



Historic  
Environment  
Desk Based  
Assessment

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Mynydd Maen  
Wind Farm

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## Non-Technical Summary

*The report has analysed data from the Glamorgan Gwent Archaeological Trusts Historic Environment Record (HER), the National Monuments Record (NMR) and data held by Cadw to provide a detailed assessment of known elements of the historic environment within and around the proposed wind farm. A study area of 2 km was used for HER and NMR data and a 10 km search area used for designated historic assets around the site. The search has included analysis of scheduled monuments, listed buildings, conservation areas and registered historic parks and gardens.*

*One World Heritage Site, and 1001 listed buildings were initially identified, along with 33 conservation areas, 11 RHPGs and 74 scheduled monuments.*

*Of the 74 Scheduled Monuments identified within the 10 km study area, six were considered in more detail during the assessment process. It was concluded that the proposed wind farm would cause harm to the setting of two of these scheduled monuments within the 10 km study area, this would be at a low level not causing any impact to the significance of the monuments.*

*Further consideration was given to all other designated sites, their heritage interests and significance, and the contribution made to this significance by their settings and the contribution of the site within that setting (if any). Following this staged approach there were no other designated heritage assets whose significance would be harmed by the level of change posed within their settings (if any change was identified at all).*

*Based on the information within the HER and NMR, supplemented by historic mapping, the proposed wind farm is considered to have a moderate potential for prehistoric archaeological remains, as a possible cairn is recorded on the HER/NMR and two possible round barrows and an area of potential cairns have been identified by Lidar analysis.*

*There is a low potential for archaeological remains of the Roman period, due to the paucity of known records in the vicinity. There is also a low potential for remains of the early medieval and medieval periods as the site lies on an upland area that would have likely been used for animal grazing rather than any occupation or other activity. There is a moderate potential for archaeological remains of post medieval date to be present within the site, with known boundary markers located within the proposed wind farm as well as areas of known quarrying, including features identified from Lidar analysis. There is a low potential for remains of modern date to be present, excluding the area where remains of the HF-DF radar station are present.*

*The majority of the proposed wind farm area has not been subject to previous development and appears to have been used as open common land since the medieval period. Areas of quarrying, the HF-DF radar station and modern building associated with communications masts are present but these occupy a small part of the proposed wind farm.*

*For buried archaeological remains mitigation could be implemented for direct impacts from the proposed wind farm in the form of evaluation investigations across the development area followed by excavation or other forms of recording as appropriate to any remains revealed. The one area where a potential impact to archaeology may occur is in Lidar Area 4 where the potential for prehistoric cairns has been identified, although due to the quantity of possible mounds and their juxtaposition, they are more likely associated with vegetation growth than human activity. Based on the assessment it is not anticipated that any below ground archaeological remains will be of such high significance that they could be a constraint to the proposals, and that any such remains can be dealt with through appropriate mitigation by way of conditions on planning permission.*

*The scope of any further archaeological works that would be needed in advance or during development of the proposed wind farm would need to be discussed and agreed with Planning Services at Glamorgan Gwent Archaeological Trust in their capacity as archaeological advisors to Blaenau Gwent and Torfaen County Borough Councils. Cadw and the Conservation Officers would respond on issues regarding the designated historic assets in the study area.'*

### Crynodeb Di-Technegol

Mae'r adroddiad wedi dadansoddi data o Gofnodion Amgylchedd Hanesyddol (CAH) Ymddiriedolaeth Archaeolegol Morgannwg Gwent, y Cofnod Henebion Cenedlaethol (CHC) a data a gedwir gan Cadw i ddarparu asesiad manwl o elfennau hysbys o'r amgylchedd hanesyddol o fewn ac o amgylch y fferm wynt arfaethedig. Defnyddiwyd ardal astudiaeth o 2 km ar gyfer data CAH ac CHC a defnyddiwyd ardal chwilio 10 km ar gyfer asedau hanesyddol dynodedig o amgylch y safle. Mae'r chwiliad wedi cynnwys dadansoddiad o henebion cofrestredig, adeiladau rhestredig, ardaloedd cadwraeth a pharciau a gerddi hanesyddol cofrestredig.

Nodwyd un Safle Treftadaeth y Byd, a 1001 o adeiladau rhestredig i ddechrau, ynghyd â 33 o ardaloedd cadwraeth, 11 o Dirweddau, Parciau a Gerddi Cofrestredig a 74 o henebion cofrestredig. O'r 74 o Henebion Cofrestredig a nodwyd o fewn ardal 10 km yr astudiaeth, ystyriwyd chwech yn fanylach yn ystod y broses asesu. Daethpwyd i'r casgliad y byddai'r fferm wynt arfaethedig yn achosi niwed i osodiad dwy o'r henebion cofrestredig hyn o fewn yr ardal astudiaeth 10 km, byddai hyn ar lefel isel heb achosi unrhyw effaith ar arwyddocâd yr henebion.

Rhoddyd ystyriaeth bellach i'r holl safleoedd dynodedig eraill, eu diddordebau treftadaeth a'u harwyddocâd, a'r cyfraniad a wneir i'r arwyddocâd hwn gan eu gosodiadau a chyfraniad y safle o fewn y gosodiad hwnnw (os o gwbl). Yn dilyn y dull fesul cam hwn, nid oedd unrhyw asedau treftadaeth dynodedig eraill y byddai lefel y newid yn eu lleoliadau yn niweidio eu harwyddocâd (pe bai unrhyw newid yn cael ei nodi o gwbl).

Yn seiliedig ar y wybodaeth yn y CAH a'r CHC, a ategwyd gan fapiau hanesyddol, ystyrir bod gan y fferm wynt arfaethedig botensial cymedrol ar gyfer olion archaeolegol cynhanesyddol, gan fod carnedd bosibl wedi'i chofnodi ar y CAH/CHC a dau feddrod crwn posibl ac ardal carneddau posibl wedi'i nodi mewn dadansoddiad Lidar.

Mae potensial isel am weddillion archaeolegol y cyfnod Rhufeinig, oherwydd prinder cofnodion hysbys yn y cyffiniau. Mae potensial isel hefyd am olion o'r canol oesoedd cynnar a'r canol oesoedd gan fod y safle wedi'i leoli ar ardal ucheldirol a fyddai'n debygol o gael ei defnyddio ar gyfer pori anifeiliaid yn hytrach nag unrhyw feddiannaeth neu weithgaredd arall. Mae potensial cymedrol i weddillion archaeolegol o'r cyfnod ôl-ganoloesol fod yn bresennol o fewn y safle, gyda marcwyr ffiniau hysbys wedi'u lleoli o fewn y fferm wynt arfaethedig yn ogystal ag ardaloedd chwarelyddol hysbys, gan gynnwys nodweddion a nodwyd o ddadansoddiad Lidar. Mae potensial isel i weddillion modern fod yn bresennol, heb gynnwys yr ardal lle mae olion gorsaf radar HF-DF yn bresennol.

Nid yw'r rhan fwyaf o ardal y fferm wynt arfaethedig wedi bod yn destun datblygiad blaenorol ac ymddengys iddo gael ei ddefnyddio fel tir comin agored ers y cyfnod canoloesol. Mae ardaloedd chwarela, gorsaf radar HF-DF ac adeiladau modern sy'n gysylltiedig â mastiau cyfathrebu yn bresennol ond mae'r rhain yn meddiannu rhan fach o'r fferm wynt arfaethedig.

Ar gyfer gweddillion archaeolegol claddedig, gellid cymryd camau lliniaru ar gyfer effeithiau uniongyrchol o'r fferm wynt arfaethedig ar ffurf ymchwiliadau gwerthuso ar draws yr ardal ddatblygu a ddilyniir gan gloddio neu fathau eraill o gofnodi fel sy'n briodol i unrhyw weddillion a ddatgelir. Yr un ardal lle gallai effaith bosibl ar archeoleg ddigwydd yw Ardal Lidar 4 lle mae'r potensial ar gyfer carneddau cynhanesyddol wedi'i nodi, er oherwydd nifer y twmpathau posibl a'u cyfosodiad, maent yn fwy tebygol o fod yn gysylltiedig â thwf llystyfiant na gweithgarwch dynol. Ar sail yr asesiad ni ragwelir y bydd unrhyw weddillion archaeolegol o dan y ddaear mor sylweddol fel y gallent fod yn gyfyngiad ar y cynigion, ac y gellir delio ag unrhyw weddillion o'r fath trwy liniaru priodol trwy amodau ar ganiatâd cynllunio.

Byddai angen trafod cwmpas unrhyw waith archaeolegol pellach y byddai ei angen ymlaen llaw neu yn ystod datblygiad y fferm wynt arfaethedig a chytuno arno gyda Gwasanaethau Cynllunio Ymddiriedolaeth Archaeolegol Morgannwg Gwent yn rhinwedd eu swydd fel cynghorwyr archaeolegol i Gynghorau Bwrdeistref Sirol Blaenau Gwent a Thorfaen. Byddai Cadw a'r Swyddogion Cadwraeth yn ymateb ar faterion yn ymwneud â'r asedau hanesyddol dynodedig yn ardal yr astudiaeth.

# 1. Introduction

## Background

- 1.1** This historic environment desk-based assessment has been prepared by James Meek MCIfA and Dr Paula Jones of HCUK Group on behalf of RES. This document will be included as a technical appendix to the Cultural Heritage chapter of the Environmental Statement (ES) for the proposed wind farm.
- 1.2** The proposed wind farm straddles the boundary of two local planning authorities, Torfaen County Borough Council to the east and Caerphilly County Borough Council to the west. The red line boundary of the proposed wind farm is referred to as the 'site boundary' (Figures 1 and 2).
- 1.3** The proposals are for 13 horizontal axis wind turbines up to a maximum tip height of 149.9 m. The 13 turbines will have a total installed capacity of approximately 54.6 MW. The proposed wind farm would operate for a period of 35 years. The proposals would also include several temporary and permanent diversions to public rights of way and the provision of a new area of common land to replace that occupied by the turbines and infrastructure.
- 1.4** The standard is stated by Chartered Institute for Archaeologists (CIfA) as: *Desk-based assessment will determine, as far as is reasonably possible from existing records, the nature, extent and significance of the historic environment within a specified area. Desk-based assessment will be undertaken using appropriate methods and practices which satisfy the stated aims of the project, and which comply with the Code of Conduct and other relevant regulations of CIfA. In a development context desk-based assessment will establish the impact of the proposed wind farm on the significance of the historic environment (or will identify the need for further evaluation to do so), and will enable reasoned proposals and decisions to be made whether to mitigate, offset or accept without further intervention that impact.*
- 1.5** A desk-based assessment is defined by CIfA as: *.....a programme of study of the historic environment within a specified area or site on land, the inter-tidal zone or underwater that addresses agreed research and/or conservation objectives. It consists of an analysis of existing written, graphic, photographic and electronic information in order to identify the likely historic assets, their interests and significance and the character of the study area, including appropriate consideration of the settings of historic assets and, in England, the nature, extent and quality of the known or potential archaeological, historic, architectural and artistic interest. Significance is to be judged in a local, regional, national or international context as appropriate.*



- 1.6** For the purposes of Planning Policy in Wales TAN 24 – The Historic Environment, the **historic environment** is defined as: *All aspects of the environment resulting from the interaction between people and places through time, including all surviving physical remains of past human activity, whether visible, buried or submerged, and deliberately planted or managed* (para 1.7, Welsh Government 2017<sup>1</sup>).
- 1.7** A **historic asset** is: *An identifiable component of the historic environment. It may consist or be a combination of an archaeological site, a historic building or area, historic park and garden or a parcel of historic landscape. Nationally important historic assets will normally be designated.*<sup>2</sup>
- 1.8** This report contains information about the historic environment and historic assets in the vicinity of the proposed wind farm site, which will assist the archaeological advisors to the planning authority, Planning Services at Glamorgan Gwent Archaeological Trust and Cadw as archaeological advisors to Welsh Government, in their decision about the application and what, if any, archaeological mitigation will be required. This report includes a desk-based assessment and settings assessment based on 'Settings of Historic Assets in Wales' guidance (Cadw 2017<sup>3</sup>).
- 1.9** Further guidance on how the planning system considers the historic environment and historic assets during development plan preparation and decision making on planning and Listed Building (LBC) applications can be found in Planning Policy Wales: Technical Advice Note 24: The Historic Environment (Welsh Government 2017; available online).
- 1.10** This desk-based assessment comprises an examination of digital data held by the Glamorgan Gwent Archaeological Trust (GGAT) Historic Environment Record (HER), and by the National Monuments Record of Wales (NMRW) together with documentary research. It incorporates a map regression indicating the impact of change over time. The report also references the 'Guidance for the Submission of Data to the Welsh Historic Environment Records (HERs)'.<sup>4</sup> A written scheme of investigation (WSI) for the methodology of the assessment was submitted to and approved by the Planning Services section of GGAT. The WSI is included as Technical Appendix 8.1: Written Scheme of Investigation (WSI) of the Environmental Statement for the proposed Mynydd Maen Wind Farm.
- 1.11** Data has been collected for an area comprising a 10 km radius of the site boundary for designated historic assets (Scheduled Monuments, Listed Buildings, Historic Parks

<sup>1</sup> Welsh Government 2016, Planning Policy Wales TAN 24 The Historic Environment 2017

<sup>2</sup> Ibid

<sup>3</sup> <https://cadw.gov.wales/sites/default/files/2019-05/Setting%20of%20Historic%20Assets%20in%20Wales%20EN.pdf>

<sup>4</sup> Guidance for the Submission of Data to the Welsh Historic Environment Records (HERs) updated 2022 – Clwyd Powys, Dyfed, Glamorgan Gwent and Gwynedd Archaeological Trust's

and Gardens) and 2 km for Historic Environment Record and National Monument Record data. These radii have been selected on the basis of professional judgment as being sufficient to determine the archaeological potential of the development proposals, taking into account its location, topography, and character. They have been confirmed with GGAT through the preparation of a written scheme of investigation for this assessment.

- 1.12** This assessment will be in accordance with Chapter 6 of Planning Policy Wales, Planning Policy Wales Technical Advice Note 24 and the procedures set out in CIfA's 'Standard and Guidance for Historic Environment Desk-based Assessment'.
- 1.13** The purpose of this assessment is to determine and assess the archaeological potential of the development proposals and to assess the significance of any relevant heritage assets identified. The report is informed by site inspection, historical information, and by data relating to heritage assets. It seeks to provide sufficient information to allow an informed understanding of the potential impact of the proposed wind farm on the significance of those assets, and to consider the need for solutions (design, engineering) where necessary.
- 1.14** This report will inform the Cultural Heritage chapter of the ES being prepared for the scheme and is included as Technical Appendix 8.2: Historic Environment Desk-Based Assessment (HEDBA). This is supplemented by Technical Appendix 8.3: Historic Environment Desk-Based Assessment (HEDBA) Appendices and Technical Appendix 8.4: Historic Environment Desk-Based Assessment (HEDBA) Figures Parts 1-3.

## Geology

- 1.15** The British Geological Survey (BGS)<sup>5</sup> identifies the underlying solid geology across the entire site boundary as Hughes Member – Sandstone, a sedimentary bedrock formed between 309.5 and 308 million years ago during the Carboniferous period.
- 1.16** No superficial deposits are recorded within the site boundary, although patches of Head - clay, silt, sand and gravel (.a sedimentary superficial deposit formed between 2.588 million years ago and the present during the Quaternary period) are recorded around the north-eastern and eastern sides of the site boundary.

## Topography

- 1.17** The proposed wind farm lies on the upland area of Mynydd Maen, comprising the three named summits of Mynydd Llwyd to the north; Mynydd Twyn Glas to the

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<sup>5</sup> <http://mapapps.bgs.ac.uk/geologyofbritain/home.html>

centre and South Top to the south. The site boundary lies around 1.2 km due west of Upper Cwmbran to the south-east and 2 km east of Newbridge to the west

**1.18** The western edge of the site boundary is the lowest, lying at around 360 m above Ordnance Datum (aOD), rising to the east. Mynydd Llwyd lies at over 468 m aOD; Mynydd Twyn-glas lies at around 472 m aOD; and South Top at around 460 m aOD. The site boundary drops down to the 510 m contour to the west and c.510 m contour to the south (Figures 3 and 4).

**1.19** The eastern edge of the site boundary drops to around 430 m aOD; The southern tip lies at 370 m aOD; the south-western side is around 400 m aOD; and the northern edge lies at around 420 m aOD.

