



NGED

UPPER OGMORE GRID CONNECTION

EIA Report – Volume 1: Main Report





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1 INTRODUCTION

1.1 OVERVIEW OF THE PROJECT

- 1.1.1. This draft Environmental Impact Assessment ('EIA') has been prepared by WSP on behalf of National Grid Electricity Distribution (NGED) ('the Applicant') who are submitting an application for a development of national significance (DNS) for the proposed grid connection connecting the DNS consented Upper Ogmore Wind Farm to the National Grid, consisting of 66 kilovolts (kV) overhead line (OHL) and underground cables (UGC). The Project is associated with the Upper Ogmore Wind Farm and will provide a connection between the wind farm and the wider national grid.
- 1.1.2. The Project is located in the south Wales, to the northwest of Llangnwyd, and travels partially through the towns of Caerau and Gwynfi and Croeserw (see **Figure 4.1**). The proposed grid connection is centred at coordinates easting (E) 288448, northing (N)194566 and falls majorly within Bridgend County Borough Council (BCBC) and partially traverses through Neath Port Talbot County Borough Council (NPTCBC).
- 1.1.3. This EIA Report has been prepared to accompany the application for the Project, which comprises:
- 4.1km of overhead lines, including 104 wooden poles;
 - 4.9km of underground cable, including cable ducts and 18 joint bay boxes; and
 - Temporary working areas e.g. construction compound.

1.2 EXISTING SITE AND SURROUNDINGS

- 1.2.1. Starting at the western-most section (**Figure 4.1**), the route begins at an intersection with the Foel Trawsant Grid Connection (DNS reference: DNS CAS-02505-N3T6M4) to the west of the A4063 near Caerau, as western OHL for approximately 1.1km. As the route reaches Caerau, the route then transitions into western UGC, following the existing highway network for approximately 1.7km to the north. Immediately before reaching Brynheulog Road, the route goes back to eastern OHL for approximately 3 km to the east. To the northwest of Blaengarw, close to Mynydd Caerau, the route transitions back into eastern UGC and continues west for approximately 3.2km.
- 1.2.2. The western-most OHL section predominately travels through a mix of gorse scrub, modified grassland and upland acidic grassland. The northern section of the UGC travelling through Caerau is predominantly through built environment, consisting mainly of residential properties. Once the cable transitions back to an OHL, it traverses through a mosaic of several habitat types. Initially, it passes through purple moor-grass and rush pastures for approximately 0.81km to the south of Brynheulog Road. The OHL then passes through an area of other broadleaved woodland for approximately 0.13km, to the south of Croeserw, before continuing through areas of upland acidic grassland and upland rush pasture.

1.3 THE APPLICANT AND THE PROJECT TEAM

- 1.3.1. This EIA Report has been prepared on behalf of the Applicant by WSP.
- 1.3.2. WSP is registered with the Institute of Environmental Management and Assessment (IEMA)'s EIA Quality Mark Scheme. The scheme allows organisations that lead the coordination of EIAs in the UK to commit to excellence in their EIA activities and have this commitment independently reviewed.
- 1.3.3. A statement outlining the relevant experience and qualifications of the competent experts who have prepared this EIA Report is provided in **Appendix 1A**, whilst a full description of the EIA process is provided within **Chapter 2: EIA Approach**.

1.4 PURPOSE OF THE ENVIRONMENTAL IMPACT ASSESSMENT REPORT

- 1.4.1. The Project is considered a Development of National Significance (DNS) according to the Planning (Wales) Act 2015, the Development of National Significance (Wales) (Regulations) 2016 (as amended).
- 1.4.2. The requirement for a DNS application is triggered by the overhead section, the whole section required DNS consent.
- 1.4.3. In relation to the England and Wales High Court (Administrative Court) Decisions (2019)¹, the Project is considered to be relevant to the following factors:
 - *“iii. Functional interdependence - where one part of a development could not function without another, this may indicate that they constitute a single project (Burridge at [32], [42] and [78])”*
- 1.4.4. The Project is considered to be functionally interdependent with the consented Upper Ogmere Wind Farm; the wind farm will not be able to properly function without the proposed grid connection. The Environmental Statement (ES) will therefore consider in each ES chapter the in-combination effects between the consented Upper Ogmere Wind Farm, and the proposed electricity connection (the 'Project').
- 1.4.5. This draft EIA Report has been prepared as part of an EIA submission, which is required due to the Project being considered a DNS. This draft EIA Report has been prepared in accordance with the requirements of the EIA Regulations. The draft EIA Report provides the environmental information that will be used within the pre-application consultation (PAC) by stakeholders to inform the process of determining the application.
- 1.4.6. A request for a Scoping Opinion was submitted 3rd April 2025 (DNS Application reference: DNS CAS-03678-M4Y0G7). A formal response received on 19th June 2025 (**Appendix 2B**), including a consultation response from Bridgend County Borough Council and Neath Port Talbot County

¹ Wingfield, R (On the Application Of) v Canterbury City Council (2019) EWHC 1975 (Admin). Available at: <https://www.bailii.org/ew/cases/EWHC/Admin/2019/1975.html>

Borough Council, as well as other statutory consultees. Drawing upon the EIA Scoping Opinion and subsequent assessment work, the draft EIA Report includes an assessment of the likely significant environmental effects of the Project.

- 1.4.7. Further information on the EIA scoping process, as well as information about the approach used to prepare the draft EIA Report, is outlined in **Chapter 2: EIA Approach** of this document.

1.5 SCOPE OF THE EIA REPORT

- 1.5.1. As set out in Schedule 5, Section 17 of the Town and Country Planning (Environmental Impact Assessment) (EIA) (Wales) Regulations 2017, the following information should be included in the EIA Report:
- A description of the Project comprising information on the site, design, size, and other relevant features of the development;
 - A description of the likely significant effects of the Project on the environment;
 - A description of any features of the Project, or measures envisaged in order to avoid, prevent, or reduce and, if possible, offset likely significant adverse effects on the environment;
 - A description of the reasonable alternatives studied by the applicant or appellant, which are relevant to the Project and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the significant effects of the development on the environment;
 - A non-technical summary; and
 - Any additional information specified in Schedule 4 relevant to the specific characteristics of the development or type of development and to the environmental features likely to be significantly affected.
- 1.5.2. Column 1 of **Table 1-1** lists those topics that need to be considered when preparing an EIA Report and **column 2** lists where these are included in the EIA Reports supporting this application.

Table 1-1 - Scope of EIA Report

Topics to be assessed under the EIA Regulations	Chapter titles within this EIA Report
Population	Chapter 6 – Landscape and Visual Chapter 7 – Traffic and Transport
Human Health	Chapter 6 – Landscape and Visual Chapter 10 – Water Resources and Flood Risk
Biodiversity	Chapter 8 – Ecology
Land	Scoped out as significant effects unlikely. Standard mitigation measures are captured in a Land Quality Phase 1 desk study,

	including targeted peat surveys. A Coal Mining Risk Assessment has also been produced. These are considered in Chapter 4 – Description of the Project.
Soil	Scoped out as significant effects unlikely. Standard mitigation measures are captured in a Land Quality Phase 1 desk study, including targeted peat surveys. A Coal Mining Risk Assessment has also been produced. These are considered in Chapter 4 – Description of the Project.
Water Environment	Chapter 10 – Water Resources and Flood Risk
Air Quality	Scoped out as significant effects unlikely. Standard mitigation measures aimed at reducing air quality impacts are captured within a Construction Environment Management Plan (CEMP), and considered within Chapter 4 – Description of the Project.
Pollutants	Scoped out as significant effects unlikely. Standard mitigation measures aimed at reducing impacts such as noise, are considered within a Noise Vibration Management Plan appended to the CEMP, and considered within Chapter 4 – Description of the Project.
Climate	N/A – scoped out
Material Assets	N/A – scoped out
Cultural Heritage	Chapter 9 – Historic Environment
Landscape	Chapter 6 – Landscape and Visual
The inter-relationship between the above factors and cumulative effects	These are assessed within each Chapter as relevant
Vulnerability to major accidents or disasters	N/A – scoped out

1.6 STRUCTURE OF THIS EIA REPORT

1.6.1. The EIA Report comprises five volumes:

- Volume 1 (this volume) is sub-divided into the following chapters:

- Chapter 1: Introduction;
 - Chapter 2: Environmental Impact Assessment Approach, details the approach that has been adopted in preparing the EIA Report;
 - Chapter 3: Design Evolution and Alternatives, details the need for the Project, outlines the main alternatives considered and indicates the main reasons for the preferred choice;
 - Chapter 4: Description of the Project provides a description of the Project;
 - Chapter 5: Planning Policy, provides an overview of key policies and legislation that are relevant to the EIA Report;
 - Chapter 6 to 11 set out the technical assessments for the environmental topics considered in the EIA Report; and
 - Chapter 12 provides a summary of mitigation and residual effects.
- Volume 2 contains the Figures referred to in Volume 1;
 - Volume 3 contains the Technical Appendices referred to in Volume 1;
 - Volume 4 is a Non-Technical Summary (NTS), which is also available as a standalone document, and summarises the findings of the EIA studies; and
 - Volume 5 contains a confidential annex related to protected species.

1.7 OTHER APPLICATION DOCUMENTS

1.7.1. The following documents are included as part of this submission for PAC consultation:

- Cover letter requesting consent;
- Green Infrastructure Statement;
- Planning Statement; and
- Design and Access Statement.

1.7.2. A PAC report will be submitted as part of the final ES submission to Planning and Environment Decision Wales (PEDW).

1.8 AVAILABILITY OF THE ENVIRONMENTAL IMPACT ASSESSMENT

1.8.1. The draft EIA Report and other documentation will be viewable at:

<https://www.nationalgrid.co.uk/upper-ogmore-grid-connection>.

1.8.2. There will also be there public exhibitions events at the following locations, where the draft EIA Report will be available to view:

- Croeserw Community Enterprise Centre, SA13 3PL; and
- Noddfa, 77 Caerau Road, Caerau, CF34 0PB.

1.8.3. Following submission of the application and accompanying final EIA Report to PEDW, notice will be given in accordance with Regulations 19 of the EIA Regulations (Wales). This will include details of the Project, state that this is subject to EIA and provide details of how the EIA Report can be inspected and copies obtained, including any associated cost for hard copies. The notice under Regulation 19 will also provide details of how representations can be made and detail arrangements for public participation in the decision-making process.

2 ENVIRONMENTAL IMPACT ASSESSMENT APPROACH

2.1 THE ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

- 2.1.1. The preparation of the EIA Report is one of the key stages in the EIA process, as it presents the assessment of likely significant environmental effects, which PEDW will use to inform their decision about whether consent should be granted for the Project.
- 2.1.2. The EIA process culminates in the provision of an Environmental Statement (ES) which provides environmental information in accordance with the Town and Country Planning (Environmental Impact Assessment) (EIA) (Wales) Regulations 2017. The ES provides an assessment of the likely significant effects associated with the Project during its construction, operation, and decommissioning.
- 2.1.3. The environmental aspect assessments have been carried out using the general approach and processes set out in this chapter. In each topic chapter, specific methodologies for those assessments are explained.

2.2 EIA TERMINOLOGY

IMPACTS AND EFFECTS

- 2.2.1. In some EIA Reports, the terms 'impacts' and 'effects' are used interchangeably, whilst in others, the terms are given different meanings. The convention used in this EIA Report is to use 'impacts' only within the context of the term EIA, which describes the process from scoping through EIA Report preparation to subsequent monitoring and other work.
- 2.2.2. Otherwise, this document uses the word 'effects' when describing the environmental consequences of the Project, which may, for example, come about as a result of physical activities that would take place if the development were to proceed. The environmental changes that occur as a result of these activities may in some cases cause another change, which in turn results in another environmental effect.
- 2.2.3. The predicted environmental effects are the consequences of the environmental changes for specific environmental receptors.
- 2.2.4. This EIA Report is concerned with assessing the significance of the environmental effects of the Project, which requires the activities that will be undertaken to be understood and the resultant changes to be identified and quantified, often based on predictive assessment work before reaching a conclusion on the significant environmental effect.

SPATIAL AND TEMPORAL SCOPE

- 2.2.5. Spatial scope is the area over which changes to the environment are predicted to occur as a result of the Project. In practice, an EIA should focus on those areas within which any identified effects are likely to be significant.
- 2.2.6. Within this EIA Report, the spatial scope varies between environmental topics and is therefore described in each of the topic chapters.

- 2.2.7. The temporal scope covers the time period over which changes to the environment and the resultant effects are predicted to occur. As the Project nears the end of its intended operational life, a decision will be taken as to whether or not a life extension, repowering or decommissioning will be required. However, for assessment purposes, the EIA Report assumes the proposed grid connection will remain in situ, as it has the potential to become integrated into the Distribution Network Operator (DNO) wider distribution network.
- 2.2.8. Therefore, the focus of the assessments is on the potential effects during construction, operation & maintenance, though decommissioning is considered where appropriate. Should the assessment of an individual technical topic deviate from this general approach, it will be clarified within the technical chapter. For example, traffic and transport assessments for developments typically focus on the construction period as this is when there is greatest potential for significant effects to occur because of the increase in the volume of Heavy Goods Vehicles (HGVs). During operation however, traffic is generally restricted to occasional monitoring and maintenance visits which is unlikely to result in significant effects. The potential effect on users of the road network as a result of operational is therefore typically scoped out of detailed assessment. Changes as a result of the Project that occur during construction, operation and/ or decommissioning may result in effects that persist beyond these phases. The effects are typically defined as either being temporary or permanent.

2.3 EIA SCOPING

- 2.3.1. The EIA scoping process aims to identify the scope and level of detail of information to be provided within the EIA Report. In particular, the process involves identifying the following:
- The people and environmental resources (collectively known as the ‘receptors’) that could be significantly affected by the Project;
 - The methodology for the assessment of those effects identified as being potentially significant;
 - Environmental effects which have the potential of being significant, and therefore are required to be considered within an Environmental Statement; and
 - Environmental effects which are not anticipated to be significant and, therefore, are not required to be considered further within an Environmental Statement.
- 2.3.2. The preparation of a scoping report is informed by the legislative and policy context that will influence the scheme as well as the environmental information relevant to the Project and its surroundings. It is also informed by the simple rule that, to be significant, an effect must be of sufficient importance that it should influence the process of decision-making about whether consent should be granted for a project or an element of it.
- 2.3.3. An EIA Scoping Report was submitted on 3rd April 2025 to PEDW, and is included in **Appendix 2A**.
- 2.3.4. The EIA Scoping Opinion (**Appendix 2B**) has been used to inform and shape the scope of the assessments, based on responses from the local councils and consultees. At the time of writing the draft EIA Report, further consultations have been held with Cadw; these are further detailed in **Chapter 10: Historic Environment**.

2.4 CONSULTATION

EIA SCOPING OPINION

- 2.4.1. PEDW formally issued the Scoping Opinion in response to the Scoping Report on 19th June 2025 (**Appendix 2B**). As noted in **Section 2.3**, at the time of writing further consultations have been held with Cadw; these are further detailed in **Chapter 10: Historic Environment**.

2.5 OVERVIEW OF ASSESSMENT METHODOLOGY

INTRODUCTION

- 2.5.1. All the topic assessments presented in the draft EIA Report have been undertaken on the Project, as described within **Chapter 4: Description of the Project**.
- 2.5.2. The assessment of effects has been undertaken by competent experts with relevant specialist skills, drawing on their experience of working on other development projects, good practice in EIA and relevant published information. A list of these experts, their qualifications and competencies have been provided within **Appendix 1A**.
- 2.5.3. For some topics, use has been made of modelling or other methodologies, as appropriate.
- 2.5.4. For each topic considered in this EIA Report, where appropriate, the chapters use the following format:
- Introduction;
 - Limitations of the Assessment;
 - Policy, Legislation and Guidance;
 - Consultation;
 - Data Gathering Methodology;
 - Overall Baseline;
 - Scope of the Assessment;
 - Embedded Measures;
 - Assessment Methodology;
 - Assessment of Effects;
 - Assessment of Cumulative Effects;
 - Mitigation and Residual Effects;
 - Conclusions of Significance Evaluation;
 - References.

2.6 IDENTIFICATION OF BASELINE CONDITIONS

- 2.6.1. To determine the baseline conditions that should be used for the assessment of the likely significant effects of the Project, it is necessary to define the current baseline conditions and then to decide whether these conditions are likely to change by the 'assessment years' that are selected for the construction, operation and maintenance of the Project. If this future baseline is more likely to occur than the current baseline, the future baseline is used for the assessment of effects. However, if the

current baseline is just as likely, or even more likely, to occur in the assessment years, the current baseline is used for the assessment.

