentially be of National Significance, 19 of which are already Scheduled Ancient Monuments. Nine sites were considered to be at least of Regional Significance;
- A desk-based assessment was carried out as part of a rapid archaeological appraisal on land at Mynydd Margan, Mynydd Ty-talwyn and Mynydd Baedan near Margam by GGAT in 2013 (E006900). Six new archaeological sites were identified during the study. The report concludes that the planned work would not pose any constraints on the archaeology;
- A landscape survey was carried out as part of GGAT150: rapid coastline assessment by GGAT in 2018 (E006100), who undertook a scoping exercise in 2016—2017 to define a coastal zone area in relation to currently mapped risks associated with climate change and determined what work should be done to bring the quality and scope of data on the coast of Glamorgan and Gwent up to present standards;
- A landscape survey was carried out as part of the Arfordir Coastal Heritage project by GGAT in 2014 (E007638), which aimed to identify new sites and monitor archaeological sites and to engage interested local people. It especially aimed to record and monitor sites under threat of coastal erosion or other forms of damage and to involve interested individuals and community groups in taking an active role in caring for their coastal heritage on an independent and sustainable basis; and
- An historic area assessment was carried out at Newland Farm by the University of Leicester in 2013 (E007771) The Assessment of the Significance of Impact of Development on Historic Landscapes, 2nd edition (ASIDOHL2) aimed to assess the direct, physical impacts of the development as well as indirect physical and visual impacts upon the landscape surrounding Newland Farm. Overall, the impact from the proposed turbine was determined to be Slight, with a slightly higher impact on the landscape of Kenfig Burrows, especially those areas closest to the turbine.

- 11.5.10 The current steelworks is a prominent feature within the local landscape and dominates the skyline. The complex has buildings and infrastructure of varying heights and mass.
- 11.5.11 There is evidence of previous phases of the steelworks visible above ground, comprising disused building remains, earthworks and road surfaces.
- 11.5.12 There is a memorial to the 1890 disaster at Morfa Colliery within the Red Line Boundary. It is understood that this is planned for retention.

- 11.5.13 Potential ridge and furrow or grips earthworks at Margam Moors seen on LiDAR data were not observable during the Site visit. This may be due to ground conditions as the area was severely overgrown.
- 11.5.14 A firing point associated with a 1940s rifle range noted on historic mapping is located partially within the Red Line Boundary. Although the location of the butts and range are within the Red Line Boundary, the only remaining above ground remains are outside of the Red Line Boundary. These small buildings are in very poor repair and have multiple modern repairs and fencing.
- 11.5.15 Henbiniwn (00740w), located alongside and outside the Red Line Boundary, is in poor repair, with several modern supports to slow further decay or collapse.
- 11.5.16 The steelworks is visible from multiple points within Margam Park Conservation Area (151) and Margam Mountain Historic Landscape (HLW (WGI/MGI) 2). Vegetation and trees would likely shield the assets slightly more in the summer when foliage would be denser.
- 11.5.17 Half Moon Camp (GM477), Margam Abbey (GM005), Mynydd-y-Castell Camp (GM162), and Hen Eglwys (GM163) all have some intervisibility with the Proposed Development.

Significance of assets within the Red Line Boundary

- 11.5.18 There are three non-designated historic assets located within the Site.
- 11.5.19 Morfa Colliery (421174) is a 19th century colliery with an associated memorial (of Local importance) in the north western area of the Site. The archaeological and historical significance of any preserved below ground remains would be of Low (local) importance. The colliery was originally opened in 1847 by Vivian and Sons to mine coal to feed their nearby copper smelter works at Taibach. There were an unusually high number of disasters at Morfa Colliery, including multiple explosions, leading it to be known as 'the pit of ghosts' across the Welsh coalfield. At its peak the colliery was one of the largest in South Wales, with 800 miners working between 6 and 7 tonnes of coal each day. The mine closed in 1913. There is a monument to the disasters at Morfa located within the steelworks.
- 11.5.20 Morfa Colliery Gas Works (710277) was a private gasworks used to light the colliery buildings which appeared on OS mapping in 1899 and 1921. The architectural and historical significance of this asset is of Low (local) importance.
- 11.5.21 Theodrics Grange (20041) is a ruined Medieval building which formed part of a monastic grange, possibly of a domestic function. The architectural and historical significance of this asset is of Low (local) importance.
- 11.5.22 Historic mapping indicates that land within the northern half of the Site and the south east extent has been almost entirely previously disturbed through a combination of Post-Medieval mining and modern development of the steelworks and associated railway tracks. However, borehole records indicate a layer of peat below much of the Site which may contain archaeological potential for remains of Low (Local) importance.