**1.20** The land is presently open grass moorland with areas of gorse. A number of paths cross the area as well as a larger access track running from the west to the central communications mast and associated buildings situated within a compound, and a smaller trackway running to the north to a second mast and building site. Other trackways are mostly just worn footpaths through the existing ground surface.

**1.21** The development will comprise:

- Thirteen wind turbines up to a maximum tip height of 149.9 m;
- An improved site entrance to the west;
- New and upgraded access tracks;
- Crane hardstandings;
- Control building and substation compound;
- Electricity transformers;
- Underground cabling; and
- Drainage works.

**1.22** The turbine locations are proposed to be located as follows:

Table 1: Proposed Turbine Locations

<b>Turbine Reference</b>	<b>Easting</b>	<b>Northing</b>
<b>T1</b>	325890	198807
<b>T2</b>	326059	198524
<b>T3</b>	325526	198816
<b>T4</b>	325614	198412
<b>T5</b>	325238	198350

<b>T6</b>	325049	198675
<b>T7</b>	324783	198338
<b>T8</b>	325883	198185
<b>T9</b>	326177	197665
<b>T10</b>	325575	197282
<b>T11</b>	325739	196966
<b>T12</b>	325543	196591
<b>T13</b>	325731	196358

**1.23** Turbines 1 to 8 lie in the north-eastern part of the site.

**1.24** Turbines 9 to 13 lie in the central and southern parts of the site.

## Site Visit

**1.25** Site visits have been undertaken to the area of the proposed wind farm and its environs to observe the proposed locations of the turbines and associated infrastructure and roads. This has been supplemented by a review of 1 m resolution Lidar survey of the full application site. This has enabled further observation of the proposed wind farm area and also manipulation of Lidar data to observe for small variations in ground level to identify visible potential archaeological remains.

**1.26** The following photographs provide an overview of the area.



*Photo 1: View east from western edge of site-*



*Photo 2: View west from western side of site close to southern boundary towards Newbridge*



*Photo 3: View north-east from western side of site close to southern edge, showing electricity pylons crossing Mynydd Maen*



*Photo 4: View west from access track close to centre of site*



*Photo 5: Views south-east from close to centre of site*



*Photo 6: View east towards communications mast and associated compound and buildings, close to centre of site*



*Photo 7: View west from summit of Mynydd Maen showing electricity pylons*



*Photo 8: View north-west from summit of Mynydd Maen showing communications mast*





*Photo 9: View north from summit of Mynydd Maen*



*Photo 10: View north-east from summit of Mynydd Maen*



*Photo 11: View south-east from summit of Mynydd Maen towards Bristol Channel*



*Photo 12: View south from summit of Mynydd Maen towards Bristol Channel*



*Photo 13: View south-west from summit of Mynydd Maen towards Bristol Channel*



*Photo 14: View north-west from northern part of site -*



*Photo 15: View north from northern part of site-*



*Photo 16: View east from northern edge of site boundary-*



*Photo 17: View north-east from northern edge of site boundary*



*Photo 18: View west from northern edge of site boundary*



*Photo 19: View west from western part of northern edge of site boundary*



*Photo 20: View east from western part of northern edge of site boundary*

## 2. Methodology

### Sources

**2.1** In preparing this assessment we have compiled readily available archaeological and historical information from documentary and cartographic sources, primarily:

- Glamorgan Gwent Archaeological Trust (GGAT) Historic Environment Record (HER) for known archaeological sites, monuments and findspots within 2 km of site boundary;
- Royal Commission on the Ancient and Historical Monuments of Wales National Monument Record information (using the same study areas);
- Scheduled Monuments, Registered Historic Parks and Gardens, Registered Historic Landscapes; Listed Buildings and Conservation Areas (Cadw / Welsh Government);
- Air photographs held by RCAHMW, Britain from Above, Google Maps and those taken for the proposed wind farm;
- Review of Lidar data, both that from the DataMap Wales website;
- Site visits;
- Assessment of the archaeological potential of the area;
- Assessment of the likely impact upon the settings of surrounding features of the historic environment;
- Assessment of likely impacts on any identified remains within the proposed wind farm (or potential remains) and likely requirements, if any, for further stages of archaeological work; and
- Online sources.

**2.2** The information gathered from the above sources has been verified and augmented as far as possible by assessment and site inspection, in order to arrive at conclusions on the significance of the various heritage assets and archaeological remains that have been identified.

## Setting Assessment Methodology

- 2.3** The assessment process has given due consideration to Cadw guidance on setting as laid out in *Managing Setting of Historic Assets in Wales*<sup>6</sup> and *Heritage Impact Assessment in Wales*<sup>7</sup> and similarly within the Welsh Government's Planning Policy Wales TAN 24: The Historic Environment<sup>8</sup>.
- 2.4** When assessing the impact of proposals on designated historic assets, it is not a question of whether there would be a direct physical impact on that asset, but instead whether change within its 'setting' would lead to a loss of 'significance'.
- 2.5** In simple terms, setting is defined as 'the surroundings in which a historic asset is understood, experienced and appreciated'. It, therefore, must be recognised from the outset that 'setting' is not a historic asset, and cannot itself be harmed. Its importance relates to the contribution it makes to the significance of the historic asset and the extent to which it allows that significance to be understood, experienced and appreciated.'
- 2.6** Welsh Government guidance<sup>9</sup> identifies that '*change in the historic environment is inevitable*', but it is only harmful when significance is damaged.
- 2.7** In that regard, the Cadw Conservation Principles document states that significance of a historic asset '*embraces all of the cultural heritage values that people associated with it, or which prompt them to respond to it*'<sup>10</sup>.
- 2.8** As such, when assessing the impact of proposals on designated historic assets beyond the boundary of a development site, it is not a question of whether setting would be affected, but rather a question of whether change within an asset's 'setting' would lead to a loss of 'significance' or the ability to understand, experience and appreciate 'significance' based on the above 'heritage interest' as defined by Cadw.
- 2.9** Set within this context, where the objective is to determine the impact of proposals on designated historic assets beyond the boundary of a development site, it is necessary to first define the significance of the asset in question - and the contribution made to that significance or the ability to appreciate that significance by its 'setting', in order to establish whether there would be a loss, and therefore harm.

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<sup>6</sup> Cadw 2017a

<sup>7</sup> Cadw 2017b

<sup>8</sup> WG 2017

<sup>9</sup> Ibid

<sup>10</sup> Cadw 2011



The guidance identifies that change within a historic asset's setting need not necessarily cause harm to that asset - it can be positive, negative or neutral.

**2.10** In light of the above, the assessment of potential setting effects, arising from the proposed wind farm, has followed the guidance set out in 'Managing Setting of Historic Assets in Wales' by Cadw<sup>11</sup>. Part 1 of this guidance defines setting and observes that the setting of a historic asset is:

*"The surroundings in which a historic asset is understood, experienced and appreciated, embracing present and past relationships and 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 negative or neutral contribution to the significance of an asset."*

**2.11** The guidance is clear that the importance of setting lies in what it contributes to the significance of the historic asset or the ability to appreciate that significance.

**2.12** On a practical level, the Cadw guidance identifies an approach to assessing setting in relation to development management which is based on a four-stage procedure; i.e.:

1. Identify the historic assets;
2. Define and analyse the setting which is made up of:
  - Its current surroundings
  - Our present understanding and appreciation of the historic asset
  - What (if anything) survives of its historic surroundings.
3. Evaluate the potential impact of change or development; and
4. Consider options to mitigate the impact of a proposed change or development.

**2.13** The Heritage Impact Assessment in Wales document<sup>12</sup> states that the heritage values (significance) of a historic asset can be defined in the following terms:

- **evidential value:** the extent to which the physical fabric tells how and when your historic asset was made, how it was used and how it has changed over time. There may be buried or obscured elements associated with your historic asset which may also be an important potential source of evidence.
- **historical value:** your historic asset may illustrate a particular past way of life or be associated with a specific person or event; there may be physical evidence for these connections which could be important to retain.

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<sup>11</sup> Cadw 2017a

<sup>12</sup> Cadw 2017b

- **aesthetic value:** the design, construction and craftsmanship of your historic asset. This can also include setting and views to and from the historic asset, which may have changed through time.
- **communal value:** your historic asset may have particular significance to people for its commemorative, symbolic or spiritual value, or for the part it has played in local cultural or public life. This will be particularly important in the case of buildings in public use or sites where public access must be maintained or improved.

**2.14** Having established the baseline, the following guidance is provided in respect of an assessment of the effect upon 'setting'; i.e.:

*"Factors to be considered when assessing the impact of a proposed change or development within the setting of a historic asset include:*

- the visual impact of the proposed change or development relative to the scale of the historic asset and its setting
- the visual impact of the proposed change or development relative to the location of the historic asset
- whether the proposed change or development would dominate the historic asset or detract from our ability to understand and appreciate it — for example, its functional or physical relationship with the surrounding landscape and associated structures and/ or buried remains
- the presence, extent, character and scale of the existing built environment within the surroundings of the historic asset and how the proposed change or development compares with this
- the lifespan of the proposed change or development and whether or not the impact might be reversible
- the extent of tree cover, whether it is deciduous or evergreen, and its likely longevity
- the impact of artificial lighting — for example, on night-time views
- the capability of a landscape setting to absorb change or new development without the erosion of its key characteristics
- the impact of the proposed change or development on non-visual elements of the setting and character of the historic asset, such as sense of remoteness, evocation of the historical past, sense of place, cultural identity or spiritual responses
- the impact of non-visual elements of the proposed change or development, such as the removal or addition of noises and smell."

**2.15** In light of the above, the assessment of potential setting effects, employed in the preparation of this report, focused on the completion of site walkover surveys, and using further information prepared for the development, especially the ZTV and has concentrated on the following three main areas:

- Identifying those historic assets that are capable of being affected by the proposed wind farm and the manner (if any) in which they would be affected, through initial desk-based works and subsequent field visits;
- Defining the contribution made to their significance by their setting; and
- Assessing the likely impact upon their significance or the ability to appreciate it as a result of the form of development proposed being implemented.

**2.16** In light of the above, the setting assessment within Section 4 of this report has been prepared in a robust manner, employing current best practice professional guidance and giving due regard to the methodology detailed above.

## Assessment of Significance and Importance

**2.17** Historic assets are assessed in terms of their significance and importance, following the requirement in PPW<sup>13</sup>, and taking account of the Welsh Government's guidance in TAN24<sup>14</sup> and Cadw's Conservation Principles<sup>15</sup>. Significance, in relation to heritage policy, is defined by the Conservation Principles as

*"embrace[ing] all of the cultural heritage values that people associated with it, or which prompt them to respond to it."*<sup>16</sup>

**2.18** Where potential impacts on the settings of historic assets 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). The methodology for assessing setting is described within the Setting Assessment Methodology below.

**2.19** The importance of a historic asset is the overall value assigned to it based on its heritage significance, reflecting its statutory designation or, in the case of undesignated assets, the professional judgement of the assessor (Table 2). Nationally and internationally designated assets are assigned to the highest two levels of importance. Grade II Listed Buildings and Grade II Registered Parks & Gardens are considered of medium importance. Conservation Areas are not assigned

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<sup>13</sup> Planning Policy Wales v11, Wales Government 2021

<sup>14</sup> WG 2017

<sup>15</sup> Cadw 2011

<sup>16</sup> Ibid

to either level of importance by PPW but their status as local designations and their omission from the National Heritage List justifies their classification here as assets of medium importance. Other non-designated assets which are considered of local importance only are assigned to a low level of importance. A historic feature which lacks a degree of significance meriting consideration in planning decisions, because of its heritage interest is not considered to be a historic asset; it may also be said to have negligible importance.

**2.20** The assessment seeks to understand and define the significance of heritage assets identified from the sources above. The importance of a heritage asset is the overall value assigned to it based on its heritage significance, reflecting its statutory designation or, in the case of undesignated assets, the professional judgement of the assessor (Table 2).

Table 2: Criteria for Assessing the Importance of Heritage Assets

Importance of the asset	Criteria
Very high (National / International)	World Heritage Sites and other assets of equal international importance
High (National)	Grade I and II* Registered Parks and Gardens, Scheduled Monuments, Protected Wreck Sites, Registered Battlefields, Grade I and II* Listed Buildings, and undesignated heritage assets of equal importance
Medium (Regional)	Conservation Areas, Grade II Registered Parks and Gardens, Grade II Listed Buildings, heritage assets on local lists and undesignated assets of equal importance
Low (Local)	Undesignated heritage assets of lesser importance

## Archaeological Potential

**2.21** The report concludes with (1) an assessment of the archaeological potential of the proposed wind farm, (2) an assessment of the significance of any archaeological remains that may be present, and (3) an assessment of the likely effects of the proposed wind farm on heritage assets, in terms of physical impact.

**2.22** Archaeological potential is determined through the following levels:

- a. High Potential – where historic assets of a certain period or type are known to exist or where their likelihood of being present is near certain;
- b. Moderate Potential – where the evidence suggests that historic assets of a certain period or type are likely to be present;

- c. Low Potential – where the evidence indicates that there is a slight chance for historic assets of a certain period or type to be present;
- d. Negligible – Where the evidence indicates that previous investigation, former disturbance, or topographic location is such that no remains of a certain period or type will be present.

## 3. Relevant Policy Framework

### National Legislation

**3.1** The Ancient Monuments and Archaeological Areas Act 1979 was previously the primary legislation for protecting archaeological remains and Scheduled Ancient Monuments in Wales. This has been consolidated by the Historic Environment (Wales) Act 2016 which has three main aims as defined by Cadw:

- a) to give more effective protection to listed buildings and scheduled monuments;
- b) to improve the sustainable management of the historic environment; and
- c) to introduce greater transparency and accountability into decisions taken on the historic environment.

**3.2** The new Act consolidates the Ancient Monuments and Archaeological Areas Act 1979 and also the Planning (Listed Buildings and Conservation Areas) Act 1990. It is supported by a number of planning guidance documents, a number of which are still in preparation. The Act most specifically provides better safeguards for the protection of Scheduled Monuments, Listed Buildings and Historic Parks and Gardens. It will also include further guidance on place names.

### Planning Policy Wales – Technical Advice Note 24: The Historic Environment (TAN 24)

**3.3** Planning Policy Wales v11 was revised in February 2021. TAN 24 'The Historic Environment' was adopted on 31st May 2017 and is unaltered by the February revisions. This replaced Circular 60/96 'Planning and the Historic Environment and Circular 61/96 'Planning and the Historic Environment: Historic Buildings and Conservation Areas'. This states that *'The purpose of this TAN is to provide guidance on how the planning system considers the historic environment during development plan preparation and decision making on planning and Listed Building (LBC) applications. This TAN provides specific guidance on how the following aspects of the historic environment should be considered:*

- a) *World Heritage Sites*
- b) *Scheduled monuments*
- c) *Archaeological remains*
- d) *Listed buildings*
- e) *Conservation areas*

f) *Historic parks and gardens*

g) *Historic landscapes*

h) *Historic assets of special local interest'* (Ibid para 1.4)<sup>17</sup>

**3.4** Advice and decisions on planning applications affecting nationally significant historic environment features (or designated historic assets) is provided by Cadw acting on behalf of Welsh Government.

**3.5** TAN 24 also notes the importance of The Conservation Principles document (Cadw 2011)<sup>18</sup> being used for the Sustainable Management of the Historic Environment in Wales *'and provide the basis upon which Cadw discharges certain statutory duties on behalf of the Welsh Ministers'*<sup>19</sup>. It notes that *'Conservation Principles should be used by others (including owners, developers and other public bodies) to assess the potential impacts of a development proposal on the significance of any historic asset/assets and to assist in decision making where the historic environment is affected by the planning process'*<sup>20</sup>.

**3.6** Conservation Principles includes the following six principles:

1. Historic assets will be managed to sustain their values.
2. Understanding the significance of historic assets is vital.
3. The historic environment is a shared resource.
4. Everyone will be able to participate in sustaining the historic environment.
5. Decisions about change must be reasonable, transparent and consistent.
6. Documenting and learning from decisions is essential.

**3.7** The significance of a historic asset is defined in TAN 24 as comprising four heritage values which need to be understood before the significance of the asset can be assessed: Evidential value; Historical value; Aesthetic value and Communal value.