- 2.6.2. As the various elements of the Project would be built over a period of 9 months, from an estimated start date of January 2028, it cannot be assumed that the baseline conditions would be the same as the current baseline at the time of construction or during construction or operation. Where relevant, technical chapters, therefore, provide a description of the likely changes to the baseline in the absence of the Project. The baseline is determined for the 'Study Area' for each environmental topic by a combination of desk-based research, together with field survey work (where required). The Study Area encompasses the Site boundary but may also include land outside this, where effects are likely to extend beyond such geographical limits. Zones of Influence (Zols), where the Project could affect off-site areas, are therefore considered where relevant for each technical topic considered in the EIA.
- 2.6.3. Where relevant, details of the Zols are discussed in the baseline section of the environmental topic chapter considered and the basis for the Study Area explained. These chapters also explain the basis for defining the future baseline conditions, where this is appropriate. This is based on the following:
- Changes to the baseline that can be predicted based on reasonable assumptions and modelling calculations, e.g. the application of traffic growth factors based on relevant guidance;
 - Information relating to other likely and predictable changes; and
 - Information about other relevant developments, including the nature of the development proposals, their likely timing and their location relative to the Project.

2.7 OVERVIEW OF APPROACH TO SIGNIFICANCE EVALUATION METHODOLOGY

INTRODUCTION

- 2.7.1. One of the requirements of an EIA Report is to set out the conclusions that have been reached on the likely significant environmental effects arising from the Project. Reaching a conclusion about which effects, if any, are likely to be significant is the culmination of an iterative process that involves the following stages:
- Identifying those effects that could potentially be significant;
 - Assessing the effects of a proposed development against the baseline conditions; and
 - Concluding whether these are likely to be significant.

- 2.7.2. **Chapters 6 to 11** describe the approaches that have been used, in relation to the stages outlined in the bullet points above, for each of the environmental topics that are considered in this draft EIA Report.

IDENTIFICATION OF LIKELY SIGNIFICANT EFFECTS

- 2.7.3. The technical assessments have been carried out on the Project, as summarised within **Chapter 4: Description of the Project** of this draft EIA Report.

- 2.7.4. The technical assessment undertaken in **Chapters 6 to 11** of this draft EIA Report describe how environmental changes resulting from the Project as assessed to determine the significance of effects, together with the topic-specific approaches that have been used to identify the receptors that could be significantly affected by the Project.

TYPES OF EFFECTS

- 2.7.5. Paragraph 5 of Schedule 4 of the EIA Regulations states that *'the description of the likely significant effects on the factors specified in regulation 4(2) should cover the direct effects and any indirect, secondary, cumulative, transboundary, short-term, medium-term, and long-term, permanent and temporary, positive and negative effects of the development'*.
- 2.7.6. Where appropriate, this EIA Report considered these types of effects within the individual topic chapters as relevant. A description of the different types of effects is set out below, with the exception of cumulative effects which are dealt with separately in **Section 2.8**.

Direct Effects

- 2.7.7. Direct effects are those that result directly from a project. For example, where a machine compresses an area of habitat, this physical activity results in a change to this receptor.

Indirect and Secondary Effects

- 2.7.8. Indirect and secondary effects are those that result from consequential change caused by a project. As such they would normally occur on a different receptor, later in time or at locations farther away than direct effects. An example would be where an area of habitat disturbed by machinery results in loss of vegetation and soil compaction which increases silted run-off rates into nearby watercourses.

Local, Regional, National and Transboundary Effects

- 2.7.9. Transboundary effects are those that would affect the environment in another state within the European Economic Area (EEA).

Temporal Effects

- 2.7.10. As discussed in **Section 2.2**, temporal effects are typically defined as being permanent or temporary as follows:
- Permanent - these are effects that will remain even when a project is complete, although these effects may be caused by environmental changes that are permanent or temporary; and
 - Temporary – these are effects that are related to environmental changes associated with a particular activity and that will cease when that activity finishes. Where effects are temporary, they may be defined as short-, medium- or long-term, the duration of which may depend on the receptor in question and would therefore be defined in technical chapters as appropriate.

SIGNIFICANCE EVALUATION

Overview

- 2.7.11. The receptors that could be significantly affected by the Project are identified within each topic chapter. The approach that is adopted to determine whether the effects on these receptors are

significant is to apply a combination of professional judgement and a topic-specific significance evaluation methodology that draws on the results of the assessment works that has been carried out.

- 2.7.12. There is a degree of flexibility within the EIA Report when reporting the significance of effects in terms of the EIA Regulations. This is determined using professional judgment, with reference to the project description and available information about the magnitude and other characteristics of the potential changes that are expected to be caused by the Project, the receptors' sensitivity to these changes, and the effects of these changes on relevant receptors.
- 2.7.13. In some cases, use of the 'significance test' alone will enable a conclusion to be reached in the 'Scope of the assessment' section of the topic chapter, without the need for more detailed work to assess whether or not a potential effect is likely to be significant. For example, this could be because additional baseline data or detail on the Project description has been obtained which has allowed potential effect to be scoped out after the scoping stage. However, in other cases, effects identified in the 'scope of the assessment' section are taken forward for further assessment in the subsequent section(s) of each topic chapter.
- 2.7.14. All topic-specific chapters, the methodology follows the approach detailed in this section. However, for some of the topics there is published guidance available about significance evaluation. Where such guidance exists, it has been used to inform the development of the significance evaluation methodologies that are used in this draft EIA Report. For other topics, it has been necessary to develop methodologies without the benefit of guidance. This has involved technical specialists drawing on their previous experience of significance evaluation in EIA. Having applied the relevant topic-specific significance evaluation methodology, the topic specialists assess the conclusions against the significance evaluation matrix (**Table 2-2**).
- 2.7.15. While there may be variation depending on the technical topic being considered, significance evaluation generally involves combining information about the sensitivity, importance or value of a receptor, and the magnitude and other characteristics of the changes that affect the receptor. The approach to using this information for significance evaluation is outlined below.

RECEPTOR SENSITIVITY, IMPORTANCE, OR VALUE

- 2.7.16. The sensitivity or value of a receptor is largely a product of its importance, as informed by legislation and policy, and as qualified by professional judgement. For example, receptors for landscape, biodiversity or the historic environment may be defined as being of international or national importance. Lower-value receptors may be defined as being sensitive or important at a county or district level.
- 2.7.17. The use of a location or physical element that may be representative of receptors, e.g. people, would also play a part in its classification in terms of sensitivity, importance, or value. For example, when considering effects on the amenities of people, a location used for recreational purposes may be considered more sensitive to change or be valued more than a place of work.
- 2.7.18. The sensitivity, importance, or value of receptors that may be affected by the Project would be identified on a scale from *very low* to *very high*. For each environmental topic, it is necessary to

provide a detailed rationale that explains how the categories of sensitivity/importance/value detailed in **Table 2-2** have been used.

MAGNITUDE OF CHANGE

- 2.7.19. The magnitude of change affecting a receptor as a result of the Project would be identified on a scale from *very low* to *very high*. As with receptor sensitivity and value, a rationale is provided in each topic chapter that explains how the categories of environmental change are defined. For certain topics, the magnitude of change would be related to guidance on what levels of change are acceptable (e.g. for noise) and be based on numerical parameters. For other changes, it will be a matter of professional judgement to determine the magnitude of change detailed in **Table 2-1**, using descriptive terms.

DETERMINATION OF SIGNIFICANCE

- 2.7.20. The significance of effects is determined with reference to information about the nature of the development, the receptors that could be affected and their sensitivity, importance or value, together with the magnitudes of environmental change that are likely to occur.
- 2.7.21. Significance evaluation of the effects of the Project for many environmental topics can be guided by the use of matrices that combine sensitivity/importance/value and the magnitude of environmental changes as shown in the example in **Table 2-1**. In addition, professional judgment is applied because, for certain environmental topics, the lines between the sensitivities or magnitudes of change may not be clearly defined and the resulting assessment conclusions may need clarifying. It should be noted that as directed by topic-specific guidelines issued by institutions governing a particular discipline, some environmental topics avoid the use of matrices to assess significance.

Table 2-1 - Significance Evaluation Matrix

		Magnitude of change				
		Very high	High	Medium	Low	Very low
Sensitivity/importance/value	Very high	Major (Significant)	Major (Significant)	Major (Significant)	Major (Significant)	Moderate (Probably significant)
	High	Major (Significant)	Major (Significant)	Major (Significant)	Moderate (Probably significant)	Minor (Not significant)
	Medium	Major (Significant)	Major (Significant)	Moderate (Probably significant)	Minor (Not significant)	Negligible (Not significant)
	Low	Major (Significant)	Moderate (Probably significant)	Minor (Not significant)	Negligible (Not significant)	Negligible (Not significant)
	Very Low	Moderate	Minor	Negligible	Negligible	Negligible

(Probably
significant)

(Not
significant)

(Not
significant)

(Not
significant)

(Not
significant)

2.7.22. Within the matrix that is used in most significant evaluation exercises, reference is made to:

- Major effects, which will always be determined as being significant in EIA terms;
- Moderate effects, which are likely to be significant, although there may be circumstances where such effects are considered not significant based on professional judgement; and
- Minor or negligible effects, which will always be determined as not significant.

2.7.23. Variations to this approach, which may be applicable to specific environmental topics, will be detailed in the relevant 'assessment methodology' sub-section contained in each environmental topic chapter.

2.7.24. Definitions of how the categories that are used in the matrix are derived for each topic are also set out in each environmental topic chapter, along with the relevant explanation and descriptions of receptor sensitivity, magnitude of change and levels of effect that are considered significant under the EIA Regulations.

2.8 ASSESSMENT OF CUMULATIVE EFFECTS

2.8.1. For each environmental topic that is dealt with in this draft EIA Report, an assessment is undertaken within each technical chapter of how the environmental effects resulting from the Project could combine with the same topic-related effects generated by other developments to affect a common receptor. To do this, it is important to first identify which other developments need to be included in the cumulative effects assessment ('CEA') under each environmental topic assessment undertaken. The starting point for this is to determine for each environmental topic considered the Zols of the Project for each receptor that could be significantly affected.

2.8.2. Identifying the other developments that should be considered in the CEA involves first acknowledging that the availability of information necessary to conduct this will partly depend on the prevailing status of the other relevant developments. Cumulative developments relevant to the Project are shown in **Figure 2-1** and **Table 2-2**.

Table 2-2 - Cumulative Developments

Planning Authority Area	Planning Application Reference	Category	Summary of Development	Approved/ Application
NPTCBC	P2025/0043	Energy/ Wind Farm	Foel Trawsnant Windfarm Grid Connection	No Objections
BCBC	P/23/473/RLX	Energy/ Wind Farm	Upper Ogmere Wind Farm - Vary condition 2 of PEDW Ref DNS/3213662 (P/20/893/DNS) to increase the rotor diameter of the proposed wind turbines from 105m to 117m - the overall tip height of the wind turbines will remain as consented	Under Consideration
BCBC	P/20/42/FUL	Energy/ Wind Farm	Pant y Wal Wind Farm - Construction of 2 wind turbines, access tracks and all associated development for an operational period of 25 years	Decided
BCBC	P/23/319/DNS	Energy/ Wind Farm	Y Bryn Windfarm Bridgend / Neath Port Talbot - Installation of up to 18 wind turbines	Under Consideration
BCBC	P/23/555/DOC	Residential	Residential development of 20no. affordable dwellings and associated works at Former Blaenllynfi Infant School Grosvenor Terrace Maesteg CF34 0RW	Under Consideration

Planning Authority Area	Planning Application Reference	Category	Summary of Development	Approved/ Application
BCBC	P/21/1047/SOR	Energy/ Wind Farm	Llynfi Afan Wind farm to Caerau village Maesteg - Installation of a 33kV private wire connection from the Llynfi Afan Wind Farm to Caerau village, Caerau	Under Consideration
BCBC	P/21/901/OBS	Commercial	Adventure Resort with 600 lodges/apartments, hotel, restaurants with car parking, landscaping, drainage, diversion of public rights of way and associated works	Decided
BCBC	P/21/547/RLX	Residential	Residential development for 35 houses and retain existing house at 62a Picton Street.	Decided
NPTCBC	P2023/0498	Energy/ Wind Farm	Solar Farm - 50MW ground mounted photovoltaic solar farm with associated equipment, infrastructure, grid connection and ancillary works.	Objections
NPTCBC	P2022/0517	Energy/ Wind Farm	Foels Trawsnant Wind Farm consisting of 8 turbines.	Approved
NPTCBC	P2021/0057	Energy/ Wind Farm	Y Bryn Wind Farm consists of 26 turbines (6.6 MW per turbine) with a maximum height of 250m in height and 170m in rotor diameter, transformer housing, battery storage,	Objections

Planning Authority Area	Planning Application Reference	Category	Summary of Development	Approved/ Application
			permanent anemometry masts, access tracks, crane pads and borrow pits.	
NPTCBC	23/0611/DIS	Energy/ Wind Farm	Abergorki Wind Farm	Pending Decision

- 2.8.3. Paragraph 5 (e) of Schedule 4 of the EIA Regulations (Wales) 2017 states that *‘the cumulation of effects with existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources’*.
- 2.8.4. Therefore, such developments, where they are located within the ZOI for a given environmental topic, have been subject to CEA. These developments are discussed, as appropriate, in the sub-section of each environmental topic chapter that deals with the assessment of cumulative effects.

2.9 MITIGATION MEASURES

- 2.9.1. As specified within Schedule 4, Paragraph 7 of the EIA Regulations, appropriate mitigation measures will be identified to avoid, prevent, reduce, or if possible offset identified potential significant environmental effects.
- 2.9.2. The following will be considered:
- Embedded mitigation –which is built-in to the Project during the design process;
 - Any additional mitigation – aimed to avoid, prevent, reduce, or if possible offset significant effects; and
 - Enhancement measures.
- 2.9.3. A key feature of the EIA approach will be to ensure a robust assessment which will address significant issues and provide workable mitigation.

2.10 RESIDUAL EFFECTS

- 2.10.1. Following the identification of mitigation and monitoring measures to address significant adverse effects, an assessment of the significance of any residual impacts (i.e., those remaining after the implementation of additional mitigation) will be completed.

3 DESIGN, EVOLUTION AND ALTERNATIVES

3.1 INTRODUCTION

- 3.1.1. The Environmental Impact Assessment (EIA) Regulations states that an EIA Report should include:
- In paragraph 17(3)(d) of Part 5: *"a description of the reasonable alternatives studied by the developer, which are relevant to the development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the development on the environment";*
 - Paragraph 2 of Schedule 4: *"A description of the reasonable alternatives (for example in terms of project design, technology, location, size and scale) studied by the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects."*
- 3.1.2. The design evolution and consideration of alternatives of the Project is discussed in the sub-sections below.

3.2 SITE SELECTION

SITE SELECTION PROCESS

- 3.2.1. An initial assessment of the feasibility of the site was conducted using Geographical Information Systems ('GIS'), to look at high-level constraints and key criteria for the proposed grid connection. This process allowed early identification of key technical, environmental, planning and commercial issues, which could either support or potentially hinder the Project.
- 3.2.2. Some locations were excluded, following this exercise, due to factors including landscape and visual, planning policy, and commercial constraints.
- 3.2.3. At the conclusion of the initial assessment phase, the final proposed Site was identified as being potentially suitable for development as no significant constraints had been identified.
- 3.2.4. Potentially suitable sites were evaluated, using the basic assessment criteria as outlined below:
- **Land Availability:** ensuring there is sufficient land available for development;
 - **Land Use and Context:** assessing the suitability of the existing land use and ensuring that the chosen site is out with international or national environmental or planning designations;
 - **Electricity Grid:** assessing whether the site is within appropriate proximity of a suitable connection point to the electricity grid network;
 - **Transport Infrastructure:** ensuring the site is accessible via public road infrastructure to allow the construction, operation and maintenance of a wind farm;
 - **Landscape and Visual:** an initial assessment of the landscape and visual effects of the proposed grid connection on important receptors (i.e. ensuring it is not located within a statutory designated landscape and taking into account considerations of landscape sensitivity and potentially sensitive visual receptors); and
 - **Nature Conservation Sites:** an initial assessment to determine the distance of statutorily designated sites such as Sites of Special Scientific Interest (SSSIs), National Nature Reserves

(‘NNRs’), Ramsar Sites, Special Areas of Conservation (‘SACs’) and Special Protection Areas (‘SPAs’) from the site.

- 3.2.5. The conclusion of this feasibility assessment work was that the final proposed Site met the necessary basic assessment criteria and therefore warranted further detailed environmental and technical assessment.
- 3.2.6. The findings of the feasibility assessment were subsequently built on by undertaking design work for the Project. This included undertaking consultations with relevant stakeholders, in order to understand their views on a potential grid connection at the Site and to ultimately assist in the evolution of an appropriate, responsibly designed Project.
- 3.2.7. Assessment was undertaken to understand environmental and technical constraints. This design has evolved as detailed in **Section 3.4**, to the current Project which is illustrated in **Figure 4.1**.