Significance of assets within the Study Area

- 11.5.23 All assets have been screened for intervisibility with the Site and their potential to derive part of their significance from the landscape which includes the Site.

- 11.5.24 To the east of the Site there is a group of seven Scheduled Monuments and a single Conservation Area, from which the Site is visible.
- 11.5.25 Margam Medieval Bath House (GM545), known locally as the Monks Bath, is a Scheduled Monument located approximately 2.3 km east of the Site. It is of High (national) importance due to its potential to enhance knowledge of Roman/medieval settlement organisation. The asset is screened by woodland and lies below the road level which runs behind it. The monument is understood in its local environment and no long-distance views (including views towards the Site) contribute to its significance.
- 11.5.26 Chain Home Low Radar Station (GM488) is a Scheduled Monument located 1.5 km east of the Site. It is of High (national) importance for its potential to enhance our knowledge of WWII defence systems. It forms part of the British early warning radar system, which was operated by the RAF in WWII, designed to detect enemy aircraft flying at low altitudes. The station comprises three square concrete buildings with flat roofs. On the north-west building is a truncated pyramid of steel lattice which functioned as a support for the radar transmitter and receiver array. The asset is the only known surviving example of a 'bestead array' in the British Isles. The other two buildings function as housing for a generator and back-up generator. Although the array itself would have been able to turn to track aircraft travelling inland, the primary views from the asset are across the bay, as the views to the rear are largely blocked by the rise of the hillside. The asset overlooks the M4 and Swansea Bay, including the Site. As a defensive feature it would have been specifically located in order to be able to overlook Swansea Bay in order to detect incoming enemy ships. As such, these lines of sight contribute to the significance of the monument.
- 11.5.27 Half Moon Camp (GM477) is an Iron Age earthwork enclosure located on the south edge of a spur overlooking Margam Abbey. It is oval in plan with a single rampart which is best preserved at the north-east side. The asset has significance from its potential to enhance knowledge of later Prehistoric defensive organisation and settlement and forms an important element within the wider later Prehistoric context and surrounding landscape, including views across the bay towards the steelworks. It is a Scheduled Monument located 1.9 km east of the Site. It is of High (national) importance due to its potential to enhance our knowledge of later prehistoric defensive organisation and settlement. The camp looks out across Margam Country Park towards Eglwys Nunydd, and the Site is visible from the Site. The monument may have been sited with intentional intervisibility with contemporary monuments and as such the wider landscape contributes to its significance.
- 11.5.28 Margam Abbey (GM005) is a Cistercian monastery founded in 1147 on the Site of an early Christian community and dissolved by Henry VIII in 1536 and sold to Sir Rice Mantel. The asset comprises an intact nave and surrounding ruins, including an unusually large 12-sided chapter house dating to the 13th century. The abbey has significance due to potential to enhance knowledge about the construction methods of Medieval religious buildings and their fabric. The Site was chosen for its quiet rural nature suitable for reflection and religious worship. It is a Scheduled Monument located approximately 2 km east of the Site. It is of High (national) importance for its potential to enhance our knowledge of the organisation and practice of Medieval Christianity. Only part of the church, the ruined chapter house and a few fragments of neighbouring buildings survive. The abbey is largely screened from the Site by surrounding vegetation, trees and

buildings, but glimpses of the Site are possible. The asset's significance is not derived from the landscape beyond its local setting. Preserved contemporary features in this local vicinity further contribute to an understanding of this Medieval landscape and therefore to this significance of the monument, however this does not include the Site.