**3.8** TAN 24 discusses Heritage Impact Assessments and notes *'that they are 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*

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<sup>17</sup> TAN 24, para 1.4

<sup>18</sup> Cadw 2011, Conservation Principles

<sup>19</sup> TAN 24, para 1.10

<sup>20</sup> Ibid

*significance of the asset and the impact of change to be understood. A 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.'*

**3.9** Guidelines for the preparation of Heritage Impact Assessments in Wales have been prepared by Cadw<sup>21</sup>.

**3.10** TAN 24 discusses what the setting of a historic asset comprises in para 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.'*<sup>22</sup>

**3.11** It notes that the principles used for determining setting impact *'are equally applicable to all historic assets, irrespective of their designation. For any development within the setting of a historic asset, some of the factors to consider and weigh in the assessment include:*

- *The significance of the asset and the contribution the setting makes to that significance*
- *the prominence of the historic asset*
- *the expected lifespan of the proposed wind farm*
- *the extent of tree cover and its likely longevity*
- *non-visual factors affecting the setting of the historic asset such as noise.'*<sup>23</sup>

**3.12** Further it recognises that *'There will be cases where a proposed wind farm will enhance the setting of a historic asset and this will be treated as a benefit resulting from the development. Mitigation of damaging effects could be achieved through good design and in some cases screening or landscaping.'*<sup>24</sup>

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<sup>21</sup> Cadw 2017, Heritage Impact Assessments in Wales, May 2017

<sup>22</sup> TAN 24 para 1.25

<sup>23</sup> TAN 24 para 1.26

<sup>24</sup> TAN 24 para 1.28



## Relevant Local Policies:

- 3.13** The Torfaen County Borough Local Development Plan (to 2021; Adopted December 2013)<sup>25</sup> is the current adopted plan for the County. It is presently in review. This review has recommended additions to historic environment policy in terms of renewable energy (*Appropriate arrangements have been made for the preservation and/or recording of features of local archaeological, architectural or historic interest*).
- 3.14** The Caerphilly County Borough Local Development Plan up to 2021 (Adopted November 2010) is the current adopted plan for the County.
- 3.15** Both adopted local plans predate the Historic Environment Act (Wales) 2016 (revised 2023).

Table 3: Relevant Local Policies

Relevant Section	Details
<b>Torfaen County Borough Local Development Plan (to 2021)</b>	
<b>BW1 General Policy - Development Proposals</b>	<p>Built Environment</p> <ul style="list-style-type: none"> <li>i) The proposal contributes to the preservation and enhancement of the historic built environment wherever possible (including heritage assets and their settings);</li> <li>ii) The proposal does not detrimentally affect the character of the immediate and surrounding built environment; and</li> <li>iii) Where practicable, existing construction materials on the site are re-used or recycled.</li> </ul>
<b>HE1 Buildings and Structures of Local Importance</b>	<p>Development proposals affecting buildings and structures of local importance which make a valuable contribution to the character and interest of the local area will not be permitted where the distinctive appearance, architectural integrity or their settings would be significantly adversely affected, unless the benefits of the proposal would outweigh such adverse effects.</p>

<sup>25</sup> <https://www.torfaen.gov.uk/en/Related-Documents/Forward-Planning/Adopted-Torfaen-LDP-Written-Statement.pdf/>

<b>Caerphilly County Borough Local Development Plan up to 2021</b>	
<b>Policy SP6</b>	Development proposals should contribute to creating sustainable places by having full regard to the context of the local, natural, <b>historic and built environment</b> and its special features ...
<b>NH1.1 – Upper Rhymney Valley (relevant parts extracted from LDP Appendices, Appendix 1: Special Landscape Areas)</b>	<p><b>Relevance against Strategic Criteria</b></p> <p><b>Need</b></p> <p>The area represents one of the most open upland areas within the County Borough, abutting the Brecon Beacons (Bannau Brycheiniog) National Park.</p> <p>In terms of landscape structure, it forms the northern edge of the coalfield and shows evidence of historic mine workings.</p> <p><b>Coherence</b></p> <p>The area covers the northern part of the Upper Rhymney Valley, primarily to the north of the A465 corridor.</p> <p>It provides a distinctive upland landscape unit, formed primarily by the boundaries of adjacent local authorities.</p> <p>It abuts the Brecon Beacons (Bannau Brycheiniog) National Park and forms a natural buffer zone to further protect the Park’s nationally important landscape character and quality.</p> <p><b>Cultural Landscapes</b></p> <p>It is a simple, open landscape with a number of recent regeneration projects in the area, primarily in the form of the improved A465 corridor, which has both increased in scale and size.</p> <p>An important example of industrial heritage, with areas of reclaimed land and spoil tips.</p> <p>There are examples of various historic and contemporary human occupation and exploitation in the form of prehistoric monuments, redundant industrial workings and transport systems.</p> <p><b>Visual and Sensory</b></p> <p>Strong visual links with the Brecon Beacons.</p> <p>Views of the upland area are extensive and very open with minimal field boundaries and patterns. Adjacent upland areas dominate views into the landscape.</p> <p>Strong underlying feel of industrial past. Industrial remnants include old railway sidings and earthworks.</p>

	<p>Overhead pylons are visual detractors, and the A465 has both noise and movement impacts.</p> <p>Area is currently predominantly used as rough grazing and agriculture.</p> <p><b>Historical Landscapes</b></p> <p>An extensive area of unenclosed open moorland, forming the easternmost outline of Merthyr Common, which has remained relatively, unchanged since the 19th Century, in spite of encroachment by industrial extraction activity, in particular lime and ironstone quarries.</p> <p>The area contains numerous water management features that form part of the extensive remains of Dowlais Free Drainage System. There are also quarries associated with the Dowlais Ironworks, which together with the water management features represent a significant concentration of 19th Century industrial water-management features of considerable historical importance.</p> <p><b>Key Policy, Management and Development Control Issues: Long Term</b></p> <p>Future development proposals should not see the loss of any historic environment or geological or geomorphological features present within the landscape.</p> <p>Protect elements of Dowlais Free Drainage water management system.</p>
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## 4. Archaeological Background

### Introduction

- 4.1** A 10 km study area around the proposed wind farm has been used to identify designated historic assets within the area. The Blaenavon World Heritage Site lies partly within the 10 km study area. There are 74 scheduled monuments; 1002 listed buildings; 11 registered historic parks and gardens; 33 conservation areas; and 2 Registered Historic Landscapes (though neither directly affected by the proposals).
- 4.2** A 2 km study area was used for a review of archaeological sites, monuments, findspots and buildings recorded on the Glamorgan Gwent Historic Environment Record (HER) and the National Monuments Record (NMR) for the site boundary. A number of the NMR records corresponds with the local HER data, as well as scheduled monuments and listed buildings. Due to the quantity of data, all information is listed in HEDBA Appendix 3: Glamorgan Gwent Historic Environment Record Data and HEDBA Appendix 4: National Monument Record Data (Technical Appendix 8.3: Historic Environment Desk Based Assessment (HEDBA) Appendices) and quantified into site types and period for data beyond the extent of the proposed wind farm and within the study area, although specific data is included for HER entries within the proposed wind farm or of direct relevance to them.
- 4.3** GGAT HER records are identified by their unique PRN (Primary Record Number) and archaeological event records are identified by their ERN (Event Record Numbers). National Monument Record data is identified by their unique NPRN (National Primary Record Number).

Table 4: Timescales used in this report

Period	Approximate date	
Palaeolithic –	c.450,000 – 12,000 BC	Prehistoric
Mesolithic –	c. 12,000 – 4000 BC	
Neolithic –	c.4000 – 1800 BC	
Bronze Age –	c.1800 – 600 BC	
Iron Age –	c.600 BC – AD 43	
Roman (Romano-British) –	AD 43 – c. AD 410	Historic
Early Medieval –	c. AD 410 – AD 1086	
Medieval–	1086 –1485	
Post medieval	1485 – 1900	
Modern –	1901 – Present	

## Designated Historic Assets

### *World Heritage Sites*

#### Blaenavon World Heritage Site

- 4.4** Blaenavon World Heritage Site is located between 7 km and 15 km to the north of the proposed wind farm (Figures 7 and 8) at its nearest point. Within the world heritage site boundary there are also a large number of separately scheduled monuments (though only four also lie within the 10 km search area) and numerous separately listed buildings. Both the Blaenavon Conservation Area and the Cwmavon Conservation Area<sup>26</sup> (discussed further below) are also within the WHS boundary.
- 4.5** The WHS is an extensive designation that takes in an industrial landscape of international importance. Centred on the Blaenavon Iron Works opened in 1789, this area is of particular significance because of its expansion in the 19th century and its key role in the Industrial Revolution as the region became the heart of the iron, steel and coal industry. The iron works was one of the largest in the world and changed the landscape during the 19th century to a significant degree. The designation includes the remnants of the ironworks and the buildings and settlement that were built to house those working at the Ironworks. The WHS is also of international importance as the location where Sidney Gilchrist Thomas and his cousin Percy Carlyle Gilchrist discovered a way to eliminate phosphorus from the iron to make steel.
- 4.6** The landscape is set in an isolated upland setting and has been shaped by the combination of human-action and nature. The topography of the proposed wind farm allows long views in multiple directions across the workings, down into the valley where the Big Pit and the Blaenavon Ironworks were centred.
- 4.7** The designation also takes in Coity Mountain on the western side, which is an upland unenclosed landscape characterised by pre-historic funerary monuments, including standing stones and round barrows. It is also characterised by areas of mining. The ridge along Coity Mountain is a prominent feature in the landscape and has a long history of use as a boundary division between territories.
- 4.8** Various guidance documents and the nomination documents refer to the 'bleak mountain setting' of the ironworks and the fact that the landscape has developed

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<sup>26</sup> This is CA is on the edge of the ZTV and key views across it face away from the wind farm site.

and evolved through man-made and natural actions. The OUV of the WHS derives from the patterns of exploitation still visible, which provide *'exceptional evidence of the evolution of human society and settlement over time, under the influence of the physical constraints and/or opportunities presented by their nature environment and of successive social, economic and cultural forces, both external and internal'*.

- 4.9** Given the potential sensitivity of the Blaenavon WHS to changes within its setting, site visits have been undertaken in order to ascertain the contribution made by the site to the setting of this asset in accordance with the staged approach outlined in CADWs *Managing Setting of Historic Assets in Wales*<sup>27</sup>. It is specifically relevant to consider how the addition of the turbines to the wider setting may impact the integrity and authenticity of the WHS. This has been considered in accordance with the guidance set out by ICOMOS.
- 4.10** The bare earth ZTV indicates the theoretical extent of visibility within the WHS (see Figure 8). Site visits confirm that because of the distance (between 7 km and 15 km distant), intervening built form and trees, the site is not clearly discernible from the WHS and makes no contribution to its OUV.
- 4.11** It is also important to note that the experience of the key assets contained within the WHS (listed buildings and scheduled monuments) would be entirely unchanged by the proposed wind farm, as a direct result of the distances involved, the intervening topography, tree cover and built form. Thus, the OUV of the WHS is not considered to be susceptible to harm by the proposed wind farm and requires no further consideration under Stages 3 – 4 of the settings assessment.

### *Scheduled Monuments*

- 4.12** There are 74 scheduled monuments within 10 km of the site boundary (Figure 7). HEDBA Appendix 1: Scheduled Monuments provides information on these scheduled monuments and the three stage assessment process to determine whether any would require more detailed assessment where harm to their significance was highlighted as being likely.
- 4.13** The Stage 1 process identifies the 74 scheduled monuments and their location within the Zone of Theoretical Visibility (ZTV) at 149.9 m Blade Tip Height that has been provided for the proposed wind farm (Figure 8).
- 4.14** The Stage 2 process removes those scheduled monuments from further assessment where they will have no intervisibility from the proposed wind turbines (lying outside of the identified area of ZTV). The proposals would therefore lead to no change

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<sup>27</sup> Cadw 2017a

within their setting which will affect the significance of those monuments. This reduces the number of scheduled monuments to 64. These are then considered in relation to the type of monument, their location and whether the proposed wind farm would cause any change to their significance. This reduced the number of scheduled monuments down to six.

- 4.15** Stage 3 then looks at those six remaining scheduled monuments in more detail to determine whether the proposals may cause a change in their significance and whether they need a more detailed assessment. The first part of this process is included in the Technical Appendices for these reports and assessed further in the assessment chapter below.

### *Listed Buildings*

- 4.16** The assessment process has given due consideration to Cadw guidance on setting as detailed in *Managing Setting of Historic Assets in Wales*<sup>28</sup> and *Heritage Impact Assessment in Wales*<sup>29</sup> and similarly within the Welsh Government's *Planning Policy Wales Technical Advice Note 24: The Historic Environment*<sup>30</sup>. As such, the 4 stage process outlined by Cadw for the assessment of setting has been followed. The staged assessment is presented fully in HEDBA Appendix 2: Listed Buildings (Technical Appendix 8.3: Historic Environment Desk Based Assessment (HEDBA) Appendices), and the process which has been followed is summarised below.
- 4.17** Under Stage 1, over 1,000 listed buildings were identified within 10 km of the centre of the site. These assets are tabulated fully in HEDBA Appendix 2: Listed Buildings (Technical Appendix 8.3: Historic Environment Desk Based Assessment (HEDBA) Appendices). The first step undertaken as part of Stage 1 was to ascertain which of the listed buildings were intervisible with the proposed wind turbines.
- 4.18** The bare earth Zone of Theoretical Visibility based on the blade heights of the turbines has been used to determine this intervisibility (Figure 6 and 10). This was deemed appropriate as the blade height is up to 149.9 m and the hub height will be substantially less than this.
- 4.19** Where there is no intervisibility with the turbine blades indicated by the ZTV, which being bare earth represents a worse-case-scenario, those listed buildings have been removed from the assessment process.

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<sup>28</sup> Cadw 2017a

<sup>29</sup> Cadw 2017b

<sup>30</sup> WG 2017

- 4.20** HEDBA Appendix 2: Listed Buildings (Technical Appendix 8.3: Historic Environment Desk Based Assessment (HEDBA) Appendices) Stage 1 identifies the total number of listed buildings within the 10 km area, and indicates which of them lie within the ZTV categories identified above.
- 4.21** Following this a Stage 2 assessment was undertaken. The distance from the building to the proposed wind turbines was measured to see where intervisibility may still indicate potential harm to the significance from the proposals. Where the distance was great, but intervisibility was indicated by the ZTV, the type of asset was looked at to ascertain if they would still have any potential impacts on their significance, as well as its designation.
- 4.22** Grade II listed buildings beyond 2 km were discounted (unless of a type considered susceptible). All Grade II\* and Grade I listed buildings within the ZTV and within 10 km were considered further and were assessed during the site visits (if and where permitted and publicly accessible).
- 4.23** Stage 3 looks again at the listed buildings identified from Stage 2 following site inspection, and where any impacts to significance may occur the level of this impact was further determined.
- 4.24** Of the listed buildings initially identified during Stage 1 of the process 56 were carried forward to Stage 3. Following the site visits undertaken as part of the assessment it was evident that while some of these assets possess limited or distant views toward the site, the majority were located at too great a distance to afford a clear or relevant view, and many were screened by intervening topography, trees, planting and built form which was not evident from the ZTV alone.
- 4.25** In no instance was the significance of the assets considered further as part of Stage 3 considered to be harmed by the level of change posed (if any) within their setting(s). As such, there are no listed buildings which are considered under Stage 4 of the guidance (mitigation) or within Section 5 of this report.

### *Conservation Areas*

- 4.26** There are 33 conservation areas within 10 km of the proposed wind farm, 23 of which fall within or in close proximity to the ZTV (Figures 11 and 12). These include: Upper Cwmbran, Blaenavon, Cwmavon, Pontypool, part of the Monmouth and Brecon Canal, and Oakdale.
- 4.27** Site visits confirmed that all of the conservation areas possess very limited visibility of or towards the site due to intervening built form and tree cover. The closest conservation area, Upper Cwmbran, is indicated by the ZTV to fall within a very low



level of intervisibility (1 – 3 turbines). However this analysis does not take into account the built form of Upper Cwmbran itself or the surrounding wooded areas.

- 4.28** The remaining Conservation Areas possessed no intervisibility with the proposed wind farm due to their distance or the intervening topography, built form and trees/ planting which obscure any clear views. The proposals are not considered to be capable of causing an effect within the settings of these assets which could consequentially cause harm to their significance, character and appearance.