3.3 CONSIDERATION OF ALTERNATIVES

- 3.3.1. In EIA terms, the requirement of consideration of alternatives is to report on reasonable alternatives that have been considered by an applicant rather than it being a requirement of an EIA to identify and consider alternatives beyond those considered by an applicant.
- 3.3.2. Specific to the Project, alternatives in respect of layout were considered and the alternatives in respect of these are set out below.

WITHOUT THE PROJECT

- 3.3.3. A description of the existing baseline conditions and the potential evolution of that baseline is described in each of the technical chapters. Without the Project, the status quo would be expected to remain.

TECHNOLOGY

- 3.3.4. The proposed grid connection will be used to connect the consented Upper Ogmere Wind Farm to the wider national grid; without which, the wind farm would not be able to serve its purpose in providing renewable energy. The requirement for renewable energy is accepted at national policy level with wind energy widely recognised as the most mature renewable energy technology currently available. The Site was identified as being appropriately located to transfer electricity from the wind farm to the national grid.

3.4 DESIGN EVOLUTION

- 3.4.1. The layout of the route has progressed through a number of design iterations, as summarised in **Table 3-1**. A 10m micro-siting allowance is proposed for the OHL pole locations, to build in contingency and avoid encroachment into any environmentally or technically constrained areas. In addition, micro-siting provides scope to mitigate potential geo-environmental and geotechnical constraints.
- 3.4.2. The design of the Project has evolved following consultations with stakeholders such as Natural Resources Wales (NRW).

- 3.4.3. Embedded mitigation measures have been incorporated into the design and construction of the Project, to avoid, prevent or minimise significant adverse environmental effects where possible. These embedded mitigation measures are captured and discussed in the relevant technical chapters and a summary of the proposed mitigation measures is presented in **Chapter 12: Summary of Mitigation**.
- 3.4.4. The proposed grid connection route has evolved in response to a number of environmental and technical constraints, as well as achieving landowner agreements for the siting of wooden poles, the installation of overhead lines and underground cables.
- 3.4.5. **Table 3-1** identifies the main iterations of the route design and the rationale for such changes.

Table 3-1 - Design Iterations

Design Iteration	Rationale / Summary
Route 0 February 2023 to September 2023	Optioneering studies were undertaken for the route between Tower WF20 and the Upper Ogmore Wind Farm connection point substation. Three potential corridors were identified. The option to link the Upper Ogmore route into another already proposed overhead route in the area was elected. This choice minimises asset construction, maintenance, and cost. Following this, surveys and reports from specialist consultants (in regards to ecology, archaeology, minerals, etc.) were instructed to obtain the necessary information for the circuit design.
Route 1 May 2024	The first draft route for the Upper Ogmore scheme was produced. This route ran overhead from the Upper Ogmore Wind Farm land boundary westward to the NGED-owned Caerau Road Primary Substation, undergrounding southwards through the local town, before emerging to connect overhead onto the proposed Foel Trawsnant route. From this route, cable route surveys were initiated to determine the feasibility of the cable route through the local town. The detailed design of the route could then begin.
Route 2 January 2025	The tee-off location onto the Foel Trawsnant route was modified due to survey results, moving further north-west. The overhead section of the route from underground cable in Caerau to this tee-off was modified accordingly, ensuring the route was efficient.
Route 3	The terminal pole of the aforementioned section connecting the tee-off from Foel Trawsnant to the underground route in Caerau was moved

Design Iteration	Rationale / Summary
April 2025	further up the hill (away from the road) to ensure that construction is completed on more level ground. Additionally, the route was modified near to the Llynfi Afan Wind Farm to remove intrusion into forestry land, as requested by NRW.
Route 4 June 2025	The terminal pole at the Upper Ogmere Wind Farm land boundary was modified to be placed on flatter terrain. Following surveys and walkovers the route was modified to avoid removal of a memorial tree eastwards of Caerau. The section from Llynfi Afan Wind Farm to Caerau was shifted slightly southwards as a result. Following the outcomes of a geotechnical survey, a pole was removed in the section from Caerau to the Foel Trawsant tee-off and the position/spans of the nearby poles were modified accordingly. Various pole micro-siting variations were made in accordance with feedback with the associated landowners of the route.
Route 5 September 2025 (Final Route)	Following feedback from Cadw during the non-statutory consultation regarding the proposed overhead span across Clyde Mawr Dyke (a Scheduled Ancient Monument) within the Llynfi Afan Wind Farm, an underground revision has been surveyed. This has has mean a revised terminal pole position to the west of the monument, and cabling through a pre-existing track across the site Scheduled Ancient Monument. This serves to maintain the visual amenity of the site and address concerns raised by CADW. Additionally, the terminal pole of the route near Caerau Road Primary Substation was moved one pole back in accordance with feedback derived from the non-statutory consultation for the route and on review of land parcels. The underground route has now been extended to account for this change.

3.5 SUMMARY

- 3.5.1. As outlined above, environmental and technical issues (such as cumulative effects with nearby developments) have been addressed during the development of the Project design, which is based on a thorough understanding and appreciation of local character and circumstances. The final design of the Project was the result of several stages of design iteration, informed by analysis of the environmental baseline, commercial considerations and comprehensive consultation.

- 3.5.2. The approach to mitigation is set out in **Chapter 2: EIA Approach**; the general project description is outlined in **Chapter 4: Description of the Project**. Where necessary, additional mitigation measures to address specific environmental effects are set out within technical **Chapters 6 to 11** and summarised in **Chapter 12: Summary of Mitigation**.

4 DESCRIPTION OF THE PROJECT

4.1 INTRODUCTION

4.1.1. Paragraph 1 of Schedule 4 of the EIA Regulations states that the scheme description should include:

- a) *“A description of the location of the development;*
- b) *A description of the physical characteristics of the whole development, including, where relevant, requisite demolition works, and the land-use requirements during the construction and operational phases;*
- c) *A description of the main characteristics of the operational phase of the development (in particular any production process), for instance, energy demand and energy used, nature and quantity of the materials and natural resources (including water, land, soil and biodiversity) used;*
- d) *An estimate, by type and quantity, of expected residues and emissions (such as water, air, soil and subsoil pollution, noise, vibration, light, heat, radiation, and quantities and types of waste produced during the construction and operation phases).”*

4.1.2. These requirements are addressed in the sub-sections below.

4.2 DEVELOPMENT DESCRIPTION

SITE LOCATION

4.2.1. The Project is situated in South Wales, to the south of Coeserw, and centred at Grid Reference (E) 287980, (N) 194848.

4.2.2. The application Site boundary covers an area of 22.61 hectares (ha). The proposed grid connection is approximately 9 km in length, split into the following sections:

- 1.1 km western OHL;
- 1.7 km western UGC;
- 3.0 km eastern OHL; and
- 3.2 km eastern UGC.

4.2.3. The Project is located mainly within Bridgend County Borough Council (BCBC), though partially traverses through Neath Port Talbot County Borough Council (NPTCBC).

EXISTING SITE AND SURROUNDINGS

4.2.4. The Project is located within South Wales near the town of Maesteg, as described in **Chapter 1: Introduction** and shown in **Figure 4-1**.

4.2.5. Starting at the western-most section (Figure 4.1), the route begins at an intersection with the Foel Trawsnant Grid Connection (DNS reference: DNS CAS-02505-N3T6M4) to the west of the A4063 near Caerau, as western OHL for approximately 1.1km. As the route reaches Caerau, the route then transitions into western UGC, following the existing highway network for approximately 1.7km to the north. Immediately before reaching Brynheulog Road, the route goes back to eastern OHL for approximately 3 km to the east. To the northwest of Blaengarw, close to Mynydd Caerau, the route transitions back into eastern UGC and continues west for approximately 3.2km.

- 4.2.6. The western OHL section predominately travels through a mix of gorse scrub, modified grassland and upland acidic grassland. The western UGC travelling through Caerau is predominantly through built environment, consisting mainly of residential properties. Once the cable transitions back to an the eastern OHL, it traverses through a mosaic of several habitat types. Initially, it passes through purple moor-grass and rush pastures for approximately 0.81km to the south of Brynheulog Road. The eastern OHL then passes through an area of other broadleaved woodland for approximately 0.13km, to the south of Croeserw, before continuing through areas of upland acidic grassland and upland rush pasture.

DEVELOPMENT PROPOSALS

- 4.2.7. The Project comprises of the infrastructure listed in **Table 4.1**, and shown in **Appendix 4C** (OHL poles, cable trenches and joint bays), and **Figure 4.1** (temporary construction compound).

Table 4-1 - Key Features of the Project

Component	Description
Cable	Length: 12km Dimensions: 630mm diameter Description: Cu Cable (not oil filled)
Overhead Line Poles	Quantity: 104 wooden poles (at 52 locations) Height: up to 15m
Cable Trenches	Length: 4.2km Dimensions: ~1.5m depth, and between 600mm to 1.5m wide.
Joint Bay Boxes	Quantity: 11 Dimensions: ~2m depth, and 5m x 3m
Temporary Construction Compound	Approximately centred on (E) 286129 (N) 195331 Dimensions: ~30m by 30m Maximum Compound Footprint: ~0.06 ha

Overhead Line Poles

- 4.2.8. An OHL would be carried on wooden H-poles, consisting of two single wooden poles (most likely Scots Pine) joined by a crossarm with bracing. At the termination points only, two sets of H-poles will be located side-by-side. Terminal ends may be located at the start and end of the underground section of the connection.
- 4.2.9. Whilst the intention is for the route to be as straight as possible, there will be some deviation to avoid environmental features, such as trees. At points of deviation, angle poles will be used; these are likely to be H-pole structures. In all locations where the line deviates, there will be the requirement to provide cable stays to the poles. The poles are not typically stayed, and do not require concrete foundations. However, pre-cast kicking blocks will be installed below ground, to provide the poles with adequate structural support.
- 4.2.10. The height of the wooden poles will mostly be 12m above ground level, with a maximum height not exceeding 15m above ground level (see **Table 4-1**). An assumed minimum clearance to trees from the conductors is 4m from the nearest part of the tree.

- 4.2.11. The poles are designed to carry the conductor wires. It is currently proposed to install a single circuit made up of one conductor per phase. Telemetry and monitoring capabilities, such as fault detection, will be provided by a microwave link. The poles will carry the cross arms onto which the insulators are attached. Poplar conductor wire will be used for all the OHL sections. Span length between poles will be between 90m to 130m. The actual span between poles will be influenced by topography and the surrounding environment.
- 4.2.12. The construction and maintenance of OHL will be in accordance with NGED (2024) Policy Document: OH6/4².

Electric and Magnetic Fields (EMFs)

- 4.2.13. Electric and Magnetic Fields (EMFs) arise from generation, transmission, distribution and use of electricity and will occur around power lines. All overhead power lines produce EMFs. These tend to be highest directly under a line and decrease to the sides at increasing distance. Although putting cables underground eliminates the electric field, they still produce magnetic fields, which are highest directly above the cable.
- 4.2.14. The Project has a relatively low voltage of 66kV, and has been designed and phased so that there will be no significant effects related to EMFs.

Cable Trenches

- 4.2.15. Underground cabling work will involve placing cables within ducts; the ducts themselves will be within a trench. An open cut method will be used, where the duct is laid directly into a trench of up to 1.5m depth (see **Appendix 4C**). The ducts are placed at the bottom of the trench, and the excavation around the cables is then filled with sand before the remaining excavation is backfilled with the excavated material. Cables are jointed at approximately 250m intervals. The joint boxes are generally 1-2m deep and 5m x 3m. Once the cable ducts are laid, the cable will then be pulled through.
- 4.2.16. The creation of trenches, laying of cable ducts and pulling of cable will be in accordance with NGED (2021) Standard Technique: CA6A/7³.

Temporary Construction Compound

- 4.2.17. One temporary construction compound, comprising an area measuring 30m x 30m, will be utilised for the Project. The location of the temporary construction compound is shown on **Figure 4.1**. This is an area of existing hardstanding and had been used previously as a compound location for other construction projects.

² NGED (2024) Policy Document: OH6/4, Construction, Maintenance and Replacement of Low Voltage Overhead Services. Available at: <https://www.nationalgrid.co.uk/documents/tech-info/overhead-construction>

³ NGED (2021) Standard Technique: CA6A/7, Relating to the Installation of Underground Cables. Available at: <https://www.nationalgrid.co.uk/documents/tech-info/underground-cable-construction/66000-volt>

- 4.2.18. It will be enclosed by appropriate security fencing and contain a single storey welfare unit powered by an on-site generator. Dalek style security cameras will be used during non-working hours to protect resources stored overnight. The existing ground surface is hardstanding, with access achieved via an existing private road branching west from the A4063. No excavation, clearance or disturbance is required to utilise the space for the compound. As such, no impacts are expected, and it is scoped out of further assessments.
- 4.2.19. Poles and cables will be stored at the temporary construction compound. Poles will be transported to the works area, and laydown within the Site boundary on the day of installation.
- 4.2.20. A portable welfare facility will temporarily be located along the route as appropriate (i.e. where works are being completed, and when the temporary construction compound is not within a practical distance).

Micro-siting

- 4.2.21. Micro-siting refers to the precise locating of infrastructure, in this instance OHL poles. The Project has a micro siting allowance of 10m either side of the centre line.
- 4.2.22. Any such repositioning will be limited so as not to involve encroachment into any environmentally or technically constrained areas. In addition, micro-siting provides scope to mitigate potential geo-environmental and geotechnical constraints. The following can potentially be achieved through carefully designed micro-siting:
- Micro-siting of pole locations and underground cable route and use of alternative access routes and lay down areas to avoid/minimise direct disturbance to archaeological sensitive locations and adverse changes to setting of historic assets;
 - Temporary fencing off historic assets within the vicinity of the Project to avoid impacts during construction activities; and
 - Minimising vegetation loss where this would adversely affect the setting of historic assets.
- 4.2.23. Where environmental and technical constraints may fall within a micro-siting area, further encroachment on such areas can be restricted in any condition attached to the grant of consent (e.g., micro-siting may be restricted in a particular direction if this encroaches upon a buffer around a water course).

Site access

- 4.2.24. Access routes are shown in **Figure 4.3**. Access to the Site will be primarily provided via the existing access track for the consented Upper Ogmores Wind Farm, which branches off from the A4107.
- 4.2.25. No new access tracks will be constructed currently, though this may change depending on topographical constraints. The minimal number of vehicles required for erection of the poles – including an excavator, MEWP, two engineering vans and an ATV (quad bike) - will travel within the Site boundary, and use geo-grid matting or similar where appropriate. The underground section of the Project will be accessed via the existing road network.

General Construction Traffic

- 4.2.26. There will be no abnormal loads required for the construction of the Project. General construction traffic will include flatbed trucks and Heavy Goods Vehicles (HGVs) delivering plant and equipment

(e.g. overhead line poles and cable) as well as vans and cars associated with construction staff movement. Most construction traffic will travel along the A4107 turning off onto the existing access track for the Upper Ogmere Wind Farm. The access routes for vehicles will vary depending on the origin of the contractors and materials.

Helicopter usage

- 4.2.27. Given the topography and terrain of certain sections of the Project, there is potential for a helicopter to be used to deliver some of the poles. In this scenario, an Airbus Helicopter H125 will be utilised for up to two days to deliver up to 50 poles.
- 4.2.28. Given the very short period the helicopter would be used (up to two days), the proposed use of helicopter transport for material delivery across the Site is not expected to result in any significant impacts. When compared to ground-based delivery methods, the helicopter approach offers a more efficient and less disruptive alternative. As such, the proposed helicopter delivery is scoped out of further assessment.

Temporary and Permanent Land Take

- 4.2.29. The indicative temporary and permanent land take is shown in **Table 4-2** (where, “temporary” refers to the area required during construction works, whilst “permanent” refers only to the Project footprint post-construction).

Table 4-2 - Indicative Temporary and Permanent Land Take Areas

Feature	Indicative Temporary Land Take Areas (m ²)	Indicative Permanent Land Take Areas (m ²)
Mynydd-Ty-Isaf	n/a	n/a
Caerau West	100.8	24
Caerau north	n/a	n/a
Tudor West	n/a	n/a
Parc Croeserw	n/a	n/a
Nant-y-Wern	n/a	n/a
Priority Habitats	50.4	12

Sustainable Resource Use and Waste Management

- 4.2.30. No stone or concrete is required for the Project, as no new access tracks are being built, and none is required for the construction of the OHL and UGC works.
- 4.2.31. Where soils would be excavated, they would be stored on site in accordance with the Construction Environmental Management Plan (CEMP) (see **Appendix 4A**) which will be updated prior to construction. Excavated materials will then be used to re-fill trenches. Any surplus excavated material, which is expected to be minimal, would be removed from site in HGVs and taken to an appropriate waste recycling or disposal facility.