- 11.5.29 Margam Inscribed and Sculptured Stones (GM011) is a Scheduled Monument located approximately 2.1 km east of the Site. It is of High (national) importance for its potential to enhance our knowledge of the organisation and practice of Christianity. The monument is understood in its local environment and no long distance views contribute to its significance.
- 11.5.30 Mynydd y Castell Camp (GM162) is located on high ground behind Margam Castle at the north east side of Margam Country Park. It is formed by a bank and ditch around the summit of the hill enclosing a D-shaped area. The Site has never been excavated therefore the exact nature of the Site's usage is not certain, however it is thought to have been either a permanent settlement or a place of refuge in emergencies. The asset has views across the bay towards the Proposed Development which contribute to its significance. The Proposed Development will result in an increased visual impact on these primary views from the increased number of buildings at the steelworks. The asset may have been sited with intentional intervisibility with contemporary monuments and as such the wider landscape contributes to its significance. It is a Scheduled Monument located approximately 2.4 km east of the Site. It is of High (national) importance for its potential to enhance our knowledge of later prehistoric defensive organisation and settlement.
- 11.5.31 Hen Eglwys (GM163) is a chapel sited within a late Prehistoric enclosure, also known as Capel Mair or Cryke Chapel. The chapel is roofless, with surviving walls built of Sutton stone with plinth and quoins. It has a single range with a nave and chancel in one, and an entrance at the west end. The late Prehistoric defended enclosure is approximately 114 m from east to west and 81 m from north to south and encircles a promontory with wide views to the south and east, with the chapel located in the south part of the enclosure on an east to west axis. The south side of the enclosure is bounded by a steep drop, and a possible entrance is located on the east side. Excavations of the enclosure found a stone lined rectangular well of unknown date, which is now backfilled. The asset has significance due to its potential to enhance the knowledge of late Prehistoric defensive settlement, and the organization and practice of Medieval Christianity. The site forms an important part of the Prehistoric and Medieval contexts and surrounding landscape and derives some significance from its view across the bay towards the steelworks. It is a Scheduled Monument and Grade II* Listed Building located approximately 2 km east of the Site. It is of High (national) importance for its potential to enhance our knowledge of the organisation and practice of Medieval Christianity. The asset's significance is not derived from the landscape beyond its local setting. Preserved contemporary features in this local vicinity further contribute to an understanding of this Medieval landscape and therefore to this significance of the monument, however this does not include the Site.
- 11.5.32 Margam Park Conservation Area (151) and registered garden (PGW(Gm)52(NEP)) is located approximately 1.3 km east of the Site within the Margam Mountain (HLW (WGI/MGI) 2) Historic Landscape. It is a large historic park in Tudor and gothic style, with Margam Abbey and Tudor, 18th and 19th century garden and landscape phases. The park includes a Tudor deer park, a banqueting house façade, a Georgian orangery, and a

citrus house. Following the dissolution of Margam Abbey and subsequent sale of land a Tudor mansion based on the former monastic ranges was built around 1840. This was later demolished in the late 1700s. Margam Castle was constructed between 1830-1840 in the Romantic style but became derelict following WWII and suffered extensive fire damage in 1977. Restoration work is in progress.

- 11.5.33 OS mapping from 1899 shows that the park once had greenhouses, terraced walls, a sawmill, a nursery, a woodland with vista paths, walled gardens, a sundial, relict hedge lines, isolated geometric copses, a carriage drive, a waterfall, a lodge, parterres, an orchard, a pinery, ponds, a pheasantry and a fountain. The location for the park was specifically chosen for its historic associations and picturesque position, and as such derives significance from the outlooks around the park and attractive local area.
- 11.5.34 The Conservation Area is of Medium (regional) importance, and covers Historic Landscape Character Area 001 for Margam Mountain: Margam Abbey and Castle, an outstanding landscape on the course of the former Roman communication route to west Wales and an area of religious importance in the Medieval period. The historic landscape area of Margam Abbey and Castle contains a nationally important collection of architecture and sculpture. The area is characterised as a multi-period landscape of outstanding historical importance and includes significant remains from the prehistoric, early medieval, medieval and Post-Medieval periods, and has Tudor, eighteenth-century and nineteenth-century gardens and landscapes. The area is also an important relict archaeological landscape including prehistoric, medieval and Post-Medieval settlement/fields and prehistoric 'defensive' features. This asset is of High (national) importance, of which significance is derived from its landscape setting. Some areas of the asset are screened from the Site, however large areas of the asset have direct views towards the Site.
- 11.5.35 Henbiniwn (007740w) is a non-designated asset of Low (local) importance, adjacent to the Site's eastern boundary. The asset comprises a single remaining wall from a monastic range which originally comprised three rectangular ranges around a square courtyard that was open to the east (towards Margam Abbey). Approach to the grange was from the abbey via a paved causeway through marshland and shallow waters, which could still be traced before 1949. Its significance is derived from its association with a monastic grange as well as local folklore surrounding the remains. These historic relationships are no longer physically evident in the landscape.

Interim baseline

- 11.5.36 The interim baseline scenario will see the closure of the 'heavy end' of the steelworks. This is defined more fully in **Chapter 4: Environmental Assessment Methodology**.
- 11.5.37 Whilst the steel making processes associated with the 'heavy end' will cease in this baseline scenario, the current planning application does not include the demolition of structures, buildings or plant and machinery in the 'heavy end'. Tata will close the 'heavy end', and in the process make all structures, buildings, plant and machinery safe. The regeneration of the 'heavy end' will be subject to separate commercial and/or planning processes, at the appropriate time.
- 11.5.38 For the purposes of cultural heritage, the interim baseline therefore represents little change to that of the established baseline. Some of the noise, dust and other emissions generated by the steelworks processes will cease but as this is not a primary feature of

the setting of the identified assets this is not anticipated to lead to any material change in the quality or characteristics of that setting. As such, it is considered that the established baseline is a suitable reference point for this ES chapter. The significance of effects will be reported relative to the established baseline only as it is unlikely that changes between the established and interim baseline will affect any conclusions.