### *Registered Historic Parks and Gardens*

- 4.29** There are 15 registered historic parks and gardens (RHPG) within a 10 km radius, 11 of which are within the ZTV, the closest being Pontypool Park (Grade II\*) c.4 km to the north-east (Figures 13 and 14).
- 4.30** Site visits confirmed that this Pontypool RHPG has a largely urban setting and is of interest as a result of its surviving features, including Arboretum. The RHPG does not possess intervisibility with the proposed wind farm primarily due to the tree cover within the designated area and the urban development which surrounds, as well as the substantial distance.
- 4.31** The remaining RHPGs, which are located at far greater distances, were confirmed during site visits to not possess any significant views of the site. The proposals are not considered to be capable of causing an effect within the settings of these assets which could consequentially cause harm to their significance. The listed buildings within the RHPGs are also considered fully within HEDBA Appendix 2: Listed Buildings (Technical Appendix 8.3: Historic Environment Desk Based Assessment (HEDBA) Appendices).

## Local and National Monuments Records within 2 km of the proposed wind farm

- 4.32** A 2 km study area was used for a review of archaeological sites, monuments, findspots and buildings recorded on the Glamorgan Gwent and the National Monuments Record (NMR) for the proposed wind farm. A number of the NMR records correspond with the local HER data, as well as scheduled monuments and listed buildings. Due to the quantity of data, all information is listed in HEDBA Appendix 3: Glamorgan Gwent Historic Environment Record and HEDBA Appendix 4: National Monument Record Data (Technical Appendix 8.3: Historic Environment Desk Based Assessment (HEDBA) Appendices) and quantified into site types and period for data around the proposed wind farm, although specific data is included where relevant.

- 4.33** There are 20 GGAT HER records within the site boundary, and 228 records within the 2 km study area around it.
- 4.34** There are 3 NMR records within the site boundary and 131 records within the 2 km study area around it.

## Prehistoric

- 4.35** The GGAT HER records four prehistoric sites within the study area, none of which lie within the proposed wind farm (Figure 26). The NMR records a single prehistoric site which lies within the site boundary.
- 4.36** The prehistoric site recorded on the NMR is that of a *'possible Bronze Age round cairn is located on the edge of Mynydd Maen common at an altitude of 390m ASL. It lies on the crest of a small valley which runs into the Gwyddon valley, just outside a forestry plantation. The mound measures about 10m in diameter and is marked by a concave centre'* (NPRN422104). This corresponds to a feature visible on Lidar data and also is presumably the same site recorded as undated on the GGAT HER (GGAT05037g) which has the same description. The NMR records the site at ST 24120 97650, although Lidar data would place it slightly to the west at ST 24115 97652.
- 4.37** The GGAT HER records the findspot of a Neolithic polished stone axe as being recovered from Fairwater Comprehensive School 1.8 km to the south-east of the Site within fairwater (GGAT03701g). The circumstances of the find are not recorded.
- 4.38** A flint arrowhead of Bronze Age date was recovered from the west facing hillslope around 400 m west of the site (GGAT00107g). The arrowhead is recorded as a barbed and tanged flint arrowhead and was said to have been recovered with other flint flakes.
- 4.39** A Bronze Age socketed axe was recorded 1.6 km west of the Site at Panside, north of Newbridge (GGAT00091g). It is recorded as *'socketed axe looped with simple moulding around socket at base of loop & 2 parallel ribs with terminal bosses on each face. Length 126 mm, diameter 43 x 48 mm.'*
- 4.40** Although on an upland and prominent mountain top, there are very few prehistoric records identified within the site or its surrounding study area. A single possible burial cairn is recorded on the NMR, although the same site is recorded as undated on the GGAT HER, presumably as the dating the feature is difficult to do from aerial photographs alone. Assessment of Lidar data has indicated two possible Bronze Age barrows in the south-central part of the site (see Lidar section below, referenced Lidar Area 3).

- 4.41** The lack of known prehistoric sites may be as a result of the lack of previous archaeological investigations undertaken within the study area, although a number of previous studies have been carried out which did not reveal anything.
- 4.42** The potential for archaeological remains dating to the prehistoric period is considered to be moderate based on the available evidence, including sites within the proposed wind farm. The site visit did not identify any further possible prehistoric sites, although possible Bronze Age barrows are visible from interrogation of Lidar data. Should prehistoric remains be identified within the area, they would be considered to be of low to regional archaeological importance.

## Roman

- 4.43** There are no Roman sites recorded on the NMR within the study area. Numerous Roman sites are known in the lower lying ground to the south around Caerleon and Caerwent, with a major Roman road running east to west closer to the coast. A number of scheduled Roman sites are also recorded within 10 km of the Site.
- 4.44** The paucity of Roman records within the 2 km study area indicates that the potential for further archaeological remains of Roman date to be present is low. If remains were to be present they may be considered of local (low) to regional (moderate) archaeological importance providing information on an archaeological period that is very poorly represented within the study area.

## Early Medieval

- 4.45** No records of early medieval date are recorded within the study area on either the GGAT HER or NMR.
- 4.46** The potential for remains of this date to be present is considered low. If present, remains of this date would be of at least local (low) archaeological importance providing information on an archaeological period that is very poorly represented within the study area.

## Medieval

- 4.47** The GGAT holds 27 records of medieval date within the 2 km study area, one of which lies within the site (Figure 26). The NMR holds a single record of medieval date within the study area (Figure 27).
- 4.48** The record of medieval date within the study area is that of the '*Extensive upland common of Magna Porta manor*' lying on Mynydd maen in the area to the south-east

of Turbine 1 and north-east of Turbine 12 (GGAT12240g). The site is described as an earthwork, although no indication of this earthwork was identified during the site visit or through Lidar data analysis.

- 4.49** Five records on the GGAT HER lie close to the east and south-east of the site on slopes above Upper Cwmbran. These all relate to boundary markers associated with Magna Porta Manor. These are the Cwm-bran Brook Boundary which marks the northern boundary of the manor (GGAT12223g), 1.6 km east of the site; Rhiw-bane boundary trackway 180 m east of the site (GGAT12247g); the Clwyd-y-brawd boundary marker (GGAT12217g) which lies 500 m east; the Beadd-bach boundary marker (GGAT12214g), around 650 m east; and further Magna Porta boundary stones 575 m south-south-west of the site (GGAT12215g).
- 4.50** Also associated with the Magna Porta manor is the site of Llanderfel Grange, a grange of Llantarnum Abbey (GGAT12211g). This lies 550 m southeast of the site. It is an *'upland grange of Magna Porta manor occupying assarted hillside shelf below Mynydd Maen around Grade II listed late 16th/ early 17th century longhouse of Llanderfel Farm'*.
- 4.51** A chapel is recorded at the Grange site on the NMR, lying 1 km to the south-west of the site), that of Llandderfel Chapel (NPRN307835). The GGAT HER records the Llandderfel Chapel Enclosure around this chapel site (GGAT08319g), recorded as a *'partly curvilinear enclosure (roughly pear-shaped) with apex to east(?) side and west(?) side curved (bowed out)'*. cursory excavation of this site in 1933 revealed a number of burials here (GGAT08320g).
- 4.52** The GGAT also records the route of the Llanderfel Rhiw Pilgrim route, which formed part of the pilgrim way from Llantarnam to Penrhys (GGAT12212g), lying 1.03 km south-west, leading to the chapel site.
- 4.53** The possible site of the medieval Llanderfel coal mine, associated with the grange and chapel, lies 1.08 km south-east of the site boundary and immediately south of the chapel site (GGAT10745g).
- 4.54** The Heol-craig-llorwerth Track represents a further parts of the Porta Manor boundary and is recorded 1.2 km south of the site (GGAT12229g). The HER also notes that it is also part of the pilgrim way from Llantarnam to Penrhys, via Llanderfel.
- 4.55** The Heol-y-badd Track lies 1.7 km south of the site, which is recorded as possibly being the southern boundary of Dorallt Grange (GGAT12232g). Its location suggests it may be connected to the Porta Manor boundary.
- 4.56** Also lying to the east-south-east of the site boundary are other medieval sites located in the Upper Cwmbran area. These include a possible upland farmstead at

Thornhill Wood, 1.5 km east-south-east (GGAT10243g) which was recorded in 2020, and the identified wall and structure are *'thought to be part of a complex of structures associated with an upland farmstead of medieval or early date.'*

- 4.57** A possible structure/enclosure was recorded at Greenmeadow Woods 1.45 km east-south-east of the site (GGAT10253g), which comprises a possible medieval platform house.
- 4.58** Possible medieval woodland is recorded at Craig Fawr Wood, which survives within modern Cwmbran, 1.8 km east-south-east (GGAT12221g).
- 4.59** A possible medieval farmstead has been identified on the edge of Llantarnam abbey lands (GGAT12227g) at Greenmeadow 2 km east-south-east of the site boundary. Llanderfel (St Derfel's Chapel), a chapel site, first mention in 1412 is also recorded in this area, identified as an L-shaped building in a curvilinear enclosure (GGAT00106g).
- 4.60** Lying 2 km east-south-east is the possible site of the former St Dial's Chapel (GGAT00111g). The HER description notes that St Dials is now the site of a ruined post-medieval house, but it has been suggested that it had once been the site of a chapel extant in c.877, connected with Llantarnam Abbey. The reference is disputed and the HER notes that no evidence of a former ecclesiastical building was seen in the present ruins when surveyed in 1959, although as it lies on the pilgrimage route from Llantarnam Abbey to Penrhys, and could be an unidentified grange, or sub-unit of Llanderfel Grange, and occupying the centre ground of Magna Porta manor.
- 4.61** Lying 1.9 km south-east of the site is Tranch Wood, another projected coppice woodland associated with Llantarnam Abbey and still largely extant (GGAT12279g).
- 4.62** Cil-lonydd/cilonydd Grange was associated with Llantarnam Abbey, the site of which lies 580 m west of the site, which later became the site of a post-medieval farmhouse, with a great barn being reconstructed in 1869 (GGAT08327g).
- 4.63** Lying 350 m west of the site lies Cae Eglwys, the Cilonydd Grange chapel (GGAT00094g). Masonry fragments thought to be of the chapel have been recorded here (GGAT00095g). A possible enclosure associated with a destroyed chapel lies west of Cae Eglwys and is said to be a possible churchyard boundary (GGAT03289g), lying 800 m west of the site.
- 4.64** The NMR records possible cultivation marks associated with the Cil-Lonydd Monastic Grange 950 m west of the site (NPRN421324).
- 4.65** A trackway lined on its western side by mature, gnarled and twisted beech trees and which is cut into the sandstone bedrock is recorded lying 100 m south of the western

part of the site and a south facing slope (GGAT07201g). It is suggested this trackway could be of medieval date.

- 4.66** Lying 1.5 km north-west of the western edge of the proposed wind farm is the site of the medieval Hafodyrynys Grange, possibly a stand-alone grange or sub-unit managed from another grange (GGAT12299g). At the same location is recorded the medieval Hafodyrynys Mill, in the manor of Wentsland and Bryngwyn Manor (GGAT12300g).
- 4.67** The site of the medieval Ysbrydion Holy Well lies 1.15 km north of the proposed wind farm (GGAT03272g), lying in Coed Ysbrydion.
- 4.68** Lying to the north-west of the site are four medieval trackways recorded on the NMR. These are the Blaen Llwynau, Track II 1.8 km north-west (535602); Cefn Crib Road, Track I (535631) 900 m north-west; Cefn Crib, Track II (535619) 1 km north-west; and Cefn Crib, Track III (535620) 1.1 km north-west. These tracks are not shown on old OS maps, but are clearly of some age and considered to be of medieval date.
- 4.69** The upland area of the proposed wind farm for the access road is unlikely to have seen much medieval activity other than in the form of isolated farmsteads, field boundaries or shelters for livestock. Two medieval granges are recorded lying to the west and south-east of the site, but no associated records lie within the site. There is considered to be a low potential for archaeological remains of medieval date to be present within the upland area of the wind farm. If they were then they would be of local (low) archaeological importance associated with agricultural use of the upland area.

## Post Medieval

- 4.70** By far the most numerous sites recorded are again of post medieval date and mostly associated with the later part of the period and the effects of the industrial revolution on the area.
- 4.71** The GGAT HER holds 151 records of post medieval date within the access road study area, 10 of which lie within the proposed wind farm (Figure 22). The NMR holds records of 105 post medieval sites within the study area (Figures 18 - 21). None of these lie within the proposed wind farm.
- 4.72** The post medieval records are split into five broad class categories of site types, namely: Agriculture and Subsistence; Boundary Markers; Domestic / Civil / Religious; Industrial; Transport; and Water Supply and Drainage.
- 4.73** Agricultural records can be split into the following: farms and farmsteads (GGAT 6 records; NMR 2 records); farmhouses (GGAT 19 records; NMR 7 records); barns

(GGAT 3 records; NMR 4 records); walls (GGAT 1 record); sheepfolds (NMR 1 record); enclosures (GGAT 1 record); earthworks (GGAT 1 record); unspecified structures (GGAT 6 records); a corn mill (NMR 1 record) and a bee bole (GGAT 1 record).

- 4.74** The category of boundary markers could include property boundary markers, mineral rights markers or even footpath markers: boundary stone markers (GGAT 15 records; NMR 1 record); and boundary earthworks (GGAT 1 record).
- 4.75** The Domestic / Civil / Religious category include records that relate mostly to the development of surrounding settlements as industrial sites were established and the need for a workforce led to more housing being built. As the population increased, so did the need for things to meet their social and spiritual wellbeing needs, such as schools, public houses and churches and chapels. The Domestic / Civil / Religious category include the following site types within the search area: Houses (GGAT 25 records; NMR 15 records); workers housing (NMR 10 records); Chapels (GGAT 1 record; NMR 12 records); churches (NMR 1 record); gardens (NMR 3 records); firing ranges (GGAT 2 records); public houses (GGAT 1 record; NMR 1 record); triangulation point (GGAT 1 record); kitchen (NMR 1 record); and a gas holder (NMR 1 record).
- 4.76** Industrial sites are the most numerous post medieval records within the search area, with records relating to the numerous collieries in the area. The Industrial site types are: Collieries and coal pits (GGAT 6 records; NMR 25 records); coal mine shafts (GGAT 2 records; NMR 1 record); drift mines (GGAT 2 records); iron works and workings (GGAT 2 records); trial mines (NMR 1 record); levels (GGAT 2 records); adits (GGAT 3 records); quarries (GGAT 22 records; NMR 6 records); gravel pits (NMR 2 records); engine houses (GGAT 2 records; NMR 2 records); furnaces (GGAT 3 records); tinsplate works (GGAT 1 record; NMR 1 record); spoil heaps (GGAT 1 record); brickworks (GGAT 1 record); weigh house (NMR 1 record); general industrial buildings (GGAT 2 records; NMR 1 record); general earthworks (GGAT 2 records);
- 4.77** Transport features include: trackways (GGAT 1 record; NMR 1 record); tramways (GGAT 3 records); roads (NMR 1 records); and tunnels (GGAT 1 record; NMR 1 record).
- 4.78** Water Supply and Drainage features include: Ponds and pools (GGAT 6 records); reservoirs (GGAT 3 records; NMR 1 record); leats (NMR 1 record); well (GGAT 1 record) and earthworks (GGAT 1 record).
- 4.79** The Post medieval records located within the proposed wind farm include the following:

- 4.80** There are two boundary stones located on the northern edge of the site, between the proposed locations of Turbines 3 and 6. The two stones appear to have been located alongside a track and would therefore most likely be marking its route (GGAT07316g to the west and GGAT07317g to the east). They are both recorded on the 1901 Ordnance Survey (OS) map.
- 4.81** Located on the north-eastern edge of the site, east of Turbine 1, lies another marker stone shown on the first edition OS map (GGAT04999g). It is considered that this is a mineral rights boundary marker.
- 4.82** In the same location as the boundary marker, the HER records an earthwork, described as *'a large irregular bank with depression to the southwest running across the ridge between Twyn Calc and Mynydd Llwyd'* (GGAT05039g). The bank follows a footpath, but its actual function is unclear and the HER suggests it could be associated with drainage works, quarrying or be the remains of a cross-ridge dyke.
- 4.83** Another boundary marker lies on the eastern side of the site, north of Turbine 8. This is another mineral rights marker, which is shown on the first edition Ordnance Survey map (GGAT04997g).
- 4.84** Roughly in the centre of the site boundary, 420 m south-west of Turbine 8, lie a number of boundary stones marking mineral rights (GGAT04996g) as shown on the first edition OS map.