- 4.2.32. The Project will only result in a very small permanent land take, which is unlikely to result in significant environmental effects in relation to land.
- 4.2.33. With regards water, the key environmental effects would be the use of water during the construction and operational phases, the potential increase in flood risk and the disturbance of surface and groundwater as a result of construction activities. With regards to construction works, the water resource would be managed in accordance with the CEMP. With regards to surface and groundwater, any effects are considered in **Chapter 11: Water Resources and Flood Risk** of this draft EIA Report.
- 4.2.34. The potential effects of the Project on biodiversity are considered in **Chapter 8: Terrestrial Ecology** of this draft EIA Report, within which appropriate environmental measures are set out in order to minimise the potential damage to habitats and species during the construction, operation and decommissioning.

Proposed Programme and Hours of Working

- 4.2.35. It is anticipated that that works will begin in September 2028 and take 9 months to complete. The works required and the order of their completion are listed as follows:
- Five months for trenching and laying the ducts;
 - Three months for erecting overhead line poles; and
 - One month for cable pull through and jointing works.
- 4.2.36. The works have will mainly take place between 07:00 to 19:00 hours on weekdays and 07:00 to 13:00 on Saturdays. In exceptions, there may be a requirement for a 7-day work week. This would be agreed with the local council as appropriate.
- 4.2.37. NGED as the developers, will agree either a road closure with the local highways' authority and/or implement appropriate traffic management measures for the works associated with the highways.

4.3 ENVIRONMENTAL MANAGEMENT

CONSTRUCTION

- 4.3.1. The contract between NGED and the civil engineers involved in construction of the Project will specify the measures to be taken to avoid or reduce the potential environmental effects arising from the construction process. These measures will consist of three main types:
- Firstly, conditions to be adhered to under development consent;
 - Secondly, the requirements of Natural Resources Wales (NRW); and
 - Thirdly, any other relevant environmental measures identified in this ES.
- 4.3.2. A copy of any conditions associated with the planning consent will be incorporated into the contract with the company constructing proposed grid connection, and the company will be required to adhere to these. The developer should retain the services of specialist advisers on e.g. Ecological Clerk of Works (ECow) for Ecology, to be called on as required to advise on specific issues. More detailed information on the role of such specialist advisors during construction is provided in the relevant technical sections, where appropriate.

Construction Environmental Management Plan

- 4.3.3. A CEMP provides an overview of the standard construction management measures that would be implemented as part of the Project (**Appendix 4A**). As such it aims to ensure that construction activities for the Project are carried out in accordance with legislation and best practice for minimising the effects of construction on the environment and local communities.
- 4.3.4. The CEMP will be produced, and subsequently updated, prior to the commencement of works, and its objectives will be to:
- Provide a mechanism for delivering many of the embedded environmental measures described in the ES;
 - Ensure compliance with legislation through setting out the need for consultation with 'consultation bodies', and by obtaining necessary consents and licences from relevant bodies;
 - Provide a framework for monitoring and compliance auditing and inspection to ensure the environmental measures included in the scheme are being implemented;
 - Ensure environmental best practices are adopted throughout the construction stage;
 - Provide a framework for dealing with adverse effects as they occur; and
 - Ensure a prompt response should unacceptable adverse effects be identified during the works.
- 4.3.5. A Noise and Vibration Management Plan and Land Quality Phase 1 Desk Study will be appended as part of the CEMP (**Annex A** and **Annex B** respectively), presenting results of survey efforts and best practice measures to avoid any significant effects.

Coal Mining Risk Assessment

- 4.3.6. Given the surrounding environment and historical land use of south Wales, a Coal Mining Risk Assessment (CMRA) has been produced (**Appendix 4B**). This outlines any nearby historic coal mining shafts and/ or entries. Measures to reduce risk during construction and operation are considered within the CMRA.

Dust and Air Quality

- 4.3.7. Given the adoption of the environmental measures which are outlined below, it is not expected that the change in air quality will be significant. Air quality affects arising from exhaust emissions from construction plant would be so low as to be not significant. Neither dust nuisance or air quality be assessed as part of the EIA. This was confirmed in the scoping process.
- 4.3.8. The main standard measures for managing dust during construction are:
- Adequate dust suppression facilities will be used on-site. If required, this will include the provision of on-site water bowsers with sufficient capacity and range to dampen down all areas that may lead to dust escape;
 - Any on-site storage of aggregate or fine materials prone to dust generation will be managed using enclosures and screening, if required, so that dust escape from the Development Site is avoided. Sheeting can also be provided for the finer materials that are prone to 'wind whipping';
 - Where required, HGVs entering and exiting the Site will be fitted with adequate sheeting to totally cover any load carried that has the potential to be 'wind whipped' from the vehicle;
 - Vehicles used on-site will be regularly inspected and maintained, to minimise vehicle emissions and the risk of leaking diesel or hydraulic fluids;

- Good housekeeping or 'clean up' arrangements will be employed so that the Site is kept as clean as possible. There will be regular inspections of the working areas and immediate surrounding areas to ensure that any dust accumulation, litter or spillages are removed/cleaned up as soon as possible; and
- A site liaison person will investigate and take appropriate action where complaints or queries about construction arise.

OPERATION

- 4.3.9. The Project will integrate the consented Upper Ogmores Wind Farm with the current DNO via a 66kV connection. It will remain active for the duration of the wind farm's operation, assumed to be up to 30 years. However, it is noted the duration of the proposed overhead line and underground cable could extend beyond 30 years, dependant on potential future uses.
- 4.3.10. In the normal course of operation there is no requirement to inspect UGCs, although they are regularly tested at the joint bays.
- 4.3.11. During the operation phase for OHL, duties are limited to resilience tree cutting to retain clearance distances and regular inspection. Pole inspections will be carried out in line with company policies and procedures.
- 4.3.12. Conductors and insulators have a design life of approximately 40 years. Faults on an OHL are infrequent. When they do occur, the vehicles used are likely to be similar to those needed for the construction of the line. Fault repair is quick and relatively straightforward.

DECOMMISSIONING

- 4.3.13. Following the operational phase, the connection (underground and overground) will be left in situ as it has the potential to become integrated into the DNOs wider distribution network. This would also avoid further disruption to the surrounding environment.

5 PLANNING POLICY

5.1 INTRODUCTION

- 5.1.1. **Chapter 5** sets out the key planning and renewable energy policies and other material considerations applicable to the Project, which have informed the siting and design process.
- 5.1.2. Each technical chapter (**Chapters 6 – 11**) of this Environmental Statement provides a summary of the key legislation relevant to the specific environmental assessment. The Planning Statement also considers the Project in the context of the relevant planning and renewable energy policies.

5.2 PLANNING POLICY CONTEXT

- 5.2.1. In terms of policy, legislation and guidance, the following International, UK and Welsh energy legislation, policy, and strategies have been taken into consideration:
- International Agreements
 - Paris Agreement 2015; and
 - Glasgow Climate Pact 2021.
 - UK energy and legislation and policy
 - Climate Change Act 2008 (as amended);
 - Energy Act (2008, 2011, 2013, 2016);
 - UK Renewable Energy Strategy (2009);
 - Clean Growth strategy (2017);
 - Net Zero Strategy: Build Back Greener (2021);
 - British Energy Security Strategy (2022);
 - Powering up Britain – March 2023 Energy Security Secretary Statements; and
 - Carbon Budget Delivery Plan (March 2023).
 - Welsh energy and legislation and policy
 - Energy Wales: A Low Carbon Transition (2012);
 - Wellbeing of Future Generations (Wales) Act 2015;
 - Environment Wales (Act) 2016 (as amended);
 - Policy Statement: Local Ownership Of Energy Generation In Wales – Benefitting Wales Today And For Future Generations (2020);
 - Energy Generation in Wales Report 2021 (2022);
 - Programme for Government (2021);
 - Net Zero Wales (2021); and
 - Energy Generation Targets For Wales: Statement To Assembly Members (2017) And 2023 Update
- 5.2.2. With specific regard to the grid connection, the following legislation and policy are considered to be particularly relevant to the Project:

- NPS EN-1;
- Future Wales: National Plan 2040;
- Planning Policy Wales Edition 11 (2021); and
- Technical Advice Notes.

5.2.3. The key policies considered have briefly been discussed below; however, further details relating to the policies highlighted are discussed within the Planning Statement associated with this Environmental Statement.

CLIMATE CHANGE ACT (2008)

5.2.4. The Climate Change Act (2008) (amended 2019)⁴ made it the duty of the Secretary of State (SoS) to ensure that the Net UK carbon account for 2050 is at least 100 per cent lower than the 1990 baseline. Further to this, the Climate Change Act also gave powers to the SoS to be able to set carbon budgets, with an underlying objective to achieve net-zero targets by 2050.

THE ENVIRONMENT (WALES) ACT 2016

5.2.5. The Environment (Wales) Act 2016⁵ also aims to achieve net-zero targets. The Environment Act *'puts in place the necessary framework to plan and manage Wales' natural resources in a more proactive, sustainable, and joined up way'*.

5.2.6. In terms of renewable energy, the Environment Act set a target for Welsh energy consumption to comprise 70% renewable energy by 2030.

CLIMATE EMERGENCY

5.2.7. A Climate Emergency was declared by the Welsh Government in April 2019⁶, highlighting the Welsh government's commitment to achieving a carbon-neutral public sector by 2030 and the need to coordinate action to help other areas of the economy move away from the use of fossil fuels. Prosperity for All: A Low Carbon Wales⁷, published in March 2019, sets out key policies and proposals to help Wales achieve the goal.

5.2.8. Prosperity for All: A Low Carbon Wales sets *'the foundations for Wales to transition to a low carbon nation'*, the plan sets out how Wales aims to meet the first carbon budget, and the 2020 interim targets using 76 existing pieces of Policy from the Welsh and UK Governments, and the EU where *'decarbonisation is integrated either as a direct outcome or a wider benefit'*.

⁴ UK Government (2008). Climate Change Act 2008. (Online) Available at:

<https://www.legislation.gov.uk/ukpga/2008/27/contents> (Accessed 04 July 2025).

⁵ The Welsh Government (2016). The Environment (Wales) Act 2016. (Online) Available at:

<https://www.legislation.gov.uk/anaw/2016/3/contents> (Accessed 04 July 2025).

⁶ The Welsh Government (2019). Climate Emergency Declaration. (Online) Available at:

<https://www.gov.wales/welsh-government-makes-climate-emergency-declaration> (Accessed 04 July 2025).

⁷ The Welsh Government (2019). Prosperity for all: A low carbon Wales. (Online) Available at:

<https://www.gov.wales/low-carbon-delivery-plan> (Accessed 04 July 2025).

5.3 THE LEGISLATIVE PLANNING FRAMEWORK

NATIONAL POLICY STATEMENTS

- 5.3.1. National Policy Statements (NPS) apply to both England and Wales and “*comprise the government’s objectives for the development of nationally significant infrastructure in a particular sector and state*”.
- 5.3.2. The following National Policy Statements are of relevance to Project:
- Overarching NPS for Energy (EN-1)⁸.

Overarching National Policy Statement for Energy (EN-1)

- 5.3.3. A revised version of NPS EN-1 came into force on 17th January 2024. EN-1 sets out national policy for energy infrastructure and provides the primary policy for decision by the Secretary of State.
- 5.3.4. The following sections are considered pertinent to the Project:
- Section 2; and
 - Section 3.
- 5.3.5. Further information regarding the Project and NPS EN-1 is found within Section 4.2 of the Planning Statement.

FUTURE WALES: THE NATIONAL PLAN 2040

- 5.3.6. Future Wales: The National Plan 2040 (FWNP)⁹ was published in February 2021 and sets out the national development framework for development in Wales up to 2040. FWNP sets out a strategy for addressing key national priorities through the planning system, including sustaining and developing a vibrant economy, achieving decarbonisation and climate resilience, developing strong ecosystems, and improving the health and well-being of communities.
- 5.3.7. Future Wales was prepared to provide a clear, long-term spatial direction for Government policy, action and investment in Wales, it sets out a framework for addressing key national priorities through the planning system; it is stated that ‘*Wales is abundant in opportunities to generate renewable energy, and the Welsh Government is committed to maximising this potential*’ as such, Future Wales has set the target for 70% of electricity consumption to be generated from renewable energy by 2030.
- 5.3.8. Future Wales recognises the role that Wales can play in supporting the use of renewable energy, the plan recognises on page 48 that “*Wales can become a world leader in renewable energy*

⁸ Department of Energy and Climate Change (2024). Overarching National Policy Statement for Energy (EN-1). (Online) Available at: <https://www.gov.uk/government/collections/national-policy-statements-for-energy-infrastructure> (Accessed 04 July 2025).

⁹ The Welsh Government (2021). Future Wales: The National Plan 2040. (Online) Available at: <https://www.gov.wales/future-wales-national-plan-2040> (Accessed 04 July 2025).

technologies". It is further recognised that Wales' potential for wind, tidal, and solar energy generation and commitment and willingness to support both large and community-scaled projects provide "a strong lead for renewable energy development [...] support the renewable sector, attract new investment and reduce carbon emissions".

- 5.3.9. It is also highlighted (via Policy 18) that the Welsh Government is supportive of both on- and off-shore wind infrastructure; further to this, the government is supportive of associated infrastructure (cables).
- 5.3.10. Page 99 of the FWNP states that *'the Welsh Government acknowledges the significant challenge that grid infrastructure and capacity will have on the potential for new on-shore and off-shore renewable energy developments across Wales. We are committed to working with energy networks and developers to identify opportunities and barriers as well as working collaboratively to find solutions'*.
- 5.3.11. The following FWNP Policies of relevance to the Project are listed below:
- Policy 17 – Renewable and Low Carbon Energy and Associated Infrastructure; and
 - Policy 18 – Renewable and Low Carbon Energy Developments of National Significance.
- 5.3.12. Further information setting out how the highlighted policies are of relevance to the Project is situated within section 4.3 of the Planning Statement.

PLANNING POLICY WALES (EDITION 12)

- 5.3.13. Planning Policy Wales (PPW) (Edition 12)¹⁰ was published in July 2024 and sets out the land use planning policies of the Welsh Government. The PPW is also supplemented by a series of Technical Advice Notes (TANs), Welsh Government Circulars, and policy clarification letters.
- 5.3.14. It is stated that the primary objective of PPW is to *'ensure that the planning system contributes towards the delivery of sustainable development and improved the social, economic, environmental, and cultural well-being of Wales, as required by the Planning (Wales) Act 2015, and other key legislation'*.
- 5.3.15. In paragraph 3.30, PPW states that *"in 2019, the Welsh Government declared a climate emergency in order to coordinate action nationally and locally to help combat the threats of climate change. The planning system plays a key role in tackling the climate emergency through the decarbonisation of the energy system and the sustainable management of natural resources."*
- 5.3.16. Paragraph 5.7.7 goes on to state that *"the benefits of renewable and low-carbon energy, as part of the overall commitment to tackle the climate emergency and increase energy security, is of paramount importance"*.

¹⁰ The Welsh Government (2024). Planning Policy Wales (Edition 12). (Online) Available at: <https://www.gov.wales/planning-policy-wales> (accessed 04 July 2025)

5.3.17. There are many references to the electricity grid and energy storage, which is considered of relevance to the Project. These are:

- The need for appropriate energy infrastructure is contextualised within paragraph 5.7.2, which states *“overall power demand is expected to increase as a result of growing electrification of transport and heat.”* This is further solidified by the PPW stating that *“in order to ensure future demand can be met, significant investment will be needed in energy generation, transmission and distribution infrastructure”*.
- Paragraph 5.7.8 states that *“an effective grid network is required to fulfil the Welsh Government’s renewable and low carbon ambitions”*.
- Paragraph 5.7.9 states that the *“Welsh Government’s preferred position on new power lines is that, where possible, they should be laid underground. However, it is recognised that a balanced view must be taken against costs which could render otherwise acceptable projects unviable”*.

TECHNICAL ADVICE NOTE

5.3.18. Technical Advice Note (TAN) 5 provides advice about how the land use planning system should contribute to protecting and enhancing biodiversity and geological conservation within Wales. It sets out the key principles of planning for nature conservation for both local development plans and when deciding planning applications that may affect nature conservation.

5.3.19. Further information relating to TAN 5 is held within Section 4.3 of the Planning Statement.

5.4 THE DEVELOPMENT PLAN

5.4.1. As the Project is situated within two Local Authorities, the proposal will be assessed against both Local Development Plans and associated Planning Practice Guidance (PPG). These include:

- Bridgend County Borough Council Replacement Local Development Plan (RLDP), adopted March 2024¹¹; and
- Neath Port Talbot County Borough Council (NPTCBC) Local Development Plan (LDP) adopted January 2016¹².