Future baseline

- 11.5.39 In the absence of the Proposed Development, the landscape and visual resources will continue to evolve and change over time: new heritage assets may be designated and/or currently designated heritage assets may be delisted, new heritage assets may be identified, upstanding remains pertaining to built heritage and archaeological heritage assets may be degraded by the impacts of weather and the growth or proliferation of vegetation, and below-ground archaeological remains may be disturbed or truncated by agricultural activities such as ploughing or the establishment of new tree plantations or may be negatively impacted by changes in soil moisture levels, particularly if flooding occurs within the Study Area.
- 11.5.40 The industrial complex around the steelworks is likely to evolve in line with technological advances and future planning permissions. Remediation and re-development of the area currently subject to the steelworks would be likely but it is not known what the nature or extent of such development may entail and hence the extent of change to the setting of the identified assets or the effect on below ground archaeological remains is uncertain. Other developments may also be implemented beyond the steelworks that are visible or likely to be experienced in the wider Study Area, but again, the effect on the setting of the identified assets or on below ground archaeology cannot be accurately predicted.

11.6 Project characteristics and embedded mitigation

- 11.6.1 The current memorial for the 1890 disaster at Morfa Colliery (421174) has been proposed for retention due to its historical significance and importance to the local community.

11.7 Assessment of potential effects

Construction effects

Predicted construction effects

- 11.7.1 The Proposed Development has the potential to physically and permanently adversely affect historic assets during construction through groundworks for new infrastructure. Buried archaeological deposits and palaeoenvironmental remains, if present, may be damaged or destroyed by construction groundworks and other activities.
- 11.7.2 Morfa Colliery (421174), Morfa Colliery Gas Works (710277), and Theodrics Grange (20041) are historic assets of Low importance. There is potential for complete or partial removal of previously unknown archaeological remains associated with these historic assets during the construction phase, where this has not already been truncated by historic activities associated with coal mining and the steelworks construction and operation.

- 11.7.3 Impacts upon unknown historic assets (archaeological potential) cannot be meaningfully assessed, as neither the cultural significance of the asset nor the magnitude of the impact can be known. However, given the potential for complete or partial removal of such assets during the construction phase, a permanent medium adverse impact is assumed.
- 11.7.4 Applying the values referred in **Table 11.5**, this equates to a minor adverse potential effect on Morfa Colliery (421174), Morfa Colliery Gas Works (710277), and Theodrics Grange (20041), as well as upon archaeological potential for hitherto unknown remains that may be discovered during evaluation or construction.

Proposed additional mitigation

- 11.7.5 Potential below ground remains of Morfa Colliery (421174) and Morfa Colliery Gas Works (710277) have been comprehensively truncated by the establishment of the post-war steel works. The key surviving component is the memorial to deaths during 19th Century colliery disasters (adjacent to the capped shaft). The memorial will be preserved in situ and no development take place at this location, however grouting of the adjacent shaft may be required by the coal authorities. Temporary fencing is proposed to prevent accidental damage to the monument.
- 11.7.6 The area around Theodric's Grange (20041) will not be subject to development and it will be preserved in situ. The nearest activity will be road widening over 20m away separated by an embankment. Temporary fencing is proposed to ensure accidental encroachment does not occur.
- 11.7.7 A discontinuous buried layer of peat with the potential to contain palaeoenvironmental remains is present across the Site between 4 m and 20 m below ground level. It is not anticipated that almost all aspects of the proposed development will involve the establishment of foundations and services in the region of 2-4m below ground level (except where piles will be driven). The only exception to this is the excavation of foundations for two hoppers which will be 9m below ground level. The peat may be encountered at those locations. Sampling of the peat in these instances through the provision of an archaeological watching brief is proposed to undertake radiocarbon dating and palaeoenvironmental analysis to make a baseline record for this deposit.
- 11.7.8 The programme and scope of mitigation works will be specified by a suitably qualified archaeological contractor in a Written Scheme of Investigation (WSI), which will be agreed with GGAT in advance of construction.

Residual construction effects

- 11.7.9 Following implementation of a programme of additional mitigation to offset any direct impacts if necessary and appropriate, to be agreed with GGAT in advance of the works, the residual construction effect anticipated upon Morfa Colliery (421174) and Theodrics Grange (20041) and/or potential heritage assets would be **Neutral (not significant)**.

Operational effects

- 11.7.10 Impacts during the operational phase have the potential to arise as a result of visual change within the Red Line Boundary associated with a change in the number of buildings and their massing. However, the Proposed Development falls within the existing steelworks which already forms an industrial component within each asset's setting.