*Photo 21: Mineral rights boundary stone in centre of site area (GGAT04996G), looking south-east*

- 4.85** To the north-east of these markers lies a standing block of quartz conglomerate situated close to an existing track (GGAT04937g). This is not shown on any maps, but may represent another mineral rights marker.
- 4.86** Close to the summit of Mynydd Maen, lying between Turbines 8 and 9, east of the centre of the site, lies another boundary stone which the HER records as having the 'north side marked "PP"; south side marked "LU/P" ? and a defaced OS benchmark (symbol?)' (GGAT05040g). The HER grid reference for this is given as ST 2600 9790. During the site visit, a stone marked PP was present at this location, although this did not have a benchmark symbol on it. A second stone marked PP with a benchmark symbol was recorded on the summit of Mynydd Maen (adjacent to the modern OS triangulation point). This was located at ST 5990 97810. The 1815 original Ordnance survey used Mynydd Maen as one of the main triangulation points for that survey and this cross marked 'PP' stone was presumably the one used for the survey.



*Photo 22: Boundary stone GGAT05040g, looking south, with no benchmark cross on top*



*Photo 23: Second PP marked boundary stone, looking north with benchmark cross on top, lying immediately west of the modern OS triangulation point*

- 4.87** The Ordnance Survey triangulation point (GGAT11900g), which is in good condition and is located on the summit of Mynydd Maen.



*Photo 24: Ordnance Survey triangulation point GGAT11900g on summit of Mynydd Maen, looking south-west*

- 4.88** In the south-eastern part of the site, lying east of Turbine 10 and north-east of Turbine 11 lies a further boundary stone which the HER records as marking *'Llanover and Hanbury Leigh landholdings, Boundary stone marking boundary of mineral rights between Benjamin Hall, later Lord Llanover, and Capel Hanbury Leigh. Now partially recumbent'* (GGAT04933g).
- 4.89** A further mineral rights boundary stone was noted during the site visit, located midway along the western side of the site, ST 24664 97662. This was inscribed *'B. H. Boundary of the Minerals Settled by Act of Parliament 1839'*.



*Photo 25: Mineral Rights boundary stone located on western side of site boundary, not recorded on the HER or NMR*

**4.90** The potential for hitherto unknown archaeological remains of post medieval date to be present within the site is considered moderate, again probably associated with former quarrying sites, as well as other boundary markers that are as yet not recorded. Lidar analysis, discussed below, has indicated quarrying sites and possible ponds that are likely to be of post medieval date and so further features may be present. These would all be considered of local archaeological importance.

## Modern

**4.91** There is a single site of modern date recorded on the GGAT HER within the site, that of a High-Frequency Radio Direction Finder (HF-DF), erected in 1953 (GGAT04932g). These Radio Direction Finder stations were used by the military to enable geolocation of enemy vessels, most successfully with U-Boats during World War II. The assigned 1953 date for this HF-DF station, which is taken from a desk-based assessment prepared by GGAT in 1993<sup>31</sup>, is quite late and may be associated with advances in technology and improvements in their accuracy. The location of this former building corresponds with a demolished brick and concrete structure.

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<sup>31</sup> GGAT 1993



*Photo 26: View of demolished structure GGAT04932g, looking north-east*

**4.92** A second structure which is still standing (although roofless) lies 180 m to the north, of the same footprint and also built of brick and concrete. This is located at ST 25580 98315. The buildings are likely to have been related and possibly both formed part of the HF-DF radio facility.



*Photo 27: View north of the standing structure lying to the north of GGAT04932g, looking north*

- 4.93** The NMR records the possible location of an aircraft crash site of Lockheed Hudson I N7256 in the southern part of the site (NPRN 515351). Its possible location is given as being 290 m north-east of Turbine 13, 350 m east of Turbine 12 and 410 m south-east of Turbine 11. An aircraft crash site would be designated as a Controlled Site under the Protection of Military Remains Act 1986, such that it is an offence to interfere with the wreckage of any crash site without prior permission. There are no visible remains of the wreck and the NMR does note that '*The Hudson was assigned to 233 Squadron and was being used to test ASV radar equipment from St Athans. It crashed on making a forced landing on Mynydd Maendu on 7<sup>th</sup> January 1940 (or flew into a hill in bad visibility at Nant-y-Moel, Glamorgan – sources differ).*' The record is ambiguous and based on other records it is most likely that the crash site actually lies on Mynydd Maendy in Rhondda Cynon Taf (SS 98216 86705), some 30 km to the west based on the Aviation Safety Network website<sup>32</sup>. It appears to be the confusion between Mynydd Maen and Mynydd Maendu/Maendy which has caused the incorrect location of the crash site.
- 4.94** Other modern sites in the vicinity recorded on the GGAT HER include industrial sites, such as various records at the Glyn Colliery site around 1.5 km to the north-east of the site: Coal Albion Road Colliery (GGAT9045g); Glyn Collieries Pumping Station (GGAT9086g); Glyn Collieries Railway (GGAT09075g); a disused tramway (GGAT9044g); a slag crusher (GGAT09112g). Other modern colliery sites include the Craig Gwent coal level which lies 990 m north of the site (GGAT09106g) and the former 20<sup>th</sup> century Cwmbran Colliery which lies 2 km to the east of the site (GGAT10777g). An air shaft presumably associated with a mine is recorded 500 m to the north (GGAT07314g) relatively close to the Craig Gwent coal level. The Glyn tramway is also recorded close by (GGAT07315g).
- 4.95** Two brickworks are recorded on the HER Upper Race Brickworks (GGAT09055g) 1.6 km to the north-east, located close to and probably associated with the Glyn Collieries; and the Upper Cwm-bran Brickworks (GGAT10019g) lying 1 km to the east of the site.
- 4.96** Two quarry sites are recorded in the study area, one at Newbridge (GGAT07337g) close to the centre of the site, but outside the boundary and one at Crumlin (GGAT07329g) 1.4 km to the west.
- 4.97** Three sites are associated with a small reservoir located at Pontymoile, 1 km to the north-east which include the reservoir (GGAT07328g) and two footbridges over the leat feeding the reservoir as recorded on the 1901 map (GGAT07326g and

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<sup>32</sup> <https://aviation-safety.net/wikibase/193337>

GGAT07327g). A further footbridge, not associated with the Pontymoile reservoir, is recorded at Abercarn (GGAT07333g) lying 1.7 km to the south-west.

- 4.98** Three triangulation points are recorded (although not the modern one on Mynydd Maen), one lying 1.2 km to the south (GGAT07343g); a former trig point lying 2 km to the south-east (GGAT07335g); and one lying 1.7 km to the south-west (GGAT07342g).
- 4.99** A trackway or holloway is recorded lying 1.7 km north of the site boundary at Cefn-y-crib (GGAT11114g), which was investigated during the construction of the Gilwern to Hafodyrynys pipeline where the modern date was presumably ascribed.
- 4.100** The remains of a modern octagonal brick structure 1.3 km to the north at Cefn-y-crib are recorded, but it is not suggested what the structure may have been (GGAT10657g).
- 4.101** A sheep dipping pool is recorded at Newbridge (GGAT07200g) 400 m to the south.
- 4.102** The site of a former pillbox is recorded close to Hafodyrynys (GGAT05624g) 1.1 km to the north-west.
- 4.103** The GGAT HER also records a group of industrial buildings 2 km to the south-west of (GGAT07332m) on the Celyn Road, which were recorded on 20<sup>th</sup> century OS maps.
- 4.104** Modern sites recorded on the NMR include a number within Upper Cwmbran, associated with its modern development and expansion. These include the modern urban areas Thornhill Neighbourhood (NPRN701523) 1.5 km to the south-east, Greenmeadow (NPRN422682) 1.5 km to the south-east and Canol Neighbourhood (NPRN701543) 1.8 km south-south-east. Modern shopping parades are recorded: Maendy Unit Centre at West Pontnewydd (NPRN701544) 1.8 km east; and Thornhill Unit Centre (NPRN701551) 1.3 km south-east.
- 4.105** Three modern school sites are recorded in Cwmbran: Fairwater Comprehensive School, Ty Gwyn Way (NPRN701528) 2 km south-east; Greenmeadow Primary School, Graig Road (NPRN422684) 1.7 km south-east; and Woodland Road Primary School, Bagley Court (NPRN701529) 1.4 km east. The West Pontnewydd Community Association Hall in Cwmbran is also recorded (NPRN701547) 1.9 km to the east.
- 4.106** Modern coal mining sites are recorded 520 m to the north of the site at the Glyntillery Colliery (NPRN421086) and with associated coal preparation plant at Hafodyrynys including the bath house (NPRN91477) and thickener tank (NPRN85103).

- 4.107** Two former buildings are recorded at Cefn Crib 1.2 km to the north (NPRN535611), which is the same octagonal structure recorded on the HER (GGAT10657g) and also a second building (NPRN535612).
- 4.108** A modern forestry plantation is also recorded 'Abercarn Forestry' (NPRN422064) 1.3 km to the southeast, which was noted during the site visit as having been extensively felled.
- 4.109** A modern rifle range was previously located on the eastern side of Mynydd Maen at Cwm Lickey (NPRN420200) some 770 m east of the site.
- 4.110** Modern sites recorded on the HER and NMR mostly lie beyond the site, generally associated with industrial activities (coal mining) to the north and with the modern development of Cwmbran to the south-east. The site of an aircraft crash site is recorded on the NMR in the southern part of the site area, but assessment indicates that this is an incorrect location and lies some 30 km west of the site. Remains of the HF-DF radar station lie within the centre of the site, and other associated remains may be present.
- 4.111** Overall there is a low to negligible potential for any modern sites of archaeological importance to be present within the proposed wind farm, excluding remains of the radar station. If any remains were present they would be of local to negligible archaeological importance. The radar station remains would be of local importance.

## Undated or Natural Features

- 4.112** The site of an undated 'Bird House' is recorded on the GGAT HER (GGAT04931g), located within the proposed wind farm 90 m south-east of the proposed location of Turbine 4. The HER notes that a structure is marked at this spot as 'Tower' on the first edition Ordnance Survey (OS) map and as 'Bird House' on the OS 1" survey (7<sup>th</sup> Edition of 1961). It is presumed that the building is of post medieval date. Although not clearly visible on the ground, Lidar data indicates that the feature is visible as a circular earthwork of around 35 m diameter, with a possible small raised area at its centre. This is presumed to be the remains of the base of the 'tower or bird house. It is possible that the structure was built upon an earlier mound, although conjectural, potentially of prehistoric origin. It should be noted that the HER grid reference is located at ST 25660 98320, but Lidar data would indicate that the centre lies at ST 25681 98324, slightly further to the east.
- 4.113** An undated quarry is recorded on the HER within the site, some 130 m south-south-west of Turbine 8 (GGAT04936g). The HER notes that its 'is visible as a series of depressions and a linear earthwork .... and is probably the site of Quarry Coch, depicted on the Tithe plan and not shown on any other map of the area'. The HER provides the grid reference of ST 2585 9806 for the site, but Lidar data would



indicate that the quarry actually lies further to the west and is centred on ST 25812 198069.

- 4.114** A boundary stone is recorded on the HER lying 245 m northeast of Turbine 11 within the site (GGAT04934g). The HER records that this is a 'boundary stone on Mynydd Maen between Abercarn and Magna Porta' and that it is one of a 'series of boundary stones marking the boundary between the manors of Abercarn and Magna Porta. At least two stones still survive'. It lies directly south of another boundary stone recorded on the GGAT HER (GGAT04933g) which is described the same and indicated to be of post medieval date.
- 4.115** A series of stream channels are recorded on the GGAT HER lying 360 m southwest of proposed Turbine 7 and 380 m southwest of proposed Turbine 5 (GGAT11117g). These were recorded at Cefn-y-crib and the HER states that 'pipe trenching revealed a series of peat filled depressions representing former stream channels. Recorded during a watching brief on the Gilwern to Hafodyrynys pipeline route.' The HER grid reference is given as ST 25000 98050, but Lidar data more accurately places these stream locations as centred on ST 24945 98030, with at least 5 channels visible running roughly south to north down the northern side of the hillslope joining with a larger stream channel which runs from the west of these streams heading north-east. They lie within an area of roughly 120 m east to west and vary in length between 120 m (western stream course) to 180 m (eastern stream course).
- 4.116** The HER records an undated 'small circular mound with central depression, of c.5 m diameter' which it notes could be a ring cairn on the western side of the application boundary (GGAT05037g). This could not be identified during the site visit, but is clearly visible on Lidar data, which indicates that the mound is around 12.5 m in diameter, with the circular central depression also very visible. The site is also recorded on the NMR as a possible Bronze Age cairn (NPRN 422104). The HER grid reference is given roughly as ST 241 977, but Lidar data pinpoints this to being centred on ST 24115 97652. There are no other earthworks in the vicinity suggesting any further possible cairns, and the Lidar imagery indicates that the feature is very distinct, which could indicate it is of more modern origin, although its purpose or origin is unknown.
- 4.117** A series of boundary markers on Craig-Llwydd of uncertain date are recorded in the southern part of the site 205 m south-west of proposed Turbine 13 (GGAT04935g). These are recorded on the HER as a 'series of boundary stones marking the boundary between Magna Porta and possibly Mynyddislwyn. At least 3 stones still survive'. The stones were not visible during the site visit.
- 4.118** The NMR has a single undated record within the site boundary, that of braided trackways 250 m north-east of Turbine 10 (NPRN402676). The term braided

trackways refers to numerous alignments of tracks following roughly the same route. Such routes may indicate many years of use.

**4.119** Undated features of possible medieval date includes a structure near Fairwater School (GGAT HER 10252g) and a trackway suggested to be a Pilgrim's route and possible associated with Llanderfel Chapel (GGAT HER 12225g). Both records lie to the south-east of the site.

**4.120** Many of the HER records surrounding the site boundary are most likely of post-medieval date. These comprise farmsteads (GGAT HER 9 records); collieries (GGAT HER 3 records); a coal cleaning plant (GGAT HER 1 record); ironstone mine (GGAT HER 1 record); quarries (GGAT HER 5 records); boundary stones (GGAT HER 3 records); buildings (GGAT HER 4 records; NMR 1 record); pools (GGAT HER 2 records); trackways (GGAT HER 1 records); and tramways (GGAT HER 1 record).

**4.121** A war memorial is also recorded as an undated site (GGAT04900g) which is most likely of modern date.

**4.122** An undated object is also recorded.

## Previous Archaeological Work

Table 5: Archaeological events recorded within the 2km study area around the wind farm element of the proposed wind farm

PRN	Name	Summary	Event type	Organisation	Year
GGATE000120	Risca North Water Main Refurbishment WB	GGAT was commissioned to undertake an archaeological watching brief on groundwork to the north-west of St Mary's Church, Risca. No archaeological features or remains were discovered.	Watching brief	Glamorgan-Gwent Archaeological Trust (GGAT)	2008
GGATE000138	Zion Chapel, High Street, Newbridge	APAC Ltd was commissioned to undertake a building survey of Zion Chapel, High Street, Newbridge prior to renovation and conversion of the property to residential accommodation.	Building survey	Archaeological Perspectives Analysis Consultancy (APAC)	2008
GGATE000954	Southeast Wales Industrial Ironworks Project	This project was instigated in response to the ongoing threats faced by industrial remains of Southeast Wales. The aim of the project was to assess the current state of survival/preservation of ironworks landscape in the area of the northern coalfield rim to inform conservation, protection and management of these monuments and their associated landscapes.	Project	Glamorgan-Gwent Archaeological Trust (GGAT)	2005-2010
GGATE000961	St Mary's School Risca	GGAT Assessment St Mary's School Risca A165 Gwent County	Evaluation	Glamorgan-Gwent	1994