BRIDGEND COUNTY BOROUGH COUNCIL REPLACEMENT LOCAL DEVELOPMENT PLAN (RLDP), ADOPTED MARCH 2024

5.4.2. The Replacement Local Development Plan (RLDP) was adopted in March 2024. This Plan replaced the previous Local Development Plan (LDP 2006 – 2021). The RLDP sets out key policies and land

¹¹ Bridgend County Borough Council (2014). Bridgend County Borough Council Replacement Local Development Plan. (Online) Available at: <https://www.bridgend.gov.uk/media/izcfgp1f/written-statement.pdf> (Accessed 04 July 2025).

¹² Neath Port Talbot County Borough Council (2016). Neath Port Talbot County Borough Council (NPTCBC) Local Development Plan (Online) Available at: https://api.npt.gov.uk/asset?url=https%3A%2F%2Fmedia.npt.gov.uk%2Fmedia%2Fca2fbumd%2Fldp_written_statement_jan16.pdf%3Fv%3D20240823155047 (Accessed on 07 February 2025).

use allocations that will be used to shape and guide development taking place within Bridgend County Borough.

5.4.3. Objective 3j of the RLDP highlights the importance of facilitating renewable energies, and their associated infrastructure, within the County Borough, stating that the plan aims to *'promote developments that are well located and designed to assist in meeting energy demand with renewable and low carbon sources in accordance with the energy hierarchy for planning (set out in PPW) [...] thereby helping to both mitigate the causes of climate change and tackle the 'climate emergency' declared by Welsh Government and Council'*.

5.4.4. The following Policies are considered pertinent to the Project:

- Policy DNP 1: Development in the Countryside;
- Policy DNP 4: Special Landscape Areas;
- Policy DNP 5: Local and Regional Nature Conservation Sites;
- Policy DNP 6: Biodiversity, Ecological Networks, Habitats and Species;
- Policy DNP 7: Trees, Hedgerows, and Development;
- Policy SP13: Decarbonisation and Renewable Energy; and
- Policy SP18: Conservation of the Historic Environment.

5.4.5. These highlighted policies are further discussed within the Planning Statement.

NEATH PORT TALBOT COUNTY BOROUGH (NPTCBC) COUNCIL LOCAL DEVELOPMENT PLAN (LDP), ADOPTED JANUARY 2016

5.4.6. The Neath and Port Talbot County Borough Council Local Development Plan was adopted in January 2016 and covers the plan period of 2011 – 2026. The LDP aims to guide sustainable growth by providing new housing, improving infrastructure, and protecting the environment. It focuses on transforming the area into a vibrant community with a diverse economy and provides the basis for decisions on land use planning in the County Borough.

5.4.7. Section 2.2 of the LDP sets out the Plan's key objective; OB19 states that the County Borough aims to *'make a proportionate contribution towards the energy needs for Wales with a focus on renewable energy'*. The following policies are considered relevant to the Project:

- Policy SP 1: Climate Change;
- Policy SP 15: Biodiversity and Geodiversity;
- Policy EN 2: Special Landscape Areas;
- Policy EN 6: Important Biodiversity and Geodiversity Sites;
- Policy SP 16: Environmental Protection; and
- Policy SP 18: Renewable and Low Carbon Energy.

5.4.8. These highlighted policies are further discussed within the Planning Statement.

OTHER MATERIAL CONSIDERATIONS

5.4.9. It is considered that the following PPG documents are also applicable to the Project:

- SPG 19: Biodiversity and Development (July 2014) (BCBC)¹³
- SPG: Landscape and Seascape (May 2018) (NPTCBC)¹⁴
- SPG: Biodiversity and Geodiversity (May 2018) (NPTCBC)¹⁵

5.4.10. Further information regarding these documents are held with the Planning Statement.

5.4.11. For further information relating to topic-specific policies, these are addressed within the relevant.

¹³ Bridgend Borough Council (2014). SPG 19: Biodiversity and Development. Available at: <https://uat.bridgend.gov.uk/residents/planning-and-building-control/local-development-plan/supplementary-planning-guidance/> [Accessed March 2025]

¹⁴ Neath Port Talbot County Borough Council (2018). SPG: Landscape and Seascape. Available at https://media.npt.gov.uk/media/j42dzulp/spg_landscape_seascape_may18.pdf?v=20241209172432 Accessed March 2025].

¹⁵ Neath Port Talbot County Borough Council (2018). SPG: Biodiversity and Geodiversity. Available at: https://media.npt.gov.uk/media/nqpnpgge/spg_biodiversity_geodiversity_may18.pdf?v=20241209172432 [Accessed March 2025]

6 LANDSCAPE AND VISUAL IMPACT ASSESSMENT

6.1 INTRODUCTION

- 6.1.1. This chapter presents the Landscape and Visual Impact Assessment (LVIA) which considers the potential landscape and visual effects associated with the construction and operation of the Project.
- 6.1.2. The objective of this LVIA has been to determine the landscape and visual effects of the Project on the existing landscape resource and visual amenity. The LVIA has been prepared by Chartered Landscape Architects at WSP and should be read in conjunction with the Project Description in **Chapter 4: Description of the Development**.
- 6.1.3. This chapter is supported by a number of Figures and Technical appendices contained within **Volume 2: Figures** and **Volume 3: Appendices**, comprising:
- **Figure 6.1:** Zone of Theoretical Visibility Plan;
 - **Figure 6.2:** Public Rights of Way Plan and Viewpoint Location Plan;
 - **Figure 6.3:** Landscape Character Areas;
 - **Figure 6.4:** LANDMAP Visual and Sensory Aspect Areas;
 - **Figure 6.5:** Landscape Designations;
 - **Figures 6.6a - 6.6n:** Viewpoints 1-14 (inclusive);
 - **Appendix 6A:** LVIA Methodology and Glossary;
 - **Appendix 6B:** Landscape Baseline Descriptions and LANDMAP Vis Sensitivity Assessments;
 - **Appendix 6C:** Visual Baseline Descriptions and Sensitivity Descriptions;
 - **Appendix 6D:** Landscape Character Assessment and LANDMAP VSAA Assessment; and
 - **Appendix 6E:** Visual Assessment.
- 6.1.4. This chapter (and its associated figures and appendices) is intended to be read as part of the wider ES. The preliminary assessment is based on information obtained to date. It should also be read with respect to relevant parts of the following chapters:
- **Chapter 8: Ecology**, which assesses the effects of the Project on ecology assets and habitats.
 - **Chapter 9: Historic Environment**, which assesses the effects of the Project on the setting of heritage assets.

6.2 LIMITATIONS OF THIS ASSESSMENT

- 6.2.1. The following limitations and assumptions have been made:

ASSUMPTIONS

- 6.2.2. There will be some localised deviation to the proposed route to avoid environmental features such as trees, with an allowance for micro-siting of OHL poles of up to 10m. Nonetheless, some trimming / lopping works is anticipated to trees within 4m of the OHL to maintain required safety clearances. There will be no trees removed as a result of the UGC. The LVIA assumes all other existing vegetation within the Study Area would be retained.

- 6.2.3. It is assumed that the construction phase would last for 9 months, beginning in September 2028. The sequence of events is assumed to be as follows:
- Five months for the trenching and installation of the ducting for the underground route section;
 - One month for the cable pull through and jointing works; and
 - Three months for erecting the overhead line poles.
- 6.2.4. Access routes to the Project Site would be via the existing access track for the consented Upper Ogmores Wind Farm, which branches off from the A4107. There will be no new access to be constructed, although this may change depending on topographical constraints. There will be a minimal number of vehicles required to erect the poles in the OHL section and they will travel within the Project Site boundary, with access provided through existing field gates.
- 6.2.5. Equipment would likely comprise machinery to cut trenches within the highway to install the ducting, a cable plough may be used for the underground sections outside the highway boundaries and HGV vehicles required to transport the poles for the overhead lines.
- 6.2.6. For works associated with highways, NGED, as the developers, will agree for either a road closure with the local highways authority and/or implement appropriate traffic management measures.

LIMITATIONS

- 6.2.7. Viewpoints have been taken from publicly accessible locations only. Therefore, when establishing the views from dwellings and/ or buildings, this has been based on information from a combination of desk-top studies, site work and professional judgement.
- 6.2.8. Although field surveys have been carried out, not every landscape and visual and sensory receptor has been visited in the field and professional experience has been applied to the judgements made in the LVIA and accompanying appendices.
- 6.2.9. In terms of visual effects analysis, it is considered that screening provided by vegetation cover would not remain constant throughout the year. The assessment of effects is based on an estimate of worst-case scenario winter views, where deciduous wooded species have lost their leaves, with a filtering branch structure remaining.
- 6.2.10. Effects on Cultural Heritage Assets/ designations (e.g. listed buildings, scheduled ancient monuments, conservation areas and historic parks & gardens) are not considered in this report unless they are a tourist destination.

6.3 POLICY, LEGISLATION AND GUIDANCE

- 6.3.1. A summary of the relevant landscape legislation is given in **Table 6-1**.

Table 6-1 - Legislation relevant to the LVIA

Legislation	Legislative context
Wellbeing of Future Generations (Wales) Act 2015¹⁶	The Act puts in place seven well-being goals to help ensure that public bodies are all working towards the same vision of a sustainable Wales. In relation to landscape matters, the most relevant well-being goal is the achievement of 'a resilient Wales', which seeks to maintain and enhance a biodiverse natural environment. Planning Policy Wales Edition 12 recognises that this goal can be supported by protecting sufficient scales, extent and connectivity of, and between, landscapes and habitats to enable them to withstand the pressures of change and protect and enhance biodiversity and to promote opportunities for social and economic activity based on valuing and enabling access to the natural, historic and built environment
Environment (Wales) Act 2016¹⁷	This Act requires, under Section 6 – Biodiversity and resilience of ecosystems duty, that a public authority must seek to maintain and enhance biodiversity and promote the resilience of ecosystems. This requirement could be interpreted to include landscape as part of the ecosystems approach.

6.3.2. A summary of the relevant landscape legislation is given in **Table 6-2**.

Table 6-2 - Landscape planning policy relevant to the LVIA

Policy	Policy context
National planning policy	
Planning Policy Wales, Edition 12¹⁸	General LVIA issues are included in Chapter 6 - Distinctive and Natural Places and more specifically within Section 6.3 Landscape. Paragraphs 6.3.12 and 6.3.13 relate to non-statutory designations such as Special Landscape Areas that define local areas of high landscape importance, which may be unique, exceptional or distinctive to the area. Planning authorities should apply

¹⁶ National Assembly for Wales. (2015). Well-being of Future Generations (Wales) Act 2015. (Online). Available at: <https://www.futuregenerations.wales/about-us/future-generations-act/>.

¹⁷ National Assembly for Wales. (2016). Environment (Wales) Act 2016. (Online). Available at: <https://www.legislation.gov.uk/anaw/2016/3/contents/enacted>.

¹⁸ Welsh Government. (2024). Planning Policy Wales, Edition 12. (Online). Available at: <https://www.gov.wales/sites/default/files/publications/2024-07/planning-policy-wales-edition-12.pdf>

Policy	Policy context
	these designations where there is good reason to believe that normal planning policies cannot provide the necessary protection. Paragraphs 6.3.20 and 6.3.21 concerns the use of LANDMAP and its role in informing landscape assessments needed to inform local authorities in making local policy, guidance and decision making. LANDMAP and any associated landscape character assessments (including the register of historic landscapes in Wales) should be used to inform local landscape policies and SPG, and to help identify or revise SLAs.
Future Wales - The National Plan 2040¹⁹	Future Wales is the National Development Plan for Wales setting the direction of development in Wales to 2040. Future Wales does not contain statements on all land use planning issues, which are set out in Planning Policy Wales (PPW). Policy 17 –Supports the principle of developing renewable and low carbon energy from all technologies and at all scales to meet our future energy needs and there is a presumption in favour of large-scale wind energy development (including repowering) in these areas, subject to the criteria in policy 18. Policy 17 also states that <i>“New strategic grid infrastructure for the transmission and distribution of energy should be designed to minimise visual impact on nearby communities. The Welsh Government will work with stakeholders, including National Grid and Distribution Network Operators, to transition to a multi-vector grid network and reduce the barriers to the implementation of new grid infrastructure”</i>.
Local planning policy	
The Project is located within local authorities - Bridgend County Borough Council (BCBC) and Neath and Port Talbot County Borough Council (NPTC). The majority of the route lies within Bridgend with sections of the OHL and the beginning of the UGC crossing the boundary into southeastern portion of Neath and Port Talbot.	
Bridgend Replacement Local Development Plan 2018-2033	Policy DNP1 – Development in the Countryside The policy states ‘<i>All development outside defined settlement boundaries must ensure that the integrity of the countryside is conserved and enhanced.</i>’ The Policy goes on to state that there is a presumption against development in the countryside, with 14 listed exceptions including: <i>7) Transportation and/or utilities infrastructure to enable implementation of LDP allocations</i>

¹⁹ Welsh Government. (2021). Future Wales - The National Plan 2040. (Online). Available at: <https://gov.wales/future-wales-national-plan-2040-0>

Policy	Policy context
(Adopted March 2024) ²⁰	The Policy continues ‘<i>Countryside development must be of a sustainable form with prudent management of natural resources and respect for the cultural heritage of the area. Where development is acceptable in principle in the countryside it must, in the first instance and where possible, utilise existing buildings and previously developed land</i>’ The Policy notes also state ‘<i>The countryside must be protected for its own sake (i.e. for its beauty, landscape quality, natural resources, and its agricultural, ecological, geological, physiographic, historical, archaeological and recreational value). Development in the countryside should benefit the rural economy, whilst maintaining or enhancing the environment. Therefore, new building in the countryside outside defined settlements or areas allocated for development in the LDP will be strictly managed</i>’ Policy DNP4 – Special Landscape Areas The policy lists a total of 9 Special Landscape Areas (SLAs), of which 3 are relevant to this Study Area and are identified in section 6.6.13. The Policy states: “<i>Development in SLAs will only be permitted where:</i> <i>1) It retains or enhances the character and distinctiveness of the SLA;</i> <i>2) The design of the development reflects the building traditions of the locality in its form, materials and details, and/or assimilates itself into the wider landscape; and</i> <i>3) The Project is accompanied by a Landscape Impact Assessment (LIA), which takes into account the impact of the development and sets out proposals to mitigate any adverse effects.</i> <i>Where development is necessary, and could result in a significant landscape impact, a landscaping scheme will also be required and appropriate mitigation and enhancement measures must be provided. The settings of SLAs will be protected with consideration of the views from those areas to the settlements of the County Borough. New development within settlements must be designed to provide an attractive transition between the urban area and the countryside</i>” Policy DNP7 – Trees, Hedgerows and Development The Policy states, “<i>Development that would adversely affect trees, woodlands and hedgerows of public amenity or natural/cultural heritage value, or that provide important ecosystem services, will not normally be permitted.</i> <i>Development proposals on sites containing or adjacent to, trees will be required to assess the trees in line with BS 5837:2012 Trees in relation to design, demolition and construction. The assessment must include:</i>

²⁰ Bridgend Replacement Local Development Plan 2018-2033 (Adopted March 2024). (Online). Available at: <https://www.bridgend.gov.uk/residents/planning-and-building-control/replacement-local-development-plan/adopted-bridgend-replacement-local-development-plan-2018-2033/>

Policy	Policy context
	1) a tree survey; 2) an arboriculture impact assessment; 3) an arboriculture method statement; 4) and/or a tree protection plan. Where trees are to be replaced a scheme for tree replacement must be agreed prior to the commencement of development, including details of planting and aftercare. If tree works are recommended, the works must comply with BS 2998:2010 Tree Works - Recommendations" Policy SP13 – Decarbonisation and Renewable Energy The policy states, "Renewable and low carbon development proposals which contribute to meeting national and local renewable and low carbon energy and energy efficiency targets will be permitted where: a) It can be demonstrated that there will be no unacceptable impacts on the natural and historic environment or local communities (such as noise and air pollution) and that no other unacceptable cumulative impacts will arise; b) The proposal (inclusive of its associated infrastructure) has sought to minimise the landscape and visual impact through its design and micro-siting, particularly where in close proximity to homes and tourism receptors; c) Proposals make provision for the appropriate restoration and after-care of the land for its beneficial future re-use; d) The proposal can facilitate a connection to the grid network; e) There would not be an unacceptable impact on access and highway safety; and f) There would not be unacceptable impact on the amenity of residential properties or tourist accommodation." In addition, this policy outlines the criteria against which proposals for renewable and low and zero carbon energy projects of up to Local Authority-wide scale will be assessed. Furthermore, it states that, "Proposals outside the Pre-Assessed Areas which are likely to have a significant impact on the landscape and/or visual amenity will be required to undertake a Landscape and Visual Impact Assessment and other relevant technical assessments to identify likely significant effects and demonstrate that adequate mitigation has been incorporated into the development." Lastly, this Policy identifies areas within Landscape Character Area 1: Llangynwyd Rolling Uplands & Forestry to be suitable for wind turbine development for having the least landscape sensitivity to this type of development. Policy SP18 – Conservation of the Historic Environment The Policy states, "The County Borough has a rich and diverse built heritage and historic environment. Development proposals must protect, conserve, and, where appropriate, preserve and enhance the significance of historic assets, including their settings. In particular, there is a general presumption in favour of the preservation or enhancement of the significance of historic assets and their settings including: 1) World Heritage Sites; 2) Scheduled Monuments; 3) Archaeologically Sensitive Areas and Archaeological Remains; 4) Listed Buildings; 5) Conservation Areas; 6) Historic Parks and Gardens; 7) Historic Landscapes