- 11.7.11 It is considered that no additional impacts would arise in terms of below ground archaeological remains that have not been considered for the construction phase.

Predicted operational effects

- 11.7.12 Morfa Colliery (421174) was originally opened in 1847 by Vivian and Sons to mine coal to feed their nearby copper smelter works at Taibach. There were an unusually high number of disasters at Morfa Colliery, including multiple explosions, leading it to be known as 'the pit of ghosts' across the Welsh coalfield. At its peak the colliery was one of the largest in South Wales, with 800 miners working between 6 and 7 tonnes of coal each day. The mine closed in 1913. There is a monument to the disasters at Morfa located within the steelworks. This memorial is proposed for retention as part of the Proposed Development. Whilst the memorial's setting will be impacted by the Proposed Development, it will remain within the same context: a large industrial site on top of the remains of Morfa Colliery.
- 11.7.13 Whilst Morfa Colliery largely comprises below ground remains, there is an extant memorial located within the Red Line Boundary which is proposed for retention. The colliery is an historic asset of Low (local) importance. The memorial would experience a change its setting, however the context of the memorial would be no change on the site of an historic colliery within an active steelworks.
- 11.7.14 It is understood that a photographic and video survey of the current operations is being prepared in co-ordination with Cadw and the National Library of Wales, supported by the collection of artefacts to illustrate the operation of the plant. This represents a "preservation by record" of the current steelworks ahead of a major shift in technology to use of electric arc furnaces.
- 11.7.15 It is considered that the Proposed Development would have no change on the long-term cultural significance of Morfa Colliery. The asset is assessed as being of 'Low' value. Applying the values referred in **Table 11.5**, this equates to a negligible effect which is considered not significant.
- 11.7.16 Theodrics Grange (20041) is a ruined Medieval building which formed part of a monastic grange, possibly of a domestic function. The architectural and historical significance of this asset is of Low (local) importance. The asset is currently experienced in the context of the extant steelworks. Whilst any changes to the steelworks would alter the immediate surroundings of the asset, it is assessed that the asset does not derive its significance from its current setting. Additionally, as the Site will remain in use as a steelworks it is considered that this assets setting will remain fundamentally the same, albeit with alterations to the arrangement of specific buildings and structure changes.
- 11.7.17 It is considered that the Proposed Development would have a negligible long-term impact on the cultural significance of Theodrics Grange. The asset is assessed as being of 'Low' value. Applying the values referred in **Table 11.5**, this equates to a negligible effect which is considered not significant.
- 11.7.18 Chain Home Low Radar Station (GM488) is located alongside the Wales Coast Path section above Port Talbot (inland route). The radar station has significance due to its potential to enhance knowledge of WWII defense systems and the building techniques used in the construction of these stations. The asset is well preserved and is enhanced by its group value with the larger network of anti-invasion defenses.

- 11.7.19 Chain Home Low Radar Station derives some significance from views across Swansea Bay, which include the Proposed Development. It is an historic asset of High importance. Whilst the Proposed Development will result in a change to the configuration of buildings within the Red Line Boundary, it is assessed that this would have a negligible impact on the setting of this asset, which already includes the extant steelworks.
- 11.7.20 The Proposed Development will result in an increased visual impact on these primary views from the additional building and structures to be constructed through the Proposed Development. It is assessed that the Proposed Development would have a negligible long-term adverse impact on the cultural significance of Chain Home Low Radar Station, which is of 'High' importance. Applying the values referred in **Table 11.5**, this equates to a moderate effect which is considered not significant.
- 11.7.21 The landscape around Half Moon Camp (GM477) contributes to the asset's setting, which is currently adversely impacted by the presence of the extant steelworks. It is an historic asset of High importance. The setting of this asset will be impacted by the Proposed Development as the appearance of the steelworks will be altered as part of the Proposed Development. Whilst the Proposed Development will result in a change to the configuration of buildings within the Red Line Boundary, it is assessed that this would have a negligible impact on the setting of this asset, which already includes the extant steelworks.
- 11.7.22 Half Moon Camp is assessed as having 'High' (national) importance. It is considered that the Proposed Development would have a negligible long-term adverse impact on the cultural significance of Half Moon Camp. Applying the values referred in **Table 11.5**, this equates to a moderate effect which is considered not significant.
- 11.7.23 Margam Abbey (GM005) is largely screened from the location of the Proposed Development, although glimpsed views of the extant steelworks are possible, and as such the setting of the asset is currently impacted by the presence of the extant steelworks. It is an historic asset of High importance. The setting of this asset will be impacted by the Proposed Development as the appearance of the steelworks will be altered as part of the Proposed Development. Whilst the Proposed Development will result in a change to the configuration of buildings within the Red Line Boundary, it is assessed that this would have a negligible impact on the setting of this asset, which already includes the extant steelworks.
- 11.7.24 Margam Abbey is assessed as having 'High' (national) importance, and although the asset will have limited views towards the steelworks, these do not contribute to its significance. The Proposed Development will result in an increased visual impact on these views from the increased number of buildings at the steelworks. It is considered that the Proposed Development would have a negligible long-term adverse impact on the cultural significance of Margam Abbey. Applying the values referred in **Table 11.5**, this equates to a moderate effect which is considered not significant.
- 11.7.25 Mynydd y Castell Camp (GM162) has views towards the Proposed Development that contribute to its significance and is currently impacted by the extant steelworks. It is an historic asset of High importance. The setting of this asset will be impacted by the Proposed Development as the appearance of the steelworks will be altered as part of the Proposed Development. Whilst the Proposed Development will result in a change to the configuration of buildings within the Red Line Boundary, it is assessed that this would