		Council commissioned GGAT contracts to undertake an archaeological field evaluation to assess the likely impact of a proposed residential development.		Archaeological Trust (GGAT)	
GGATE001495	Field visit to Twm Barlwm	Field visit to Twm Barlwm undertaken as part of GGAT 78 Year 2. Prehistoric defended enclosures of Gwent.	Field visit	Glamorgan-Gwent Archaeological Trust (GGAT)	2006
GGATE001654	Varmans Yard, Abercarn, Blaenau Gwent WB	Glamorgan Gwent Archaeological Trust was commissioned to carry out a watching brief at Varmans Yard, Abercarn by Carn Ltd during the development of 23 two-bedroom apartments and 36 parking spaces.	Watching brief	Glamorgan-Gwent Archaeological Trust (GGAT)	2008
GGATE001696	Uskmouth Pipeline Development DBA	RSK Environment Ltd undertook a desk-based assessment for two lengths of pipeline totalling c. 6km in length (Marshfield to the Uskmouth Power Site and Henllys to Rhiwderm) incorporating a 1 km study area.	Desk based assessment	RSK Group	2007
GGATE001700	Uskmouth Pipeline Development	Field survey undertaken by RSK Environment Ltd to inform a desk-based assessment for two pipeline routes: Marshfield to Uskmouth Power Site and Henllys to Rhiwderm.	Field survey	RSK Group	2006
GGATE002331	South Sebastopol Sewage Pipeline, Torfaen. DBA	An archaeological desk-based assessment of the effect of the proposed construction of a new sewage pipeline was undertaken by The Glamorgan-Gwent Archaeological Trust for Ove Arup & Partners.	Desk based assessment	Glamorgan-Gwent Archaeological Trust (GGAT)	2001
GGATE002337	South Sebastopol DBA	A working group is preparing a Developmental Framework and Environmental Impact Assessment for the South Sebastopol General Development Area, Torfaen. The Glamorgan-Gwent Archaeological Trust was commissioned to undertake the archaeological component of the study.	Desk based assessment	Glamorgan-Gwent Archaeological Trust (GGAT)	2000
GGATE002356	Abersychan Regeneration, DBA	The Glamorgan-Gwent Archaeological Trust was commissioned by Gwent Engineering Consultancy to conduct an Archaeological Desk-Based Assessment. The work was carried out at a site in Abersychan, north of Pontypool, and was prior to the developing options for the Abersychan Regeneration scheme. Nothing of any Archaeological significance was found at the site.	Desk based assessment	Glamorgan-Gwent Archaeological Trust (GGAT)	1996
GGATE002363	A467 Newbridge To Crumlin	Gwent Engineering Consultancy are preparing options for a	Desk based assessment	Glamorgan-Gwent	1995

	Dualling and A472 Hafodyrynys Hill Improvement DBA	scheme of road improvements around Newbridge and Crumlin, Gwent. The scheme will consist of widening the A467 and improving the A472 between Hafodyrynys and Crumlin.		Archaeological Trust (GGAT)	
GGATE002371	Mynyddislwyn Wind Turbine, Mynyddislwyn, Blackwood - DBA	The Glamorgan-Gwent Archaeological Trust, was commissioned by the Renewable Energy Systems Ltd, to undertake a Desk-Based Assessment at a site in Mynyddislwyn, Gwent. The work was carried out prior to the construction of a wind turbine.	Desk based assessment	Glamorgan-Gwent Archaeological Trust (GGAT)	1995
GGATE002383	Uplands Survey Mynydd Maen and Mynydd Henllys, Gwent SUR	This survey was undertaken by GGAT as part of the RCAHMW-funded Uplands Survey; it examined the area of Mynydd Maen and Mynydd Henllys, west of Cwmbran, a total of 3,439 hectares. In general, it would appear that the rights of landowners and commoners have resulted in limiting the extensive development of the land.	Field survey	Glamorgan-Gwent Archaeological Trust (GGAT)	1997
GGATE002401	Newport Landscapes - Landscape Strategy DBA/SUR	TACP, Environmental Consultants were commissioned by a client team, made up of Newport County Borough Council, the Welsh Development Agency and the Countryside Council for Wales (CCW).	Management plan landscape	TACP, Environmental Consultants	1998
GGATE002660	Hafod Fach Quarry, Abercarn. DBA	GGAT was commissioned to carry out a desk-based assessment on Hafod Fach Quarry, Abercarn, Caerphilly by Lafarge Redland Aggregates Ltd. after a proposal to extend Hafod Quarry, Newbridge, Caerphilly to the North-East.	Desk based assessment	Glamorgan-Gwent Archaeological Trust (GGAT)	1999
GGATE002682	Landscapes Working for Torfaen: History and Archaeology Aspect	This report, commissioned by the Countryside Council for Wales and Torfaen County Borough Council, has been produced for the by the staff of the GGAT Contracts Division in collaboration with staff of the Curatorial Division of GGAT.	Historic area assessment	Glamorgan-Gwent Archaeological Trust (GGAT)	2003
GGATE002952	Lower Mill, Panteg: Desk based assessment	An assessment was prepared by GGAT on behalf of Ashtenne Investments Ltd in 1999 to see the effects of a proposed development on the 19th century Lower Mills Ironworks.	Desk based assessment	Glamorgan-Gwent Archaeological Trust (GGAT)	1999
GGATE002992	Hafod Fach Quarry, Abercarn SUR	GGAT was commissioned to undertake a level 2 Archaeological building survey at Hafod Fach house, by Lafarge Redland aggregates LTD associated with a quarry development at Hafod Fach. The	Building survey	Glamorgan-Gwent Archaeological Trust (GGAT)	2000

		building survey determined that building originated as a hearth - passage house, and was probably constructed during the early post - medieval period.			
GGATE002993	Hafod Fach Quarry Abercarn, WB	GGAT was commissioned to undertake a watching brief at Hafod Fach house, by Lafarge Redland aggregates LTD associated with a quarry development at Hafod Fach. An intensive watching brief was maintained during the demolition of Hafod Fach House. In addition, a general watching brief was undertaken during topsoil stripping of the development area. No archaeologically significant deposits were identified during the watching brief on the topsoil stripping.	Watching brief	Glamorgan-Gwent Archaeological Trust (GGAT)	2000
GGATE003102	Pontypool Urban Survey, Torfaen	The Glamorgan Gwent Archaeological Trust was commissioned by Cadw to undertake an urban mapping survey of Pontypool, Torfaen to highlight the various stages in the development of the town of Pontypool and its satellite settlements.	Historic area assessment	Glamorgan-Gwent Archaeological Trust (GGAT)	2010
GGATE003107	Melin Homes Offices, Lower Mill	Cardiff Archaeological Consultants were commissioned to undertake an archaeological watching brief prior to the request for planning permission for an extension to Melin Homes offices at Lower Mill, Pontypool.	Watching brief	Cardiff Archaeological Consultants	2010
GGATE003175	Ancient Cwmbran and the Cistercians, the Cistercian Way, Greenmeadow, Cwmbran	Border Archaeology undertook an archaeological excavation as part of the Ancient Cwmbran and Cistercians community project.	Excavation	Border Archaeology	2009
GGATE003539	DBA for Oak Pipe and Brick Works, Cwmffrwdroer, Pontypool	Church and site archaeological services conducted a desk-based assessment of the old Oak Pipe and Brick Works, Cwmffrwdroer, Pontypool, Monmouthshire, prior to possible residential development.	Desk based assessment	Church and Site Archaeological Services	2012
GGATE003585	Forge Pond (Keepers Pond), Blaenavon	In June 2010 Birmingham Archaeology was commissioned by Torfaen County Borough Council on behalf of the Forgotten Landscape Project to monitor, record, and report on works at historic former industry-related sites at the Blaenavon World Heritage Site. One of the sites was the Forge Pond.	Watching brief	Birmingham Archaeology	2009-2010

GGATE003588	Coed Celynen Weir, Abercarn	Dyfed Archaeological Trust conducted a field visit to Coed Celyn Weir, Abercarn in June 2010 at the request of the Environment Agency	Field visit	Dyfed Archaeological Trust (DAT)	2010
GGATE003719	Archaeological Desk-based assessment Llanover Estate's land, Mynydd Maen, Gwent	The Llanover Estate commissioned GGAT to undertake a desk based archaeological assessment of estate land on Mynydd Maen in order to assess likely impact of proposed development of a wind farm prior to submission of a planning application.	Desk based assessment	Glamorgan-Gwent Archaeological Trust (GGAT)	1993
GGATE003720	Pontypool Gas Pipeline Rationalisation (HP 4)	British Gas plc (Wales) commissioned GGAT to undertake as desk-based assessment to investigate the archaeological implications of the proposed pipeline. The entire pipeline should be the subject of a watching brief.	Desk based assessment	Glamorgan-Gwent Archaeological Trust (GGAT)	1992
GGATE003721	Watching Brief Pontypool Gas Pipeline Rationalisation (HP 4)	British Gas laid a HP gas pipeline around the east and south sides of Pontypool. A desk top study recommended that an archaeological watching brief on top soil stripping should be conducted. May- June 1993 the site was walked once in each direction after top soil stripping had taken place. The conclusion was that the level of archaeological activity in the area was fairly low.	Watching brief	Glamorgan-Gwent Archaeological Trust (GGAT)	1993
GGATE003834	New Main, Pant-Yr-Eos, Henllys, Gwent	Dwr Cymru intended to construct a new main from Pant-yr-eos Reservoir to Garth Fach. GGAT was commissioned to undertake an appraisal of the archaeological impact of the proposal. It was recommended an intensive watching brief take place on construction adjacent to the church, with a watching brief on the rest of the site.	Desk based assessment	Glamorgan-Gwent Archaeological Trust (GGAT)	1994
GGATE003977	Ty Ambrose, Sebastopol	Archaeological Perspectives Analysis Consultancy were asked to undertake an archaeological watching brief on Ty Ambrose Farm house during a series of internal floor excavations. No archaeologically significant features were seen.	Watching brief	Archaeological Perspectives Analysis Consultancy (APAC)	2012
GGATE003995	Fairwater, Greenmeadow and Thornhill Woods, Cwmbran	Border Archaeology was commissioned to undertake four programmes of archaeological field work at Fairwater, Greenmeadow and Thornhill Woods, Cwmbran in collaboration with the Ancient Cwmbran and	Excavation	Border Archaeology	2010

		the Cistercians Community Archaeology Project.			
GGATE004020	Ty Ambrose Farm, Sebastopol SUR	APAC Ltd was commissioned to undertake a building survey of Ty Ambrose Farm, Sebastopol prior to restoration and alteration of the property to residential accommodation.	Building survey	Archaeological Perspectives Analysis Consultancy (APAC)	2012
GGATE004046	Gelli Pistyll Farm, Elm Drive, Risca	An archaeological evaluation was conducted by Cardiff Archaeological Consultants in May 2012 at Gelli Pistyll Farm, Elm Drive, Risca. No archaeological sites or features were noted during the four mechanically excavated trenches.	Evaluation	Cardiff Archaeological Consultants	2012
GGATE004132	Hafod Fach Quarry, Abercarn DBA	The Glamorgan-Gwent Archaeological Trust was commissioned by Lafarge Redland Aggregates Ltd to undertake an archaeological appraisal to meet planning conditions regarding the proposed expansion of the Hafod Quarry, Abercarn.	Desk based assessment	Glamorgan-Gwent Archaeological Trust (GGAT)	1999
GGATE004203	Field Visit to Upper Race, Pontypool	A field visit undertaken as part of the Cadw funded project assessing Early Extraction in Glamorgan and Gwent.	Field visit	Glamorgan-Gwent Archaeological Trust (GGAT)	2011
GGATE004514	Surviving Coal Spoil Tips, Heads of the Valleys DBA	Govannon Consultancy was commissioned by the Countryside Council for Wales to undertake an assessment of the significance and value of fourteen colliery tipping areas associated with the Heads of the Valleys in order to provide guidance to local planning authorities regarding sites and features most under threat from development or disturbance.	Desk based assessment	Govannon Consultancy	2008
GGATE004519	McDonalds, Bridge Street, Newbridge WB	Glamorgan Gwent Archaeological Trust were commissioned to undertake a watching brief on the groundworks of a new McDonalds restaurant at Bridge Street, Newbridge, Caerphilly. As well as several modern 19th-20th artefacts, a post-medieval flagstone flooring was found in close proximity to the lock keeper's cottage, Ty Ffawydden (on 1st OS map) which suggests the floor may have been an outside courtyard area associated with the cottage.	Watching brief	Glamorgan-Gwent Archaeological Trust (GGAT)	2012
GGATE004704	Desk based assessment of the Torfaen Learning Centre, Pontnewydd	In 2002, G.A. Makepeace was commissioned by Haire Landscape Consultants to undertake a desk-based assessment of land at the Torfaen Learning Centre,	Desk based assessment		2002

		Pontnewydd, to inform proposed development plans for the site. The site had formerly been a forge, known as Osborne Forge, which was reputedly established in the 16th century, and a corn mill, established in the early to mid 19th century. No trace of either of these was recorded during the assessment.			
GGATE004777	Evaluation at Crane Street Car Park, Pontypool, Torfaen County Borough, Wales	The AOC Archaeological Group was commissioned by Gleeds Management Services to undertake an archaeological evaluation at Crane Street Car Park, Pontypool, Torfaen County Borough.	Evaluation	AOC Archaeology Group	2003
GGATE004895	Gilwern to Hafodyrnys High Pressure Natural Gas Pipeline	Network Archaeology conducted a series of archaeological investigations along a proposed c.25 km pipeline route between Gilwern and Hafodyrnys between 2002 and 2003. The project consisted of seven stages of which one (excavation) was not conducted.	Project	Network Archaeology	2003
GGATE004896	Gilwern to Hafodyrnys High Pressure Natural Gas Pipeline	Network Archaeology carried out a Desk Based Assessment of a 1 km-wide study corridor centred on the route of a proposed natural gas pipeline from Gilwern to Hafodyrnys. A total of 299 known archaeological sites were recorded within and immediately outside the corridor.	Desk based assessment	Network Archaeology	2001
GGATE004897	Gilwern to Hafodyrnys High Pressure Natural Gas Pipeline	As part of the archaeological investigations conducted along a proposed natural gas pipeline route between Gilwern and Hafodyrnys, Network Archaeology carried out a permanent-presence watching brief in two phases. A total of 16 archaeological sites and 3 natural sites were identified and 848 finds collected.	Watching brief	Network Archaeology	2003
GGATE004898	Gilwern to Hafodyrnys High Pressure Natural Gas Pipeline	Gilwern to Hafodyrnys Pipeline. Field reconnaissance highlighted a number of post-medieval/modern sites, mainly former quarries/spoil heaps, tramways, railways, and trackways. Geophysical survey highlighted areas of magnetic anomalies of possible archaeological significance. Fieldwalking found no archaeological remains of significance.	Field visit	Network Archaeology	2001
GGATE004899	Gilwern to Hafodyrnys High Pressure	Gilwern to Hafodyrnys Pipeline geophysical survey by Bartlett Clark Consultancy highlighted	Geophysical survey	Bartlett-Clark Consultancy	2001



	Natural Gas Pipeline	areas of magnetic anomalies of possible archaeological significance.			
GGATE004900	Gilwern to Hafodyrynys High Pressure Natural Gas Pipeline	Gilwern to Hafodyrynys Pipeline. A programme of non-intrusive surveys was undertaken by Network Archaeology Ltd in August 2001. Fieldwalking found no archaeological remains of significance.	Field walking survey	Network Archaeology	2001
GGATE005096	Gwent Wildlife Trust reserve Croes Robert Wood Trellech	An investigation of 13 reserves for the Gwent Wildlife Trust to provide a historical and cultural dimension to the understanding of the reserves and to provide information on sensitive archaeological features: Croes Robert Wood near Trellech 14 hectares	Heritage assessment		2005
GGATE005098	Gwent Wildlife Trust reserve Henllys Bog Cwmbran	An investigation of 13 reserves for the Gwent Wildlife Trust to provide a historical and cultural dimension to the understanding of the reserves and to provide information on sensitive archaeological features: Henllys Bog near Cwmbran 1 hectare	Heritage assessment		2005
GGATE005105	Gwent Wildlife Trust reserve Coed Meric Moel Cwmbran	An investigation of 13 reserves for the Gwent Wildlife Trust to provide a historical and cultural dimension to the understanding of the reserves and to provide information on sensitive archaeological features: Coed Meric Moel Cwmbran 1 hectare	Heritage assessment		
GGATE005317	Varmans Yard, Abercarn, Blaenau Gwent	A desk-based assessment was undertaken by GGAT Contracts to discover the archaeological effects of a residential development that has been proposed at Varmans Yard, Abercarn. Eleven sites of archaeological interest were found, with three of the sites (former colliery and ancillary buildings) being majorly affected by the development.	Desk based assessment	Glamorgan-Gwent Archaeological Trust (GGAT)	2008
GGATE005339	Council Depot, off Sofrydd Road, Hafodyrynys, Caerphilly	GGAT Contracts were commissioned by Westbury Homes Ltd to undertake an archaeological appraisal of a 1.28 ha plot of land at the site of the Council Depot, off Sofrydd Road, Hafodyrynys, Caerphilly. Thirteen sites of archaeological interest were found, though none were thought to present a major constraint to the development.	Desk based assessment	Glamorgan-Gwent Archaeological Trust (GGAT)	2005
GGATE005356	Crane Street, Pontypool	Watching Brief in Crane Street Pontypool performed by AOC Archaeology commissioned by Gleeds Management Services	Watching brief	AOC Archaeology Group	2004