Policy	Policy context
	<i>Any application for listed building or conservation area consent will need to be accompanied by a Heritage Impact Statement in accordance with the Historic Environment (Wales) Act 2016”.</i> Policy SP18 (7) – Historic Landscape <i>This Policy states, “The natural and built landscape of Bridgend County Borough has been assessed as having eighteen distinct character areas which are non-statutory designations. Using the designations and detailed assessments applicants can ensure development proposals conserve and enhance the local distinctiveness and heritage of the diverse landscapes and contribute to sustainable place making principles. Supplementary Planning Guidance will be made available during the plan period to advise developers of the landscape considerations that need to be reflected in any proposals.”</i>
Neath Port Talbot County Borough Council Local Development Plan 2011-2026 (Adopted Jan 2016)²¹	Policy EN2 – Special Landscape Areas <i>The Policy states “In order to protect areas of high landscape quality, the following Special Landscape Areas are designated (6 No. SLA’s listed -refer to Policy). Development within the designated Special Landscape Areas will only be permitted where it is demonstrated that there will be no significant adverse impacts on the features and characteristics for which the Special Landscape Area has been designated”.</i>
Neath Port Talbot County Borough Council Supplementary Planning Guidance: Landscape and Seascape (May 2018)²²	This guidance document contains a section on Landscape and Visual Impact Assessments, stating, • <i>“Landscape and Visual Impact Assessment (LVIA) will often be required as part of the Environmental Impact Assessment (EIA) process for many proposals, but should be undertaken in all cases where there is likely to be a significant landscape or seascape impact from a proposal. Impacts on skylines, views and panoramas will be important considerations and these impacts should be identified in relation to significant receptors (local residents or communities) as well as the wider landscape/seascape generally.</i> • <i>LVIA should include assessments of the effects of the changes brought about by the Project on the landscape (as a general resource) and its visual effects on specific views and visual amenity generally. The significance of the effects will also need to be assessed, together with cumulative impacts.</i>

²¹ Neath Port Talbot County Borough Council Local Development Plan 2011-2026 (Adopted January 2016). (Online). Available at: <https://www.npt.gov.uk/planning-and-building-control/planning-policy/adopted-ldp-2011-2026/>

²² Neath Port Talbot County Borough Council Supplementary Planning Guidance: Landscape and Seascape (2018). (Online). Available at: https://api.npt.gov.uk/asset?url=https%3A%2F%2Fmedia.npt.gov.uk%2Fmedia%2Fj42dzulp%2Fspg_landscape_seascape_may18.pdf%3Fv%3D20241209172432

Policy	Policy context
	<i>The LVIA will need to be proportionate to the scale and nature of the Project."</i>

GUIDANCE

- 6.3.3. A summary of the technical guidance for the LVIA is given, but not limited to, the guidance listed in **Table 6-3** below.

Table 6-3 – Technical guidance relevant to the LVIA

Technical guidance document	Context
Guidelines for Landscape and Visual Impact Assessment (Third Edition)²³	The third edition of this guidance (known as 'GLVIA3') which is produced by the Landscape Institute and Institute of Environmental Assessment is widely regarded by landscape and planning professions as the 'industry standard' together with best practice and professional experience. GLVIA3 provides the framework within which the remaining sections of this ES chapter have been undertaken with the detailed implications for the methodology by which the LVIA has been undertaken being set out in Section 6.10 and in Appendix 6A .
Technical Guidance Note 2024-01: Notes and Clarifications on Aspects of Guidelines for Landscape and Visual Impact Assessment (Third edition)²⁴	This guidance note was produced by the Landscape Institute and contains clarifications to help interpret aspects of the guidance provided in GLVIA3. It is intended to be read alongside GLVIA3.
Technical Guidance Note 06/19: Visual Representation of Development Proposal²⁵	This guidance note was produced by the Landscape Institute to provide guidance for landscape professionals, planning officers, and other stakeholders in the selection, production, and presentation of types of visualisation appropriate to their intended purpose. It follows the broad principles set out by GLVIA3.

²³ Landscape Institute and the Institute of Environmental Management and Assessment, (2013). Guidelines for Landscape and Visual Impact Assessment. 3rd edition. London. Routledge

²⁴ Landscape Institute, (2024). Technical Guidance Note 2024-01: Notes and Clarifications on Aspects of Guidelines for Landscape and Visual Impact Assessment 3rd edition.

²⁵ Landscape Institute, (2019). Technical Guidance Note 06/19: Visual Representation of development proposals.

6.4 CONSULTATION

- 6.4.1. Consultation Letters were sent to Bridgend County Borough Council and Neath Port Talbot Council on 26th June 2025 wherein the initial Study Area and visual viewpoint locations were presented for confirmation of agreement with the local authorities. The viewpoints have been selected to represent the nature and type of visual amenity from a given area or direction of view. It is not offered as the 'only view' but is used to inform a greater understanding of the extent of visibility and the nature of change.
- 6.4.2. These consultation letters were sent to BCBC and NPTC as responses received from these councils relating to the Scoping Report submitted in April 2025 and did not include any commentary on the above items. A response to the Scoping Report was received from NPTC on 29th April 2025 while BCBC provided their response on 13th May 2025.
- 6.4.3. The LVIA site visit conducted on 5th and 6th June 2025 was used to confirm the selection of viewpoints that have been brought forward in this assessment.

6.5 DATA GATHERING METHODOLOGY

STUDY AREA

LVIA Study Area

- 6.5.1. A Zone of Theoretical Visibility (ZTV) based upon 1m Digital Surface Model (DSM) LiDAR data, with a viewer height set at 1.6m has been prepared to illustrate areas within which there would be potential for views of the Project. The DSM is a 1m resolution representation of heights recorded in the LiDAR survey, which includes heights of upstanding features like trees and buildings. The ZTV has been calculated based on varying heights of the OHL grid poles being between 10-15m Above Ground Level (ABGL). The ZTV is shown in **Figure 6.1**.
- 6.5.2. The extent of the Study Area was determined through a review of the ZTV and was verified in the field to understand the setting of the Project and the extent of likely significant landscape and visual effects on receptors. A Study Area of 2km was considered appropriate, beyond which the potential for significant effects on landscape character and/or visual receptors is judged to have substantially reduced based on the nature of the receiving landscape and the Project.

DESK STUDY

- 6.5.3. A summary of the organisations and websites that have supplied data, together with the nature of that data, is outlined in

6.5.4. **Table 6-4.**

Table 6-4 – Data sources used to inform the LVIA

Organisation	Data provided	Data sources
Ordnance Survey (OS)	Ordnance Survey Mapping	Ordnance Survey (2024) MAPSHOP. Scale 1:50,000 mapping Baseline information on the landscape context including topography, drainage, settlement pattern, land use, tree cover, promoted recreational routes, transport network and infrastructure.
Google Earth Pro	Aerial photography and Street View.	Provides baseline information and Street View images on the landscape context including drainage, settlement pattern, land use, tree cover, transport network and infrastructure.
Natural Resources Wales	National Landscape Character Areas	National Natural Resource Wales, (2021). <i>National Character Areas NLCA</i> . Available online at: https://naturalresources.wales/evidence-and-data/maps/nlca/?lang=en [Accessed 04/06/2025]. High-level baseline information on landscape character which sets the context for local LANDMAP data.
	LANDMAP Visual and Sensory Aspect Areas (VSAA)	Regional Baseline information on landscape character in Wales, recorded and evaluated in a nationally consistent data set. Natural Resources Wales. (2024). Using LANDMAP in Landscape and Visual Impact Assessments GN46. (Online). Available at https://naturalresourceswales.gov.uk/guidance-and-advice/business-sectors/planning-and-development/evidence-to-inform-development-planning/using-landmap-in-landscape-and-visual-impact-assessments-gn46/?lang=en
Bridgend County Borough Council (BCBC)	Landscape Character	LUC, (2013). Landscape Character Assessment for Bridgend County Borough. Available online at: https://www.bridgend.gov.uk/media/gkxhibc2/sd78-landscape-character-assessment-for-bridgend-county-borough-2013.pdf [Accessed 04/06/2025].
	Public Rights of Way	Bridgend County Borough Council (2024). Web Mapping. Available online at: https://maps.bridgend.gov.uk/webmap9/Map.aspx?MapName=OSWMTS-Basemap [Accessed 04/06/2025].
	Local Development Plan	Bridgend County Borough Council (2017) Adopted Replacement Bridgend Local Development Plan 2018 to 2033. Available at: https://www.bridgend.gov.uk/residents/planning-and-building-control/local-development-plan/adopted-replacement-local-development-plan-2018-2033/ [Accessed 04/06/2025].

Organisation	Data provided	Data sources
Neath Port Talbot Council (NPTC)	Landscape Character	Neath Port Talbot LandMap (2004) Landscape Assessment. Available at: https://media.npt.gov.uk/media/ponigtte/spg_landmap_landscape_assessment_2004.pdf?v=20241209172433
	Public Rights of Way	Neath Port Public Rights of Way map (2016). Available at: https://maps.npt.gov.uk/rights_of_way/index.html
	Local Plan	Neath Port Talbot LandMap (2016) Adopted LDP. Available at: https://www.npt.gov.uk/planning-and-building-control/planning-policy/adopted-ldp-2011-2026/
Sustrans	National Cycle Network	Sustrans, (2021). <i>National Cycle Network Map</i> . Available online at: http://www.sustrans.org.uk/ncn/map [Accessed 04/06/2025].

DEVELOPMENTS RELEVANT TO THE CUMULATIVE ASSESSMENT

- 6.5.5. The Study Area for the cumulative assessment is 2km to coincide with the Study Area for the Project. Cumulative developments are shown in **Figure 4.3**.
- 6.5.6. A number of cumulative developments have been scoped out of the LVIA. Developments which are located beyond the 2km Study Area have been scoped out as below:
- P/20/42/FUL (Decided);
 - P2023/0498 (Objections); and
 - 23/0611/DIS (Pending Decision).
- 6.5.7. The following developments within the 2km Study Area have been scoped out for the following reasons:
- P/23/473/RLX – Increase of rotor diameter of the proposed wind turbines from 105m to 117m. As the overall tip height of the wind turbines will remain as consented, there will be no significant change to the appearance of the wind turbines and therefore would not have significant landscape and visual effects and therefore has been scoped out.
 - P/23/555/DOC (Under consideration) – Residential development of 20 no. dwellings and associated works in Maesteg. This development is located in an area where there are already similar types of development present and therefore there would be no significant cumulative landscape or visual effects. It has therefore been scoped out.
 - P/21/1047/SOR (Under consideration) – This scheme has submitted a request for a Screening Opinion for the installation of a 33kV private wire connection from the Llynfi Afan Wind Farm to Caerau Village. This scheme is still at pre-planning stage and therefore has been scoped out because of uncertainty about the likely details and lack of any firm information about what would actually occur.

- P/21/547/RLX (Decided) – Residential development of 35 no. houses and retain existing house in Maesteg. This development is located in an area where there are already similar types of development present and therefore there would be no significant cumulative landscape and visual effects. It has therefore been scoped out.
- P2021/0057 (Objections) - This scheme has submitted a consultation request on the content of a Scoping Direction for the application for up to 26 wind turbines at Y Bryn Wind Farm. This scheme is still at scoping stage and therefore has been scoped out because of uncertainty on the likely details and the lack of any firm information about what will actually occur.

6.5.8. The magnitude of change for cumulative developments will be assessed the same way as for the main LVIA assessment, with magnitude recorded as high, medium, low, or negligible. The additional level of effect which is derived from adding the Project to the baseline of consented/ application developments will then be assessed. The combined magnitude and combined level of effect will then be assessed for the Project in combination with consented developments. Finally, the combined magnitude and combined level of effect for the Project in combination with consented and application developments will be assessed.

6.5.9. In total, four cumulative developments are relevant to the LVIA and are included in **Table 6-5**.

Table 6-5 - Developments within 2km included in the Cumulative LVIA

Ref.	Name of Development	Description of Development	Location
P/23/319/DNS	Y Bryn Wind Farm (Under consideration)	Installation of up to 18 wind turbines	Approx. 0.8km south of the eastern UGC of the Project
P/21/901/OBS	Adventure Resort (Decided)	Development of an Adventure Resort with 600 lodges/apartments, hotel, restaurants with car parking, landscaping, drainage, diversion of public rights of way and associated works	Approx. 1.7km northeast of the western OHL of the Project
P2025/0043	Foel Trawsnant Wind Farm Grid Connection (No objections)	Consultation request for a connection comprising overhead lines and underground cables starting from Foel Trawsnant Wind Farm heading south through the western edge of Maesteg	This intersects with the Project
P2022/0517	Revised Plans for Development for the Foel Trawsnant Wind Farm (Approved)	Increase in rotor diameter of 5 no. turbines up to 133m and 3 no. turbines up to 117m with no increase in overall turbine height. Reduction of number of	Approx. 1.8km south of the western OHL of the Project

Ref.	Name of Development	Description of Development	Location
		turbines to be constructed from 11 to 8 nos..	

6.6 BASELINE OF LANDSCAPE RECEPTORS

THE PROJECT SITE AND IMMEDIATE SURROUNDING AREA

- 6.6.1. The Project is located in South Wales, to the south of Croeserw. The majority of the route passes through BCBC, with portions of the Project's midsection traversing through the southern extents of the county of NPTCBC.
- 6.6.2. Starting as OHL at the western-most section, the route begins west of the A4063 near Caerau, running for approximately 1.1km. It then transitions into the western UGC section as the route reaches Caerau, following the existing highway network for approximately 1.7km north. As it reaches Brynheulog Road, the route transitions back as OHL, continuing east for approximately 3km. The route then transitions back to UGC at the eastern-most section of the route to the northwest of Blaengarw, close to Mynydd Caerau, continuing east for approximately 3.2 km.
- 6.6.3. The proposed western OHL section predominately travels through a mix of gorse scrub, modified grassland and upland acidic grassland.
- 6.6.4. Through Caerau, the western UGC passes predominantly through existing built environment, consisting mainly of residential properties.
- 6.6.5. As the cable transitions back to the eastern OHL, the route traverses through a mosaic of several habitat types – initially passing through purple moor-grass and rush pastures for approximately 0.81km to the south of Brynheulog Road, then through an area of broadleaved woodland for approximately 0.13km to the south of Croeserw, before continuing through areas of upland acidic grassland and upland rush pasture for the rest of its route.
- 6.6.6. There are a number of Public Rights of Way (PRoW) though the Project Site, as shown in **Figure 6.2**. The Project also passes through several areas of open access land – in Foel y Dyffryn, south of Croeserw, and Mynydd Bach.

DESIGNATIONS

Statutory Designations

- 6.6.7. There are no statutory landscape designations, such as National Parks and National Landscapes (formerly Areas of Outstanding Natural Beauty), within the Study Area.

Non-Statutory Designations

- 6.6.8. The Project passes through several Special Landscape Areas (SLAs) – two SLA as defined by Bridgend County Borough Council Designation of Special Landscape Areas (March 2010)²⁶ and 1 no. SLA as defined by NPTC Landscape and Seascape SPG (May 2018)²⁷. The description and qualities of these SLAs are outlined in **Table 6-6** below along with the reference viewpoint/s located within them.