- have a negligible impact on the setting of this asset, which already includes the extant steelworks.
- 11.7.26 Myndd y Castell Camp is assessed as having 'High' importance. It is considered that the Proposed Development would have a negligible long-term adverse impact on the cultural significance of Mynydd y Castell. Applying the values referred in **Table 11.5**, this equates to a moderate effect which is considered not significant.
- 11.7.27 Margam Park Conservation Area (151) and Registered Garden (PGW(Gm)52(NEP)) is a large historic park in Tudor and gothic style, with Margam Abbey and Tudor, 18th and 19th century garden and landscape phases. Margam Park is screened from the Proposed Development in some areas but has direct views in others. It is currently adversely affected by the presence of the extant steelworks. It is an historic asset of High importance. The setting of this asset will be impacted by the Proposed Development as the appearance of the steelworks will be altered as part of the Proposed Development. Whilst the Proposed Development will result in a change to the configuration of buildings within the Red Line Boundary, it is assessed that this would have a negligible impact on the setting of this asset, which already includes the extant steelworks.
- 11.7.28 It is considered that the Proposed Development would have a negligible long-term adverse impact on the cultural significance of Margam Park. The asset is assessed as being of 'Medium' value. Applying the values referred in **Table 11.5**, this equates to a minor effect which is considered not significant.
- 11.7.29 Henbiniwn (00740w) derives significance from its association with the abbey, with which intervisibility would once have contributed to the assets setting. This view has since been broken by the construction of the steelworks and M4 motorway, meaning that the historic association between the two assets is no longer physically evident in the landscape. The asset also derives some significance from local folklore. The Proposed Development will result in an increased visual impact on the remains of the grange from the increased number of buildings at the steelworks encroaching closer to the asset than the current layout.
- 11.7.30 It is considered that the Proposed Development would have a medium long-term adverse impact on the cultural significance of Henbiniwn. The asset is assessed as being of 'Low' value. Applying the values referred in **Table 11.5**, this equates to a minor effect which is considered not significant.
- 11.7.31 Hen Eglwys (GM163) is a chapel sited within a late Prehistoric enclosure, also known as Capel Mair or Cryke Chapel. Hen Eglwys has views towards the Proposed Development that contribute to its significance and is currently impacted by the extant steelworks. It is an historic asset of High importance. The setting of this asset will be impacted by the Proposed Development as the appearance of the steelworks will be altered as part of the proposed development. Whilst the Proposed Development will result in a change to the configuration of buildings within the Red Line Boundary, it is assessed that this would have a negligible impact on the setting of this asset, which already includes the extant steelworks.
- 11.7.32 It is considered that the Proposed Development would have a negligible long-term adverse impact on the cultural significance of Hen Eglwys. The asset is assessed as being of 'High' value. Applying the values referred in **Table 11.5**, this equates to a moderate effect which is considered not significant.

Proposed additional mitigation

- 11.7.33 No additional mitigation is proposed.

Residual operational effects

- 11.7.34 In the absence of additional mitigation, the residual effect on Morfa Colliery (421174) remains **negligible (not significant)**.
- 11.7.35 In the absence of additional mitigation, the residual effect on Theodrics Grange (20041) remains **negligible (not significant)**.
- 11.7.36 In the absence of additional mitigation, the residual effect on Chain Home Low Radar Station (GM488) remains **moderate (not significant)**.
- 11.7.37 In the absence of additional mitigation, the residual effect on Half Moon Camp (GM477) remains **moderate (not significant)**.
- 11.7.38 In the absence of additional mitigation, the residual effect on Margam Abbey (GM005) remains **moderate (not significant)**.
- 11.7.39 In the absence of additional mitigation, the residual effect on Mynydd y Castell Camp (GM162) remains **moderate (not significant)**.
- 11.7.40 In the absence of additional mitigation, the residual effect on Margam Park Conservation Area (151) and Registered Garden (PGW(Gm)52(NEP)) remains **moderate (not significant)**.
- 11.7.41 In the absence of additional mitigation, the residual effect on Henbiniwn (00740w) remains **minor (not significant)**.
- 11.7.42 In the absence of additional mitigation, the residual effect on Hen Eglwys (GM163) remains **moderate (not significant)**.