		Limited. Pottery dating either 18th or 19th century was excavated.			
GGATE005361	Crane Street, Pontypool	Desk based assessment carried out by AOC Archaeology, at a site on Crane Street, Pontypool.	Desk based assessment	AOC Archaeology Group	2003
GGATE005433	Cross Ridge Dykes of Southeast Wales	During the spring and early summer of 2006, GGAT, on behalf of Cadw, undertook a survey of all known cross-ridge dykes in Glamorgan and Gwent. Sixteen sites were identified for condition survey, seven of which were augered and one site was excavated.	Field survey	Glamorgan-Gwent Archaeological Trust (GGAT)	2006
GGATE005647	Monmouthshire and Brecon Canal	GGAT was commissioned by Powell Dobson on behalf of Kier Weston to carry out an archaeological desk-based assessment in advance of canal regeneration including a proposed leisure trail.	Desk based assessment	Glamorgan-Gwent Archaeological Trust (GGAT)	2007
GGATE005647	Monmouthshire and Brecon Canal	Desk-based assessment	GGAT	Dunning, R	Report Map
GGATE005776	Land at Cwrt Henllys Farm, Cwmbran	Between October and December 2016, Rubicon Heritage Services Ltd were commissioned to undertake a watching brief at Land at Cwrt Henllys Farm, Cwmbran, during groundworks associated with the creation of a solar park. No significant archaeological finds or features were observed.	Watching brief	Rubicon Heritage Services Ltd	2016
GGATE005815	Maes-y-Rhiw Wood, Greenmeadow, Cwmbran	GGAT carried out a field visit to Maes-y-Rhiw Wood, Greenmeadow, Cwmbran in 2007, in response to enquiries by local residents relating to a potential archaeological resource in the woods. There was no evidence for footings, though it is possible that some linear features might form property boundaries.	Field visit	Glamorgan-Gwent Archaeological Trust (GGAT)	2007
GGATE005967	Monmouthshire & Brecon Canal	British Waterways Architectural Heritage Survey carried out in 1995 on the Monmouthshire & Brecon Canal covering Brecon to Bridge 47.	Field visit	Canal & River Trust	1995
GGATE005968	Monmouthshire & Brecon Canal	Canal & River Trust survey carried out on the Monmouthshire & Brecon Canal covering Brecon to Bridge 47, in 2014 to revise records produced by a survey in 1995	Field visit	Canal & River Trust	2014
GGATE006037	Cwmcarn Forest Drive, Caerphilly	Archaeology Wales were commissioned by Parsons Brinckerhoff to carry out a desk-based assessment of Cwmcarn Forest Drive, Caerphilly, in advance of 12 km of new	Desk based assessment	Archaeology Wales	2013

		mountain bike track. The survey found 118 sites within a 1 km radius. It was concluded that the works would be likely to impact in 21 places consisting of dry stone wall boundaries, two possible house/charcoal burning platforms, a mound and a possible quarry.			
GGATE006354	Pontypool Park Estate. Better Woodlands for Wales	Desktop survey of woodlands to produce management advice for Better Woodlands for Wales scheme.	Management plan landscape	Glamorgan-Gwent Archaeological Trust (GGAT)	2007
GGATE006426	Pontypool Park Tramroad, Trosnant, Pontypool, Torfaen	GGAT were commissioned by Torfaen County Borough Council to carry out an evaluation of the Pontypool Park Tramroad in Trosnant, Pontypool, Torfaen, with the aid of Community Volunteer Groups. The work found that the line of the tramroad had been truncated by sewage works, and only a possible bedding deposit remained.	Evaluation	Glamorgan-Gwent Archaeological Trust (GGAT)	2017
GGATE006601	Better Woodlands for Wales Management Plan: Penrhiwdarran Farm (WHE1)	Desktop study of woodlands to produce management advice for Better Woodlands for Wales scheme.	Management plan landscape	Glamorgan-Gwent Archaeological Trust (GGAT)	2008

**4.123** The GGAT HER holds records for 64 previous archaeological investigations within the 2 km study area around the proposed wind farm (Table 5; Figure 23). These comprise a number of field visits which have identified features recorded on the GGAT HER as well as the large Southeast Wales Ironworks Project, which covered an extensive area of southeast Wales and produced many of the records held on the GGAT HER.

**4.124** Three event records are recorded within the site. An archaeological desk-based assessment was prepared by GGAT in 1993 (GGATE003719) which is referenced in the section above where relevant.

**4.125** The other two events were undertaken as part of the archaeological works undertaken for the Gilwern to Hafodyrynys High Pressure Natural Gas Pipeline, which included a desk-based assessment (GGATE004896) and a series of fieldwork projects (GGATE004895). The areas of investigation included the general area of the site, but nothing specific was recorded in relation to the site itself.

**4.126** No intrusive archaeological investigations are recorded as having been carried out within the site.

## Map Regression, Aerial Photographs and LiDAR data

- 4.127** The earliest map that shows any detail of the proposed wind farm area is the 1813 Original Surveyor's Drawings of Bedwas (Figure 24). The map shows that the majority of the area is empty of features other than trackways running across the upland areas. A number of these correspond roughly with the main trackways that are still extant. The road along the western edge of the site is present. Trackways are shown to the south-east of the site which may relate to the line of the pilgrims route that partly defined the boundary of the Manor of Magna Porta and the route to the former Llanderfel chapel site. A 'station' is noted on the summit of Mynydd Maen which would correspond with the boundary marker with the benchmark on top adjacent to the modern trigonometry point. A further 'post' is marked on the line of another trackway to the south of the 'station'.
- 4.128** A review of Tithe Maps was undertaken although only the edges of the site are covered. The majority of the site is covered by the Mynyddislwyn Tithe map of 1846. This indicates that the area was open land and described as waste (fields 3070, 3071 and 3073) covering most of the western side of the site. To the north lies the Trevethin Tithe Map of 1841, the edge of which follows the modern A472 to the north and does not encroach into the site. To the south-east lies the Llanvrechva Upper Tithe Map of around 1845 which runs up to the south-eastern edge of the site, but does not include anything within the site. Partly covering the north-eastern part of the site is the Panteague Parish Tithe Map of 1839. This shows that the upland area was common pasture. The map also shows the location of the 'Bird House' (GGAT04931g). The Tithe Apportionment records field 865 (a large area on the upland) as 'Common Pasture'. These show that the upland area on which the proposed wind farm is to be located was unenclosed, presumably common land.
- 4.129** The 1881 Ordnance Survey (OS) map (Figure 25) shows the entire area as undeveloped upland area. A series of trackways remain crossing the area, mostly as shown on the 1813 map. The parish boundary between Mynyddislwyn parish to the west and Panteg parish to the east, runs almost through the centre of the site. The map indicates a lot of boundary markers and stones, the majority of which are recorded in the GGAT HER or NMR. Numerous boundary stones (labelled B.S.) follow the parish boundary. The Bird House recorded on the GGAT HER is also shown. The site of a small farm called Ysgubor-wen is shown just south of the site on the western side.
- 4.130** There is little change on the 1899 (Figure 26) and 1922 OS maps (Figure 27). The area is still shown as undeveloped upland crossed by a number of tracks and numerous boundary markers divide the area. The Bird House is shown on both of these maps, as is the small farmstead of Ysgubor-wen.

- 4.131** The 1948/1949 OS maps of the area (Figure 28) show less boundary stones marked across the area. By this time the row of electricity pylons running across the area are shown. These run east to west across the western side of the site, and then turn to the south-east roughly in the centre of the site. The Bird House is no longer shown on this map, although Ysgubor-wen is still shown.
- 4.132** The 1965 OS maps (Figure 29) add the two structures that are associated with the HF-DF radar station including the southern now ruined building (GGAT4932g) and the mostly intact one to the north. The 1983 OS maps (Figure 30) shows the same general layout, but only indicates the northern building of the HF-DF radar station.
- 4.133** A review of available aerial photographs has not indicated any other features than shown on the earlier mapping. Sources including the Royal Commission on the Ancient and Historic Monuments of Wales and online sources were used. Most modern aerial photography indicates that the main area of the proposed wind farm has been covered in gorse with some areas of open land from the 1940s onwards. A series of paths have been present running across the area, mostly aligned roughly with the main pathways that remains present today. The existing modern buildings around the communications mast in the centre of the site were constructed in the later 20<sup>th</sup> century and continue in use today, including areas of groundworks that are still ongoing within the building compound. To the north-west of these buildings is a further communications mast and associated building, which it is thought was a later addition.
- 4.134** Digital Terrain Model Lidar (Figure 31) data at 1 m resolution has been used to prospect the site area for any hitherto unrecorded archaeological remains that may be present within the proposed wind farm. Interrogation of the data through QGIS has been undertaken, including using different azimuths, altitudes and z-factor settings to determine if any earthworks are present that could indicate the presence of buried remains. In particular, the information has been used to determine if any small mounds are present that are not visible on the ground surface, due to vegetation cover, which could indicate small cairns, round barrows or other prehistoric burial monuments which are typically found in upland areas.
- 4.135** Where relevant, Lidar information has been discussed within the baseline section of this report above.
- 4.136** Six areas of possible archaeological features have been identified through Lidar analysis within the site. **Lidar Area 1** (Figure 32) lies 300 m south of Turbine 8 and 380 m north-west of Turbine 9 lie a series of earthworks and channels that may indicate an area of previous quarrying. These are centred on ST 25856 97883 and cover an area of around 75 m diameter. A footpath runs through these earthworks. They are irregular in shape and size, although one embanked linear channel runs to the north-west on its western edge. The earthworks are visible on aerial

photographs from the 1940s. This area of quarrying is not shown on early maps, although recorded as site MM09 'Quarry Coch' in a desk-based assessment of the area produced by GGAT in and recorded as '*Linear earthwork with traces of dry stone revetting close to a group of circular depressions. Now grassed over with some local erosion. A modern trackway passes through the site...*'.<sup>33</sup>

- 4.137** To the south-west of Lidar Area 1 lies **Lidar Area 2** (Figure 32), which comprises an embanked linear channel running roughly east-north-east to west-south-west for a length of 80 m. The banks to either side of the channel are widest to the east, being roughly 10 m wide and then narrowing to around 4 m in width either side of the channel to the west. The channel turns from ST 25783 98741 (east) to ST 25709 97824 (east). It is again shown on 1940s aerial photographs. The feature would appear to have been connected with the quarrying at Lidar Area 1 and is probably the linear feature noted in the GGAT desk-based assessment from 1993 associated with MM09 Quarry Coch<sup>34</sup>.
- 4.138** **Lidar Area 3** (Figure 32) lies in the eastern side of the site, located around 260 m south-west of Turbine 9. The site comprises of two adjacent circular mounds that could potentially represent prehistoric round barrows. The north-eastern mound is centred on ST 25936 97595 and is around 27 m in diameter. The south-western mound is centred on ST 25919 97553 and is around 30 m in diameter. Lidar data indicates that both mounds are just under 1 m in height above the surrounding land, with the north-eastern mound top being at around 468.50 m aOD and the top of the south-western mound at 467.45 m aOD. Both appear to comprise a flat topped mound with a slight encircling ditch. The size and shape are characteristic of round barrows typically of Bronze Age date. These were not visible during the site visit.
- 4.139** To the north of these two possible round barrows lie a large number of smaller mounds running to the north for around 180 m, **Lidar Area 4** (Figure 32). These are centred on ST 25961 97729. The possibility that these could be smaller burial cairns has been considered, although their number and positioning in directly adjacent, if not touching one another, is not a typical layout for burial cairns. These variations in the ground level may be results of vegetation growth (compact reed grasses or clumps of gorse) creating raised root balls rather than being of archaeological origin. Their proximity to the likely barrows at Lidar Area 3 is such that they are highlighted. The proposed access road between Turbines 10 and 11 and Turbine 9 to the east runs through the southern part of this area
- 4.140** **Lidar Area 5** (Figure 33) lies at the western end of the site and comprises two large sub-circular depressions which are likely to represent ponds. The western pond is

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<sup>33</sup> GGAT 1993

<sup>34</sup> Ibid

centred on ST 24085 97906 and is roughly 35 m in diameter. The eastern pond is centred on ST 24182 97909 and is roughly 40 m x 35 m in size. The western pond is shown on Ordnance Survey maps from 1948 onwards, although the eastern pond is not shown.

**4.141** On the western side of the site, on its southern part, lie two areas of small quarries on the hillside, **Lidar Area 6** (Figure 33). The quarry to the north-east is centred on ST 24629 97751, measuring roughly 35 m east to west by 20 m north to south. The second quarry area lies 100 m to the south-west centred on ST 24526 97666, measuring roughly 25 m by 20 m.

## 5. Impact Assessment

### The Development

**5.1** The development comprises the following elements (Figure 2):

- The proposed wind farm comprises 13 horizontal axis wind turbines up to a maximum tip height of 149.9 m.
- The 13 turbines will have a total installed capacity of approximately 54.6 MW.
- The proposed wind farm would operate for a period of 35 years.
- The proposed wind farm also include an improved site entrance, new and upgraded access tracks, crane hardstandings, control building and substation compound, electricity transformers, underground cabling, and drainage works

**5.2** The proposed wind farm also includes the provision of new areas of common land to replace that occupied by the turbines and infrastructure.

### Factors Affecting Archaeological Survival of Buried Remains

**5.3** Archaeological remains can survive as earthworks and as below ground archaeological features, finds and layers. Part of the assessment process is to consider what factors may have affected archaeological survival. That is to say, what conditions would have enhanced the chances of survival and what conditions would have reduced the chances of survival.

**5.4** The subject of archaeological preservation has been covered comprehensively elsewhere<sup>35</sup>, and it is a subject which is subject to ongoing review as our understanding grows. The following addresses some familiar scenarios for assessment reports such as this, to allow the reader an insight into some 'typical' scenarios.

**5.5** The proposed wind farm area lies on an upland area on Mynydd Maen. It is most likely that any below ground remains would be sealed by a relatively thin series of layers. Typically a topsoil of c.100 - 200 mm and a subsoil of 0 - 100 mm. Therefore, they may be sealed by 100 - 300 mm of deposits. There are variations to this including landscapes affected by colluvial or alluvial deposits, though such deposits are unlikely to be present within the site. Observation of the edges of the paths across the site, where it was possible to see the depth of soils overlying natural geology, indicated that this was relatively shallow across much of the site.

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<sup>35</sup> Historic England 2016. Preserving Archaeological Remains. Decision-taking for Sites under Development



- 5.6** Earthworks are most common in areas not subject to modern, mechanised ploughing, as this area is. Possible industrial activity and water management are visible as earthworks within the Lidar Areas 1 and 2 in the centre of the site. Two possible round barrows are present visible as slight earthworks to the south of the centre of the site (Lidar Area 3). An area of possible cairns lies to the north of the round barrows (Lidar Area 4), although these are quite likely to be of natural origin rather than archaeological.
- 5.7** The numerous trackways across the area will have caused some disturbance to buried deposits, especially those leading to the communications masts and associated buildings which have evidently been made more substantial to improve access to these structures.
- 5.8** Overall if archaeological remains are present within the proposed wind farm, they would lie at a shallow depth beneath the present ground surface and in a relatively good state of preservation, excluding those areas disturbed by tracks and the communications masts and buildings.

## Assessment of Significance and Effects

- 5.9** This section assesses the potential impact of the proposed wind farm upon the significance of the designated assets whose settings it is determined could be affected. The first steps of the four-step approach to setting assessment described in the Cadw guidance has already been completed in HEDBA Appendix 1: Scheduled Monuments and HEDBA Appendix 2: Listed Buildings (Technical Appendix 8.3: Historic Environment Desk Based Assessment (HEDBA) Appendices), and above.
- 5.10** This section discusses the significance of the identified designated assets and identifies what impacts could occur. A level of harm is given to the impact based on the following scales of harm that are used by HCUK Group.

Table 6: Scales of harm

Scale of Harm	
Total Loss	Total removal of the significance of the designated heritage asset.
Substantial Harm	Serious harm that would drain away or vitiate the significance of the designated heritage asset
Less than Substantial Harm	High level harm that could be serious, but not so serious as to vitiate or drain away the significance of the designated heritage asset.
	Medium level harm, not necessarily serious to the significance of the designated heritage asset, but enough to be described as noticeable or material.
	Low level harm that does not seriously affect the significance of the designated heritage asset.