Table 6-6 - Description and landscape qualities of SLAs in the Project's Route

SLA reference and relevant viewpoint	Description and landscape qualities
SLA 1: Foel y Dyffryn (BCBC) Viewpoints 1, 2, 3 & 4	The proposed western OHL traverses through this SLA, dissecting it from east to west (Ref 3 in Figure 6.4 Landscape Designations). The SLA is described as being ‘A relatively small area of distinctive upland landscape to the west of Dyffryn and Caerau it provides a visual backdrop to the setting of the urban area along the valley floor. Generally north-east facing, the uplands range from 120m to 350m AOD. Its upland qualities and character are further reinforced by borrowed views to the Brecon Beacons to the north. Its vegetation cover is typically rough grassland, mainly upland heath, interspersed with wetland and boggy areas which are local Biodiversity Action Plan target habitats. It also includes populations of marsh fritillary butterfly. The proximity to the urban edge of its eastern boundaries introduces visual and sensory detractors and is typified by a range of urban fringe management issues – fly tipping, illegal biking, conflict with landowners and farmers’. There are several visual and sensory aspect areas as outlined with the LANDMAP database that covers this SLA (Foel Trawsant NPTVS358, Cwm Afan and Cwm Pelenna farmed sides NPTVS920, Maesteg CYNONVS351, Mynydd Baedan CYNONVS473, Conifer to west of Study Area CYNONVS731). One area is identified as having high value, one as moderate value and three having low value.
SLA5: Mynydd y Gelli (NPTC) Viewpoint 10	The proposed western OHL passes through sections located in the southern portion of SLA 4. (Ref 4 in Figure 6.4 Landscape Designations). The SLA is described as, “The landform of Mynydd y Gelli is a coherent landscape element and relates to the Western Uplands Bridgend SLA which includes the adjacent Mynydd Llangeinwyr.

²⁶ BCBC Designation of Special Landscape Areas <https://www.bridgend.gov.uk/media/nt5j2ryh/sd94-special-landscape-designations-2010.pdf>

²⁷ NPTC Landscape and Seascape Supplementary Planning Guidance https://media.npt.gov.uk/media/j42dzulp/spg_landscape_seascape_may18.pdf?v=20241209172432

SLA reference and relevant viewpoint	Description and landscape qualities
	<i>Similar to Foel Trawsnant it forms an open exposed plateau area within the eastern highlands complex.</i> <i>The landform and topography creates an imposing presence and with its simple land cover provides a contrast to the more complex landscapes of surrounding areas.</i> <i>The open remote plateau has a sense of exposure and wilderness in contrast with the adjacent Afan valley.</i> <i>It is unspoilt by development or land use and has a coherent distinct character, with topographical and visual unity, high scenic quality and strong sense of place."</i> There are 6 visual and sensory aspect areas (VSAA) as outlined with the LANDMAP database that cover this SLA (Upland settlements NPTVS215, Mynydd y Gelli NPTVS547, Cwm Afan and Cwm Pelenna farmed sides NPTVS920, Cwm Afan and Cwm Pelenna NPTVS936, Garth Hill CYNONVS811 and Mynydd Nant y bar / Mynydd Blaenafan NPTVS962). The overall evaluations for the visual and sensory aspect areas within this designated area comprise four with moderate and two with low values.
SLA 2: Northern Uplands (BCBC) Viewpoints 10 & 11	The entire route of the eastern UGC passes through the northern-western area of this SLA. (Ref 5 in Figure 6.4 Landscape Designations). This description and qualities of this SLA are as follows, <i>"An open upland ridge landscape lying between approximately 250m and 550m AOD. The western half of the SLA consists of unenclosed uplands with easterly (in Ogmore Valley) and westerly (in Garw Valley) facing slopes of relatively narrow valleys, with boundaries of urban/rural interface on lower valley slopes. The Upper Ogmore Valley exhibits the classic characteristics of glaciation, namely a U-shaped valley which is interspersed with minor truncated spurs and small hanging side valleys. The busy A4064 that follows the river course along the Afon Garw floor is a slight visual and sensory detractor due to noise and movement of traffic. Panoramic and sometimes dramatic views over upland and adjoining valleys.</i> <i>The eastern half of the SLA has steep westerly facing slopes of the quite narrow valley (Ogmore), with views across the urban area (Ogmore Vale, Pricetown) on the valley floor with which it has an urban/rural interface. Attractive upland views within and out over Ogmore Vale and to other upland areas that survive largely intact and unaffected by modern afforestation. Wind noise is a dominant aesthetic factor which evokes particular experience of exposure and wildness. Some visual clutter of pylons slightly detracts from this otherwise wild/exposed typical upland area with a strong sense of place. Not remote as close to valleys and their associated urban areas.</i> <i>Predominant land cover of rough grazing and bracken, rock outcrops to the east and with some old stone walls. With acid grassland, heath and internationally important blanket bog habitats and including Cwm Cyffog SSSI. Lower Ogmore Valley includes some patchy broadleaved woodland and at Ogmore Vale the Aber Woods Ogmore Valley looking south from A4061/Aber Road 8279 - Bridgend County Borough Council Page 15 Special Landscape Areas Ancient Woodland SINC, whilst the northern end of the SLA includes the</i>

SLA reference and relevant viewpoint	Description and landscape qualities
	<i>conifer plantations, including Cwm Nant-y-moel and the area around Nant-y-moel itself."</i> There are several visual and sensory aspect areas as outlined with the LANDMAP database that covers this SLA (Mynydd y Gelli NPTVS547; Cwm Dar CYNONVS113; Cwm Ogwr CYNONVS148; Mynydd Llangeknwyr CYNONVS349; Mynydd Ton,Bwlfa, William Meyrick CYNONVS357; Mynydd Llangeinwyr CYNONVS611; Garw and Caerau Forest CYNONVS813). The overall evaluations for the visual and sensory aspect areas comprise one with high value, five areas of moderate value and one with low value .

- 6.6.9. With the Project containing sections located within these SLAs, the SLAs will be used to determine the sensitivity of each Landscape Character Area/ Visual and Sensory Aspect area that is carried forward into the landscape assessment.

National Landscape Character

- 6.6.10. The series of National Landscape Character Areas (NLCA) have been developed by Natural Resources Wales (NRW). These NLCA profiles provide a broad range of information such as key characteristics of the area, and a description of the natural and cultural features.
- 6.6.11. The Project is located within NLCA 37: South Wales Valleys. The key characteristics of NLCA37 are as follows:
- Extensive Upland plateaux;
 - Numerous steep-sided valleys;
 - Ribbon urban and industrial areas in valleys;
 - Extensive remains of heavy industry;
 - Contrast of urban valley activity next to quiet uplands;
 - Large blocks of coniferous plantation and deciduous woodland fringes;
 - Heather, rough grassland and steep bracken slopes;
 - Improved pastures on some lower valley sides;
 - Field boundaries;
 - Transport routes restricted to valleys; and
 - Iconic cultural identity.
- 6.6.12. As this NLCA covers an extensive area, and in order to provide a proportionate assessment with the scale of the change proposed, landscape character will be defined at a local level, using the Bridgend County Landscape Character Areas, Neath Port Talbot Character Areas, and LANDMAP Visual and Sensory Aspect Areas, for the remainder of this assessment. The NLCA has therefore been scoped out of the assessment.

Local Landscape Character

Introduction

- 6.6.13. There are several Landscape Character Areas (LCAs) found within the Study Area as shown in **Figure 6.3**.

- 6.6.14. There are five LCAs identified within the Landscape Character Assessment for Bridgend County Borough²⁸ which are covered by the Study Area. These are:
- LCA 1 – Llangynwyd Rolling Uplands and Forestry;
 - LCA 3 – Llynfi & Garw Uplands and Forestry;
 - LCA 5 – Garw Valley Floor and Lower Slopes;
 - LCA 6 – Mynydd Llangeinwyr Uplands; and
 - LCA 7 – Ogmere Valley Floor and Lower Slopes.
- 6.6.15. Although LCA 5 and LCA 7 are both located within the Study Area, the Project does not traverse through these character areas and have low ZTV coverage. These LCAs have therefore been scoped out of the assessment.
- 6.6.16. Seven character areas identified by the Neath Port Talbot LANDMAP Landscape Assessment²⁹ are located within the Study Area. These are:
- CA 9 – Cefn Cethin;
 - CA 11 – Cwm Afan and Cwm Pelenna;
 - CA 12 – Mynydd Penhydd;
 - CA 13 – Foel Trawsnant;
 - CA 14 – Foel Fawr;
 - CA 15 – Mynydd y Gelli; and
 - CA 18 – Mynydd Resolfen, Craig-y-Llyn & Mynydd Ynyscorrwg.
- 6.6.17. It has been determined that there would be low potential for several LCAs to be affected by the Project as it would not traverse through these areas and the ZTV shows that there is low visibility of the Project. For this reason, CA 9 and CA 12 have been scoped out of the assessment.
- 6.6.18. The following LCAs only will be taken forward to the assessment.
- CA11 – Cwm Afan and Cwm Pelenn;
 - CA 13 – Foel Trawsnant;
 - CA 14 – Foel Fawr;
 - CA15 – Mynydd y Gelli; and
 - CA 18 – Mynydd Resolfen, Craig-y-Llyn & Mynydd Ynyscorrwg.

²⁸ Landscape Character Assessment for Bridgend County Borough (2013). Available at: <https://www.bridgend.gov.uk/media/gkxhibc2/sd78-landscape-character-assessment-for-bridgend-county-borough-2013.pdf>

²⁹ Neath Port Talbot LandMap (2004) Landscape Assessment. Available at: https://media.npt.gov.uk/media/ponjgtte/spg_landmap_landscape_assessment_2004.pdf?v=20241209172433

LANDMAP

Introduction

- 6.6.19. LANDMAP is an all-Wales landscape resource, designed to record and evaluate landscape characteristics, qualities and influences in a nationally consistent data set. There are five datasets that make up LANDMAP, which in turn are divided into aspect areas. The five datasets are Geological Landscape, Landscape Habitats, Visual & Sensory, Historic Landscape, and Cultural Landscape. Collectively the five spatial datasets combined define the landscape character of an area.
- 6.6.20. While the approach is meant to enable a consistent approach to defining landscape character, not all datasets contain the same level of information. The VSAA³⁰ will be used as a baseline for this assessment, having the most relevance to the LVIA and the greatest level of detail. Where there are other important aspects that contribute to the overall landscape character, such as historic and cultural assets, these will also be referred to in the baseline text.
- 6.6.21. The VSAA that are in the Study Area are shown in **Figure 6.4**.
- 6.6.22. The following VSAA within the Study Area have been scoped out as they are in areas with minimal or low ZTV coverage and therefore would have limited views of the Project:
- NPTVS366 – Mynydd Penhydd (Ref 3 on Figure 6.4);
 - NPTVS448 – Cfen Cethin (Ref 4 on Figure 6.4);
 - NPTVS936 – Cwm Afan and Cwm Pelenna (Ref 8 on Figure 6.4);
 - NPTVS920 – Cwm Afan and Cwm Pelenna farmed sides (Ref 7 on Figure 6.4);
 - CYNONVS113 – Cwm Dar (Ref 10 on Figure 6.4);
 - CYNONVS148 – Cwm Ogwr (Ref 11 on Figure 6.4);
 - CYNONVS349 – Mynydd Llangeknwyr (Ref 12 on Figure 6.4);
 - CYNONVS357 – Mynydd Ton, Bwllfa, William Meyrick (Ref 14 on Figure 6.4);
 - CYNONVS580 – St Gwynno (Ref 16 on Figure 6.4); and
 - CYNONVS731 – Conifer to west of Study Area (Ref 18 on Figure 6.4).
- 6.6.23. The Project crosses through or has the potential to affect the character of the following VSAA which have been carried through to the assessment. They are described in **Appendix 6B**:
- CYNONVS473 – Mynydd Baedan (Ref 15 on Figure 6.4);
 - CYNONVS351 – Maesteg (Ref 13 on Figure 6.4);
 - NPTVS215 – Upland Settlements (Ref 1 on Figure 6.4);
 - CYNONVS811 – Garth Hill (Ref 19 on Figure 6.4);
 - NPTVS547 – Mynydd y Gelli (Ref 6 on Figure 6.4);

³⁰ Natural Resources Wales LANDMAP - <https://smnr-nrw.hub.arcgis.com/apps/c7770d2881394c899123bae210afe370/explore>

- CYNONVS622 – Mynydd Llangeinwyr (Ref 12 on Figure 6.4);
- CYNONVS813 – Garw and Caerau Forest (Ref 20 on Figure 6.4);
- NPTVS465 – Foel Fawr (Ref 5 on Figure 6.4);
- NPTVS962 – Mynydd Nant y bar / Mynydd Blaenafan (Ref 9 on Figure 6.4); and
- NPTVS358 – Foel Trawsnant (Ref 2 on Figure 6.4).

6.7 BASELINE OF VISUAL RECEPTORS

- 6.7.1. Visual receptors are “*the different groups of people who may experience views of the development*” (GLVIA3, para 6.3). Whilst it is the people living, working, passing through or enjoying recreational activities in the area who actually see the view and enjoy the visual amenity, it is the places they may occupy that are mapped and described as the ‘receptors’ of the views. In order to identify those receptors who may be affected, ZTV studies, baseline desk study and field-based observations have been carried out.
- 6.7.2. The key visual receptors who are likely to experience views of the Project within the Study Area have been identified as follows:
- Residential receptors – including scattered individual properties and settlements;
 - Recreational receptors – people using the network of PRowWs, open access land, users of National Cycle Routes and visitors to outdoor recreation/tourist areas; and
 - Transport receptors – people travelling through the area on major and minor roads.
- 6.7.3. The following representative viewpoint locations have been considered when establishing the effect of the Project on the visual amenity of the receiving environment. The viewpoints represent the main visual receptor groups found within the Study Area based on ZTV modelling.
- 6.7.4. For the purposes of this assessment a total of fourteen viewpoints were taken, at varying distances and directions from the Project Site. The viewpoints are all representative of one or more receptor types, as well as being illustrative of restricted views in some instances. The fourteen viewpoints identified are outlined below and described in **Appendix 6C**, and shown in **Figure 6.6a-n**:
- Viewpoint 1 – Junction of Footpaths MAE/13/4 and MAE/15/2 (upper slopes);
 - Viewpoint 2 – Foel y Dyffryn (summit);
 - Viewpoint 3 – A4063;
 - Viewpoint 4 – Junction of Bridleway MAE/1/2 and Byway MAE/12/1 / 23/37/5;
 - Viewpoint 5 – Rathbone Terrace / Protheroe Street;
 - Viewpoint 6 – Footpath MAE/9/1;
 - Viewpoint 7 – Croeserw Social Club carpark;
 - Viewpoint 8 – Footpath MAE/3/2;
 - Viewpoint 9 – Bridleway 23/19/1 (Tarren Rhiw-llech);
 - Viewpoint 10 – Footpath GWV/63/1 (Werfa);
 - Viewpoint 11 – Footpath GWV/103/4 (Mynydd Llangeinwyr / Wefra);
 - Viewpoint 12 – Footpath MAE/4/3;
 - Viewpoint 13 – Footpath MAE/3A/2 (Darren Y Bannau); and
 - Viewpoint 14 – Mynydd Pwll-yr-lwrch (off Footpath MAE/59/1).

- 6.7.5. The visual receptors mentioned in the visual baseline and assessment can be found in **Figure 6.2** which shows the viewpoint locations and PRoWs including routes on the National Cycle Network, footpaths, bridleways and byways.

6.8 FUTURE BASELINE

- 6.8.1. The Project will integrate the consented Upper Ogmere Wind Farm with the current Distribution Network Operator (DNO) via a 66kV connection, comprised of underground cables and overhead lines. It will remain active for the duration of the wind farm's operation, which, for the purposes of the assessment, is assumed to be up to 30 years. However, it is noted that the duration of the proposed overhead line and underground cable could extend beyond 30 years, dependant on potential future uses.
- 6.8.2. It is anticipated that that works will begin in September 2028 and take 9 months to complete. The works required and the order of their completion are listed as follows:
- Five months for trenching and laying the ducts;
 - Three months for erecting overhead line poles; and
 - One month cable pull through and jointing works.
- 6.8.3. Following the operational phase, the connection (underground and overground) will be left in situ as it has the potential to become integrated into the DNOs wider distribution network. This would also avoid further disruption to the surrounding environment.
- 6.8.4. The LVIA considers that during this period of 30 years, the predicted future baseline and evolution of landscape and visual receptors is unlikely to change significantly under the current regime of landscape and forestry management and maintenance. However, land management, and consequently landscape character, is dependent on a number of economic and environmental factors including the future effects of climate change and human adaptation which are difficult to predict at a local level and not a matter for this assessment. It is however, likely that mitigation and adaptation in response to changing climate and biodiversity pressures will continue to have an influence on this area in the form of increased renewable energy and other environmental changes which are likely to alter the landscape baseline as follows:
- Change resulting from an increased reliance on renewable energy, including wind farm development; and
 - Change to current levels of forestry and woodland, which may increase.

6.9 EMBEDDED MITIGATION

- 6.9.1. The Project has been developed through an iterative design process which considered balanced environmental, technical and economic factors. The Project has been designed with consideration of minimising the number of potential visual receptors affected, and reducing landscape effects by avoiding the requirement to create corridors through forested areas, where possible, ensuring the Project is generally backdropped by existing forestry and/ or elevated topography, and by following the existing topography, all reflecting the guidance provided in The Holford Rules: Guidelines for the

Routeing of New High Voltage Overhead Transmission Lines (Notes and Clarifications of National Grid 2013).