11.8 Further survey and monitoring requirements

- 11.8.1 No monitoring requirements for significant adverse residual effects are proposed.

11.9 Cumulative effects

Y Bryn Wind Farm (DNS/3264571)

- 11.9.1 Y Bryn Wind Farm Ltd (owned by ESB and Coriolis Energy Ltd) has submitted a DNS application for the installation of up to 18 wind turbines (ranging between up to 206m, up to 230m and up to 250m to tip) with associated infrastructure on land at Bryn and Penhydd forests, located between Port Talbot and Maesteg, approximately 1 km north east of the Site. This application is in the examination phase, being submitted on 20 December 2023. Y Bryn Wind Farm has potential impacts on historic assets in common with the Proposed Development as outlined below.

Margam Park (151, PGW(Gm)52(NEP)) and associated assets

- 11.9.2 The Environmental Statement for Y Bryn Windfarm² concludes that turbines would be visible from most of the park but it is considered that this would not adversely affect the ability to experience the aesthetic and evidential value of the majority of assets within the park. There is assessed to be a magnitude of impact of negligible adverse on these assets resulting in an effect of negligible significance.
- 11.9.3 It is considered that the Proposed Development would have a negligible long-term adverse impact on the cultural significance of Margam Park and associated assets. There would be a moderate effect which is considered not significant.
- 11.9.4 As such it is considered that the cumulative effect of these developments on Margam Park would remain moderate (not significant).

Hen Eglwys (GM163)

- 11.9.5 The Environmental Statement for Y Bryn Windfarm³ concludes that ten turbines would be visible from the area directly to the east of the ruins, with eight more being visible from the far right of the ruins when viewed from the south-east. The turbines would cause a visual distraction from the view of the monument but would not obstruct views of the church ruins or alter relationships with other assets. There is assessed to be a magnitude of impact of low adverse on this asset of high importance resulting in an effect of minor adverse significance.
- 11.9.6 It is considered that the Proposed Development would have a negligible long-term adverse impact on the cultural significance of Hen Eglwys. There would be a moderate significance of effect which is considered not significant.
- 11.9.7 As such it is considered that the cumulative effect of these developments on Hen Eglwys would remain moderate (not significant).

Mynydd y Castell Camp (GM162)

- 11.9.8 The Environmental Statement for Y Bryn Windfarm⁴ concludes that some turbines would be visible to the far east of the hillfort in views from the east. There is assessed to be a magnitude of impact of low adverse on this asset of high importance resulting in an effect of minor adverse significance.
- 11.9.9 It is considered that the Proposed Development would have a negligible long-term adverse impact on the cultural significance of Mynydd y Castell. There would be a moderate significance of effect which is considered not significant.
- 11.9.10 As such it is considered that the cumulative effect of these developments on Mynydd y Castell Camp would remain moderate (not significant).

² Natural Power, 2023

³ Natural Power, 2023

⁴ Natural Power, 2023

Chain Home Low Radar Station (GM488)

- 11.9.11 The Environmental Statement for Y Bryn Windfarm⁵ concludes that a partial view of a single turbine is anticipated to be visible above the north-eastern horizon from the asset. No impact is predicted on the western and southern horizons. There is assessed to be a magnitude of impact of negligible adverse on this asset of high importance resulting in an effect of negligible significance.
- 11.9.12 It is considered that the Proposed Development would have a negligible long-term adverse impact on the cultural significance of Chain Home Low Radar Station. There would be a moderate significance of effect which is considered not significant.
- 11.9.13 As such it is considered that the cumulative effect of these developments on Chain Home Low Radar Station would remain moderate (not significant).