## Scheduled Monuments

**5.11** A total of 74 scheduled monuments have been identified within the 10 km study area around the wind farm element of the proposed wind farm. A process of assessment has been carried out within HEDBA Appendix 1: Scheduled Monuments (Technical Appendix 8.3: Historic Environment Desk Based Assessment (HEDBA) Appendices) of this report. This has involved a three step process:

- **Stage 1:** Identify the scheduled monuments and identify which lie within the Zone of Theoretical Visibility and determine how many turbines will be visible from those sites;
- **Stage 2:** Consider those scheduled monuments that have been identified within the ZTV further to determine whether any impacts to their significance is possible from the proposed wind farm (considering distance, number of turbines, types of site and what their significance is). Identify those sites where further assessment is needed;
- **Stage 3:** Consider those scheduled monuments identified in Stage 2 to consider in more detail whether harm will occur to their significance from the proposed wind farm.

**5.12** Stage 1 of the process reduced the number of scheduled monuments to be considered from 75 to 57, removing those outside of the ZTV.

- 5.13** Following this the Stage 2 process led to the number of scheduled monuments being reduced to from 75 to 6, removing all of those scheduled monuments where there would clearly be no change to the significance of the monuments from the proposed wind farm, whether due to distance of the monument from the proposed wind farm, the association of the monument with its surroundings or type of monument.
- 5.14** The final Stage 3 assessment is laid out below.
- 5.15** **MM045: Cairns West of Craig y Dyffryn.** The monument comprises the remains four burial cairns, probably dating to the Bronze Age (c. 2300 - 800 BC), located on an area of level ground on the south-facing slopes of Mynydd Henllys in an area of former forestry. The scheduling description states that the monument is of national importance for its potential to enhance our knowledge of prehistoric burial and ritual practices. The monument is an important relic of a prehistoric funerary and ritual landscape. Cairns may be part of a larger cluster of monuments and their importance can be further enhanced by their group value.
- 5.16** The scheduled cairns lie within 5 km of the proposed wind farm and lie in the ZTV where all 13 turbines would be visible.
- 5.17** The two possible round barrows within the site (Lidar Area 3) could have intervisibility with the cairn group. Turbines 11 and 13 lie between the monuments. The two possible barrows within the site are low mounds or uncertain origin. It is unlikely that any clear views between the cairn group and the two barrows would have been possible due to topography. The cairn group lies at around 336 m aOD and the two barrows at around 467 m aOD, but there are intervening ridges between them of around 410 m aOD which would mean that they would not have been intervisible.
- 5.18** The blades of the proposed turbines might be visible from the cairns, but the majority of the wind turbines would not be. The overall change to the setting of the cairn group MM045 would be slight, and only when looking in a northern direction. The turbines would not intervene in any possible views between the monument and other scheduled prehistoric cairns and barrow sites lying to the south and south-west.
- 5.19** It is considered that the impact on the significance of the cairn group MM045 from the proposed wind turbines would cause Less than Substantial Harm with a low level harm that does not seriously affect the significance of the designated heritage asset.
- 5.20** **MM256: Iron Ore Scours at Upper Race, Pontypool:** The monument comprises extraction features for iron ore, which used flowing water released from dammed water courses to scour and expose the ores. The scheduling description states that the area has been used for the extraction of iron ore since the 16th century, under

the Hanbury family and that the place name of Upper Race derives from the activity of scouring site. It also adds that the whole landscape has remained almost unaltered since at least the 1870s. The description states that the monument is of national importance for its potential to enhance our knowledge of mineral extraction practices. It retains significant archaeological potential, with a strong probability of the presence of associated archaeological features and deposits.

- 5.21** The Iron Ore Scours are the closest scheduled monument to the proposed wind farm, lying just less than 2 km from its centre and only 500 m from its western edge. The proposed wind turbines would be very visible from the Site and there would be an obvious impact on its setting by introducing the turbines so close to it.
- 5.22** The significance of the monument is associated with mineral extraction, a specific activity undertaken in a specific location to extract iron ore. The wider setting of an industrial monument such as this does not form part of its significance. The proposed wind farm would cause no physical impacts to the monument, nor disrupt any links between the site and any associated industrial buildings, water courses or reservoirs. Although the turbines would be very visible from the monument, they would cause Less than Substantial Harm with a low level harm that does not seriously affect the significance of the designated heritage asset.
- 5.23** **MM192: Old Beam Pump & Winding Engine, Glyn Pits:** The monument comprises the remains of a winding engine house, beam pumping engine house, two shafts and pond, dating to the 19th century. The scheduling description notes that the monument is of national importance for its potential to enhance our knowledge of 18th or 19th century industrial practices. It retains significant archaeological potential, with a strong probability of the presence of associated archaeological features and deposits. An industrial building may be part of a larger cluster of monuments and their importance can be further enhanced by their group value.
- 5.24** The monument is associated with mining and lies only 500 m north-west of the site. It lies on a north facing slope within a steep sided valley and as such only 1 to 3 turbines would be visible. No associated industrial activity was undertaken within the site that would be directly affected by the proposed wind farm. The Old monument is associated with former adjacent industrial sites in the valley and beyond the edge of the site. Although lying in close proximity, the proposed wind farm would not intervene or disrupt any of the relationships of this site with adjacent industrial activities, from which its significance is partly derived. The wider setting of an industrial monument such as this does not form part of its significance. Although a few of the turbines would be visible from the monument, it is considered that they will not cause any change in the significance of the designated heritage asset.
- 5.25** **MM011: Penrhos Camp (Civil War earthworks):** The monument consists of the remains of a substantial 17th century artillery fort located on a rounded promontory

of land above the Afon Llwyd. The scheduling description states that it is located on a gentle south-west facing slope with extensive views along the valleys of the Afon Llwyd and the River Usk and was well sited to command several routes north out of Caerleon. The monument is of national importance for its potential to enhance our knowledge of Civil War artillery fortifications. It retains significant archaeological potential, with a strong probability of the presence of associated archaeological features and deposits.

- 5.26** The scheduling description identifies that the setting of the Civil War earthwork is an important part of the significance of the monument. The site was located to command views over the Afon Lwyd to the west and River Usk to the south. The Afon Lwyd Valley runs to the north-west towards the proposed wind farm. The ZTV indicates that all 13 turbines would be visible from the monument, possibly partly framed by the Afon Lwyd valley sides.
- 5.27** The fort lies almost 10 km south-east of the site. Between the monument and the proposed wind farm lies Cwmbran and its associated modern development. Although the wider setting of the monument forms part of its significance, with it being located to command views across the river valleys and communication routes around Newport, views to Mynydd Maen would have been far too distant to be part of its defensive remit. Although the proposed wind farm will be visible from the monument, it is considered that due to the distance they will not cause any change in the significance of the designated heritage asset.
- 5.28** **MM141: St Illtyd Castle Mound:** The monument comprises the remains of a medieval motte and ditch. It is located immediately to the east of the medieval church of St Illtyd. The monument is of national importance for its potential to enhance our knowledge of medieval timber castles and the Norman invasion of the south-Wales uplands. It is well-preserved and an important relic of the medieval landscape and shares group value with the adjacent church and later masonry castle site.
- 5.29** The castle mound site lies 4.5 km north-west of the proposed wind farm boundary and the ZTV indicates that all 13 turbines would be visible from it. Castle sites were typically located to have wide views for defence and to maximise their visibility. The castle at St Illtyd is located on a hilltop, close to the associated church. It has quite extensive views all around, except to the north-east where the land rises. It lies at a height of around 350 m aOD, with little higher ground between it and the proposed wind farm. The main views from the castle site would have been overlooking the valleys around it (except to the north-east). There are two further small valleys between the castle and the proposed wind farm.
- 5.30** Views towards Mynydd Maen may have held some importance, perhaps more from a show of strength/being a visible feature in the landscape, rather than one of purely

defence. The proposed wind farm would be a visible feature in its setting, although only present to the south-east and not intervening in any of its closer relationships with the church and later castle. Although the turbines would be very visible from the castle site, they would cause Less than Substantial Harm with a low level harm that does not seriously affect the significance of the designated heritage asset.

- 5.31 MM044: Twm-Barlwm Mound and Bailey Castle:** This monument comprises another medieval castle site, formed of a motte and bailey. The scheduling description states that it was possibly built on the site of an earlier Iron Age hillfort. The hill slopes steeply on all sides, and there are panoramic views in all directions. The description states that it is of national importance for its potential to enhance our knowledge of medieval defensive organisation and later prehistoric defensive organisation and settlement. The well-preserved monument forms an important element within the wider later prehistoric and medieval context.
- 5.32** The monument lies 5 km south of the proposed wind farm and is likely to have views to all 13 turbines. It is noted that the Iron Age hillfort element may have intervisibility with the similar monuments to the south-west, south and east (such as MM084, Tredegar Fort). The medieval castle would have been located here to make use of its prominent location and clear visibility into the valleys surrounding it. The Nant Cam valley lies on its northern side and runs from the north-east providing clear views from the castle to the southern point of the proposed wind farm area.
- 5.33** The proposed wind farm would not intervene in any intervisibility between the prehistoric monuments, although the turbines would be visible in its wider setting. The proposed wind farm would not intervene in any relationship between medieval sites, such as the ones to the south-east of the proposed wind farm around Llanderfel Chapel. The proposed wind farm would be a visible feature to the north-east. Although the turbines would be very visible from the hillfort/medieval castle site, such that they would cause Less than Substantial Harm with a low level harm that does not seriously affect the significance of the designated heritage asset.
- 5.34** In conclusion, it has been determined that the proposed wind farm would not cause any significant harm to the significance of any scheduled monuments within the 10 km study area. There would be a Less than Substantial Harm at the lowest level of harm that would not seriously affect the significance of the designated heritage assets of: MM045: Cairns West of Craig y Dyffryn; MM256: Iron Ore Scours at Upper Race, Pontypool; MM141: St Illtyd Castle Mound and MM044: Twm-Barlwm Mound and Bailey Castle. There is considered to be no change to the significance of MM192: Old Beam Pump & Winding Engine, Glyn Pits or MM011: Penrhos Camp (Civil War earthworks).

## 6. Conclusions

- 6.1** This historic environment desk-based assessment has been prepared for the proposed wind farm to comprise 13 turbines of up to 149.9 m height and associated infrastructure. The proposed wind farm spans the County Borough Councils of Caerphilly and Torfaen.
- 6.2** The report has analysed data from the Glamorgan Gwent Archaeological Trusts Historic Environment record, the National Monuments Record and data held by Cadw to provide a detailed assessment of known elements of the historic environment within and around the proposed wind farm. A study area of 2 km was used for HER and NMR data and a 10 km search area used for designated historic assets around the site.
- 6.3** The search has included analysis of scheduled monuments, listed buildings, conservation areas and registered historic parks and gardens.

### Designated Heritage and Archaeological Assets

- 6.4** This assessment has considered the potential impact of the proposals on all designated heritage assets within a 10 km radius of the site. The proposals have been developed in view of the potential heritage constraints, and the turbines have been located in order to minimise their potential visual impacts upon designated heritage assets.
- 6.5** Following the staged settings assessment methodology outlined by Cadw, designated assets were scoped in or out of further assessment according to their potential susceptibility.
- 6.6** One World Heritage Site, and 1001 listed buildings were initially identified, along with 33 conservation areas, 11 RHPGs and 74 scheduled monuments.

### Scheduled Monuments

- 6.7** Of the 74 Scheduled Monuments identified within the 10 km study area, six were considered in more detail during the assessment process as noted in the previous chapter. It was concluded that the proposed wind farm would cause harm to the setting of two of these scheduled monuments within the 10 km study area, this would be at a low level not causing any impact to the significance of the monuments.

## Listed Buildings, Conservation Areas and Registered Historic Parks and Gardens

- 6.8** Further consideration was given to all other designated sites, their heritage interests and significance, and the contribution made to this significance by their settings and the contribution of the site within that setting (if any). Following this staged approach there were no other designated heritage assets whose significance would be harmed by the level of change posed within their settings (if any change was identified at all).

## Archaeological Remains

- 6.9** Based on the information within the HER and NMR, supplemented by historic mapping, the proposed wind farm is considered to have the following potentials for archaeological remains by period as indicated in Table 7. The likely archaeological importance of such remains by period, are also provided in the table.

Table 7: Archaeological Potential and Importance

Period	Archaeological Potential	Archaeological Importance
Prehistoric	<b>Moderate.</b> One possible cairn is recorded on the NMR. Two possible round barrows have been identified through Lidar data analysis as has an area of possible cairns lying to the north of this. There are few prehistoric sites recorded in the 2 km search area. There are quite a number of scheduled prehistoric sites within the wider 10 km study area.	Local to regional as it would providing information on an archaeological period that is poorly represented within the study area. The two possible round barrows identified from Lidar data within the site, could be of national significance, although they are in an area that would not be disturbed by the proposed wind farm.
Roman	<b>Low.</b> There are no known Roman sites within the 2 km search area around the proposed wind farm. There are a number of scheduled Roman sites in the wider 10 km study area, nearly all to the south and mostly associated with Caerleon.	Local to regional providing information on an archaeological period that is poorly represented within the study area.
Early Medieval	<b>Low.</b> There are no known early medieval sites within the 2 km search area	At least local providing information on an archaeological period that is



	around the proposed wind farm. A few scheduled sites with early medieval elements are known within the 10 km study area.	poorly represented within the study area.
Medieval	<b>Low.</b> Although a number of medieval sites are recorded within the 2 km study area, as well as scheduled sites in the 10 km study area, none are present within the site boundary. It is likely that the upland area of Mynydd Maen was used as common land for grazing.	Local archaeological importance, likely to be associated with agriculture and animal husbandry.
Post medieval	<b>Moderate</b> Numerous post medieval sites are recorded within the 2 km study area, including a number within the site. There are also numerous scheduled sites within the 10 km study area. Known sites of post medieval date within the site include a number of boundary stones indicating the parish boundary, land ownership boundaries and mineral rights markers. An area of possible post medieval quarrying has also been identified from Lidar data. The 'Bird House' indicated on earlier mapping also lies within the site, close to the proposed location of Turbine 4.	Local archaeological importance, likely to be associated with agriculture or subsidiary mineral working activities. Local archaeological importance, likely to be associated with agriculture, quarrying, land divisions and the site of the 'Bird House' site (which lies outside any of the proposed development areas).
Modern	<b>Low</b> The modern communications masts lie within the site, as do the electricity pylons crossing the site area and the OS trig point on the summit of Mynydd Maen. The remains of the HF-DF radar station are also present, in the form of the remains of the two buildings, one of which lies close to the proposed location of Turbine 4.	Local to negligible archaeological importance. Remains of the HF-DF radar station could be considered of local archaeological importance. No known modern sites are located in areas where development is proposed.

- 6.10** The majority of the proposed wind farm area has not been subject to previous development and appears to have been used as open common land since the medieval period. Where previous development has occurred, it has been associated with one area of known mineral extraction, but this has been very limited and the majority of the area has remained undeveloped. Existing development also includes the former HF-DF radar station, electricity pylons crossing the site, the modern communications masts and their associated buildings.
- 6.11** Archaeological remains could become exposed, damaged or destroyed by groundworks associated with the proposed wind farm. Archaeological remains are likely to be quite shallow and so would be impacted upon by any ground works. It should be noted that the site boundary is far larger than the proposed areas of groundworks for the wind farm which would be concentrated on the 13 turbine sites, an improved site entrance, new and upgraded access tracks, crane hardstandings, control building and substation compound, electricity transformers, underground cabling, and associated drainage works. The majority of the area would not be physically affected by the proposed wind farm.
- 6.12** Based on the assessment it is not anticipated that below ground archaeological remains of such a high significance are likely to be present within the area that would cause a constraint to development, and that any such remains can be dealt with through appropriate mitigation. The one area where a potential impact to archaeology may occur is in Lidar Area 4 where the potential for prehistoric cairns has been identified, although due to the quantity of possible mounds and their juxtaposition, they are more likely associated with vegetation growth than human activity.
- 6.13** The scope of any further archaeological works that would be needed in advance or during development of the proposed wind farm would need to be discussed and agreed with the archaeological advisor to the Blaenau Gwent and Torfaen County Borough Councils as local planning authorities. This is the Planning Services section of Glamorgan Gwent Archaeological Trust. Cadw would respond on issues regarding the designated historic assets in the study area.

## 7. Sources Consulted

Glamorgan Gwent Historic Environment Record

National Monument Record of Wales, Royal Commission on the Ancient and Historical Monuments of Wales, Aberystwyth

### Primary Sources

1813 Original Surveyor's Drawings Bedwas

1846 Mynyddislwyn Tithe Map

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### Secondary Sources

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Google Earth: [www.googleearth.co.uk](http://www.googleearth.co.uk)

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## 8. Figures