National Grid Margam Substation Extension and Grid Connection

- 11.9.14 Tata Steel UK Ltd (the Applicant) has signed a connection agreement with NGESO for a new connection site to serve the Proposed Development. The new connection will be derived from the existing Margam 275kV Substation.
- 11.9.15 Significant infrastructure works will be required at Margam 275kV substation to increase the footprint of the substation and to integrate the new GIS with older existing equipment. Additionally, it is anticipated that future customer connections will be required at the Margam 275kV substation. To facilitate these connections, it is understood that the future/spare bays would be built as part of these works. The designer will need to take account of this when designing the substation and include cable routes and/or overhead line connections/gantries in the design.
- 11.9.16 Any impact on setting is likely to be similar in nature to that of Proposed Development given the scale, appearance and location of the substation building, for example long ranging setting impacts on historic assets in the local landscape with established visibility of the steelworks.
- 11.9.17 Where the cable corridor crosses the agricultural land at the southern end of the Site, it has been indicated during consultation with GGAT that the area is considered low risk and unlikely to require mitigation. Previous geophysical survey indicates a lack of evidence for any substantial archaeological features in this area, with the results only indicating the presence of drainage grips across the area. The only other anomalies recorded are most likely due to variations in the composition of the tidal flat superficial deposits. Any tracks, pipes, and areas of ferrous/modern disturbance are considered to be of 20th century origin.
- 11.9.18 This other committed development is adjacent to the Site and will not impact any heritage asset or part thereof identified within the site or vicinity. There is considered to be a very low risk by consultees (at GGAT) and Headland Archaeology for the presence of previously unknown important archaeological remains to be present within the cable corridor. Discussion with GGAT has agreed that the risk of remains is so low that archaeological investigations or monitoring associated with the cable installation are not necessary. There is no evidence for a site or monument extending across the two sites which could be affected by the two schemes. If any remains were present within the cable

⁵ Natural Power, 2023

route they would be distinct and separate to any archaeological remains within the EAF site and therefore there would not be a significant cumulative effect.

11.10 Summary of effects

11.10.1 **Table 11.7** summarises the potential impacts and effects on receptors, additional mitigation proposed and concludes the significance residual effects reported in this ES chapter.

11.10.2 The Proposed Development has the potential to physically and permanently adversely affect historic assets during construction. Buried archaeological deposits and palaeoenvironmental remains, if present, may be damaged or destroyed by construction groundworks and other activities. Permanent minor adverse (non-significant) effects are predicted on two non-designated historic assets during construction of the Proposed Development: Morfa Colliery (421174) and Theodrics Grange (20041), as well as upon archaeological potential for hitherto unknown remains that may be discovered during evaluation or construction. Mitigation through preservation by record is proposed, which would reduce the residual effect to neutral (not significant).

11.10.3 In the operational phase of the Proposed Development, moderate adverse residual effects (not-significant) are predicted on seven designated historic assets: Chain Home Low Radar Station (GM488), Landscape around Half Moon Camp (GM477), Margam Abbey (GM005), Mynydd y Castell Camp (GM162), and Margam Park Conservation Area (151) and Registered Garden (PGW(Gm)52(NEP)), and Hen Eglwys (GM163). A minor adverse residual effect (not significant) is predicted on the designated historic assets Henbiniwn (00740w). Negligible adverse (non-significant) residual effects are predicted on the non-designated historic asset Morfa Colliery (421174) and Theodrics Grange (20041).

Table 11.7 Summary of residual significant effects

Environmental factor	Receptor	Impact	Potential effect	Additional mitigation proposed	Residual effect
Construction phase					
Non-designated historic assets	Morfa Colliery (421174), Morfa Colliery Gas Works (710277), and Theodrics Grange (20041)	Permanent damage or destruction by construction groundworks and other activities	Minor adverse	Utilisation of temporary fencing to prevent accidental damage or encroachment	Neutral (not-significant)
	Discontinuous peat layer	Permanent damage or destruction during construction of 9m deep foundations for two hoppers	Minor adverse	Archaeological watching brief with aim of recovering paleoenvironmental samples	Neutral (not-significant)

Environmental factor	Receptor	Impact	Potential effect	Additional mitigation proposed	Residual effect
Operational phase					
Designated historic assets	Chain Home Low Radar Station (GM488), Landscape around Half Moon Camp (GM477), Margam Abbey (GM005), Mynydd y Castell Camp (GM162), and Margam Park Conservation Area (151) and Registered Garden (PGW(Gm)52(NEP)), and Hen Eglwys (GM163)	Visual change within the Red Line Boundary associated with a change in the number of buildings and their massing.	Moderate adverse	No additional mitigation is proposed	Moderate (not significant)
	Henbiniwn (00740w)	Visual change within the Red Line Boundary associated with a change in the number of buildings and their massing.	Minor adverse	No additional mitigation is proposed	Minor (not significant)
Non-designated historic assets	Morfa Colliery (421174) and Theodrics Grange (20041)	Visual change within the Red Line Boundary associated with a change in the number of buildings and their massing.	Negligible adverse	No additional mitigation is proposed	Negligible (not significant)

11.11 References

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