LIKELY CONSTRUCTION PHASE EFFECTS

- 6.9.2. The construction of the Project would include the following aspects which may have an effect on landscape features, the character of the landscape and on visual amenity:
- Presence and movement of construction machinery and vehicles;
 - Creation of temporary compound;
 - Pole foundations; and
 - Minor tree removal to maintain safety clearances towards overhead lines and to provide access points for vehicles.

CONSTRUCTION MITIGATION

Design Solutions and Assumptions

- 6.9.3. The presence of construction machinery and temporary construction compounds within the landscape (see **Figure 4.4**) will be temporary in nature and any ground disturbance as a result will be reinstated to its previous state at the end of construction.
- 6.9.4. There will be deviations in the route of the Project to avoid features such as trees to ensure that tree removal is minor and would not result in a loss of substantial landscape features. There will be no tree removal required for the UGC sections.
- 6.9.5. Operational corridors will be cleared of vegetation but will be reinstated at the end of construction. There will be some minor permanent hedgerow loss resulting from the vegetation clearance.
- 6.9.6. The UGC will be placed within ducts and take approximately five months to complete. The works have been assumed to take place between 07:00 to 19:00 hours on weekdays and 07:00 to 13:00 on Saturdays. In exceptions, there may be a requirement for a 7-day work week. This would be agreed with the local council as appropriate.
- 6.9.7. The construction of the OHL sections will take approximately 3 months. This will require HGVs to transport the poles - see **Chapter 7: Traffic and Transport** for further details.

Mitigation During Construction

- 6.9.8. The mitigation of effects on the landscape and visual resource during construction are those integral to the construction process under the 'Considerate Contractors' process that is now routinely followed, such as tidy site management to reduce visual clutter associated with the works, and use of construction lighting in accordance with best practice to minimise lighting intrusion to surrounding sensitive receptors.
- 6.9.9. Construction works will also be undertaken in line with the Construction Environmental Management Plan (CEMP) (**Appendix 4A**) which includes measures to mitigate negative landscape and visual effects during construction such as the restriction of construction traffic to designated routes, to avoid damage to the road corridor such as the creation of wheel ruts and ensure these are cleared up and reinstated.

- 6.9.10. The temporary construction compound will be used for the construction of the proposed western and eastern OHL. Poles will be stored at the compound; on the day of installation, poles will be transported by Heavy Goods Vehicles to the works and laydown area within the Project Site boundary.

LIKELY OPERATIONAL PHASE EFFECTS

- 6.9.11. The main potential for operational effects of the Project on landscape and visual receptors would be created by the following aspects:
- Presence of an OHL route. The maximum height of the wooden poles will be up to 15m above ground level; and
 - Tree removal has been minimised through design, however some direct impacts e.g. localised tree pruning/cutting, is anticipated at select locations to retain clearance distances (see **Section 8.6**).

Design Solutions and Assumptions

- 6.9.12. Landscape and visual mitigation of the Project is embedded in the route selection process which gives substantial weight to potential effects on landscape character, landscape designations and visual amenity.
- 6.9.13. In the normal course of operation there is no requirement to inspect UGCs, although they are regularly tested at the joint bays.
- 6.9.14. Overhead line conductors and insulators have a design life of approximately 40 years. Faults on an OHL are infrequent. When they do occur, the vehicles used are likely to be similar to those needed for the construction of the line. Fault repair is quick and relatively straightforward.

Construction and Operation Phase Mitigation

- 6.9.15. No specific mitigation measures have been identified due to the limited potential for landscape and visual effects arising from the Project, and the nature of the landscape where screening planting would not be appropriate. The implementation of a CEMP would ensure that best practice standards are used during the construction and reinstatement periods which would assist in minimising landscape and visual effects.

Decommissioning

- 6.9.16. Following the operational phase, the connection (underground and overground) will be left in situ as it has the potential to become integrated into the DNOs wider distribution network. This would also avoid further disruption to the surrounding environment. The decommissioning phase has been scoped out of the assessment.

6.10 ASSESSMENT METHODOLOGY

- 6.10.1. This section gives a brief overview of the methodology used within this LVIA. It is to be read in conjunction with the detailed methodology provided in **Appendix 6A**.

- 6.10.2. This LVIA presents the assessment of impacts associated with the Project and its likely effects on the baseline landscape and visual amenity.

LANDSCAPE

- 6.10.3. Landscape assessment considers the effects of change and development on landscape as a resource in its own right.
- 6.10.4. The character of the landscape derives from a combination of physical factors, natural processes and human intervention. Landscape effects are a combination of the physical changes to the fabric of the landscape arising from the Project and perceptual changes – the way these physical changes alter how the landscape is perceived.
- 6.10.5. The landscape assessment considers the effect of the Project on the landscape, including effects on significant individual elements of the landscape, and effects on characteristic combinations or patterns of elements and how these are perceived to affect its character and quality.

VISUAL AMENITY

- 6.10.6. Visual assessment is concerned with the views that are available to people who may be affected by the Project, and their perception and responses to changes in these views.
- 6.10.7. Visual effects arise from changes in the composition and character of views available in the area affected. The assessment considers the likely change that would be experienced, including the effects both on specific views and on general visual amenity – the pleasantness of the view or outlook – that the people affected enjoy.
- 6.10.8. For the purposes of assessment, whilst it is the people living, working, passing through or enjoying recreational activities in the area who see the views and enjoy the visual amenity, it is the places they may occupy that are mapped and described as the visual receptors.

ASSESSMENT OF EFFECTS

- 6.10.9. The level of landscape and visual effects are evaluated through the combination of sensitivity and magnitude of change. The sensitivity is derived from combining the value of the receptor with its susceptibility to the type of change proposed. The magnitude of change is derived from combining the size or scale of change, the duration and the reversibility of the effect.
- 6.10.10. The combination of Sensitivity and Magnitude is then evaluated to determine the overall level of effect significance. The combination of sensitivity and magnitude and resulting levels of effect are illustrated in **Table 6-7** below. The effects within the shaded cells are generally considered to be effects that are significant.

Table 6-7 - Evaluation of Landscape and Visual Effects

Magnitude of Change	Landscape and Visual Sensitivity		
	High	Medium	Low
High	Major	Major to Moderate	Moderate to Minor
Medium	Major to Moderate	Moderate	Minor
Low	Moderate to Minor	Minor	Minor
Negligible	Minor to Negligible	Minor to Negligible	Negligible
Zero	None / No View		

6.11 ASSESSMENT OF RESIDUAL LANDSCAPE EFFECTS

6.11.1. Landscape Effects are defined in GLVIA 3, paragraphs 5.1 and 5.2 as follows:

- *“An assessment of landscape effects deals with the effects of change and development on landscape as a resource. The concern ... is with how the proposal will affect the elements that make up the landscape, the aesthetic and perceptual aspects of the landscape and its distinctive character. ... The area of landscape that should be covered in assessing landscape effects should include the Project Site itself and the full extent of the wider landscape around it which the Project may influence in a significant manner.”*

6.11.2. These effects are assessed by considering the landscape sensitivity (value and susceptibility) against the magnitude of change. The type of effect can also be described as temporary or permanent, direct or indirect, cumulative, and positive, neutral, or negative.

6.11.3. The residual landscape effects, assessed here, are those effects remaining after all of the proposed design mitigation has been taken into account. An assessment of the cumulative landscape effects, taking account of other relevant consented development or any relevant current applications has been undertaken as detailed in **Appendix 6D** and **6E** and summarised in **Table 6-14** and

6.11.4.

6.11.5.

6.11.6. **Table 6-15.**

6.11.7. In considering the effects of the Project (magnitude of change) on landscape character and visual receptors, the following scenarios have been assessed:

- Construction Phase – during the construction period, assuming a maximum perceived change situation (i.e., when construction activity is at its peak), noting how long that period is likely to last; and
- Operational Phase (Winter Year 1).

6.11.8. Decommissioning activities would not be expected to result in additional ground disturbance as development traffic movements associated with the Project decommissioning phase are expected to be lower than those associated with the construction phase. Underground and overhead line infrastructure is assumed to be left in situ. Therefore, an assessment of the decommissioning effects has been scoped out.

LOCAL CHARACTER AREAS

6.11.9. The sensitivity for LCAs is included within **Appendix 6B** and summarised in **Table 6-8** below:

Table 6-8 - Effects on Local Landscape Character

Character Area	Sensitivity
LCA 1: Llangynwyd Rolling Uplands and Forestry	High Sensitivity
LCA 3: Llynfi & Garw Uplands and Forestry	Medium Sensitivity
LCA 6: Mynydd Llangeinwyr Uplands	High Sensitivity
CA 11: Cwm Afan and Cwm Pelenna	Medium Sensitivity
CA 13: Foel Trawsnant	Medium Sensitivity
CA 14: Foel Fawr	Medium Sensitivity
CA 15: Mynydd y Gelli	High Sensitivity
CA 18: Mynydd Resolfen, Craig-y-Llyn & Mynydd Ynyscorrwg	High Sensitivity

6.11.10. The assessment of effects on LCAs are set out in **Appendix 6D** and are summarised in **Table 6-9** below:

Table 6-9 - Assessment of effects on Local Landscape Character Areas: Summary Table

Local Character Area	Magnitude during Construction	Magnitude during Operation	Level of Effect during Construction	Level of Effect during Operation
LCA 1: Llangynwyd Rolling	High	High	Major and significant,	Major and significant,

Local Character Area	Magnitude during Construction	Magnitude during Operation	Level of Effect during Construction	Level of Effect during Operation
Uplands and Forestry			Short-term, direct and negative (western OHL)	Long-term, direct and negative (western OHL)
LCA 3: Llynfi & Garw Uplands and Forestry	Low	Low	Minor, Short-term, direct and negative (eastern OHL)	Minor, Long-term, direct and neutral (eastern OHL)
LCA 6: Myydd Llangeinwyr Upland	High	Negligible	Major and significant, Short-term, direct and negative (eastern UGC)	Negligible, Long-term, direct and neutral (eastern UGC)
CA 11: Cwm Afan and Cwm Pelenna	Low	Negligible	Minor, Short-term, direct and negative (western UGC and eastern OHL)	Minor to Negligible, Long-term, direct and neutral (western UGC and eastern OHL)
CA 13: Foel Trawsant	High	High	Major to Moderate and significant, Short-term, indirect and negative (western OHL)	Major to Moderate and significant, Short-term, indirect and negative (western OHL)
CA 14: Foel Fawr	Low (Construction Compound) and Negligible (western UGC and eastern OHL)	Negligible	Minor, Short-term, indirect and negative (Construction Compound); and Minor to Negligible, Short-term, indirect and neutral (western UGC and eastern OHL)	Minor to Negligible, Long-term, indirect and neutral (Construction Compound, western UGC, and eastern OHL)
CA 15: Mynydd y Gelli	Low (eastern OHL) and Medium (eastern UGC)	Low (eastern OHL) and Negligible (eastern UGC)	Moderate to Minor, Short-term, direct and negative (eastern OHL) and Major to Moderate and significant, Short-term, direct and negative (eastern UGC)	Moderate to Minor, Long-term, direct and neutral (eastern OHL) and Minor to Negligible, Long-term, direct and neutral (eastern UGC)

Local Character Area	Magnitude during Construction	Magnitude during Operation	Level of Effect during Construction	Level of Effect during Operation
CA 18: Mynydd Resolfen, Craig-y-Llyn & Mynydd Ynyscorrwg	Negligible (eastern OHL)	Negligible (eastern OHL)	Minor to Negligible, Short-term, indirect and neutral (eastern OHL)	Minor to Negligible, Long-term, indirect and neutral (eastern OHL)

LANDMAP VISUAL AND SENSORY AREAS

6.11.11. The sensitivity for LANDMAP VSAA are included within **Appendix 6B** and summarised in **Table 6-10** below:

Table 6-10 - Sensitivity of LANDMAP VSAA Summary Table

Reference	LANDMAP VSAA	Sensitivity
15	CYNONVS473 – Mynydd baedan	High Sensitivity
13	CYNONVS351 – Maesteg	Low Sensitivity
1	NPTVS215 – Upland Settlements	Low Sensitivity
19	CYNONVS811 – Garth Hill	Medium Sensitivity
6	NPTVS547 – Mynydd y Gelli	High Sensitivity
17	CYNONVS622 – Mynydd Llangeinwyr	High Sensitivity
20	CYNONVS813 – Garw and Caerau Forest	Medium Sensitivity
5	NPTVS465 – Foel Fawr	Medium Sensitivity
9	NPTVS962 – Mynydd Nant y bar / Mynydd Blaenafan	High Sensitivity
2	NPTVS358 – Foel Trawsant	High Sensitivity

6.11.12. The assessment of effects on LANDMAP VSAA is set out in **Appendix 6D** and summarised in **Table 6-11** below:

Table 6-11 - Assessment of effects on LANDMAP VSAA Summary Table

Reference	LANDMAP VSAA	Magnitude during Construction	Magnitude during Operation	Level of Effect during Construction	Level of Effect during Operation
15	CYNONVS473 – Mynydd baedan	High (western OHL)	High (western OHL)	Major and significant, Short-term, direct and negative (western OHL)	Major and Significant, Long-term, direct and negative (western OHL)
13	CYNONVS351 – Maesteg	Medium (eastern OHL and western UGC)	Negligible (western UGC and eastern OHL)	Moderate and significant, Short-term, direct and negative (western UGC and eastern OHL)	Negligible, Long-term, direct and neutral (western UGC and eastern OHL)

Reference	LANDMAP VSAA	Magnitude during Construction	Magnitude during Operation	Level of Effect during Construction	Level of Effect during Operation
1	NPTVS215 – Upland Settlements	Low (western UGC and eastern OHL)	Negligible (western UGC and eastern OHL)	Minor, Short-term, direct and negative (western UGC and eastern OHL)	Negligible, Long-term, direct and neutral (western UGC and eastern OHL)
19	CYNONVS811 – Garth Hill	Low (eastern OHL)	Low (eastern OHL)	Minor, Short-term, direct and negative (eastern OHL)	Minor, Long-term, direct and neutral (eastern OHL)
6	NPTVS547 – Mynydd y Gelli	Low (eastern OHL) and Medium (eastern UGC)	Low (eastern OHL) and Negligible (eastern UGC)	Moderate to Minor, Short-term, direct and negative (eastern OHL); and Major to Moderate and significant , Short-term, direct and negative (eastern UGC)	Moderate to Minor, Long-term, direct and neutral (eastern OHL); and Minor to Negligible, Long-term, direct and neutral (eastern UGC)
17	CYNONVS622 – Mynydd Llangeinwyr	High (eastern UGC)	Negligible (eastern UGC)	Major and significant , Short-term, direct and negative (eastern UGC)	Minor to Negligible, Long-term, direct and neutral (eastern UGC)
20	CYNONVS813 – Garw and Caerau Forest	Low (eastern OHL)	Low (eastern OHL)	Minor, Short-term, direct and negative (eastern OHL)	Minor, Long-term, direct and neutral (eastern OHL)
5	NPTVS465 – Foel Fawr	Low (Construction Compound)	Negligible	Minor, Short-term, indirect and	Minor to Negligible,

Reference	LANDMAP VSAA	Magnitude during Construction	Magnitude during Operation	Level of Effect during Construction	Level of Effect during Operation
		and Negligible (western UGC and eastern OHL)		negative (Construction Compound); and Minor to Negligible, Short-term, indirect and neutral (western UGC and eastern OHL)	Long-term, indirect and neutral (Construction Compound, western UGC, and eastern OHL)
9	NPTVS962 – Mynydd Nant y bar / Mynydd Blaenafan	Negligible (eastern OHL)	Negligible (eastern OHL)	Minor to Negligible, Short-term, indirect and neutral (eastern OHL)	Minor to Negligible, Long-term, indirect and neutral (eastern OHL)
2	NPTVS358 – Foel Trawsnant	High	High	Major to Moderate and significant, Short-term, indirect and negative (western OHL)	Major to Moderate and significant, Short-term, indirect and negative (western OHL)

6.12 ASSESSMENT OF RESIDUAL VISUAL EFFECTS

6.12.1. Visual effects are assessed by considering the sensitivity of the receptor (people in the landscape) and the magnitude of change that would affect the view or overall visual amenity. They are defined in GLVIA 3, paragraph 6.2 as follows:

- *"An assessment of visual effects deals with the effects of change and development on the views available to people and their visual amenity. The concern here is with assessing how the surroundings of individuals or groups of people may be specifically affected by changes in the content and character of views as a result of the change or loss of existing elements of the landscape and/or introduction of new elements."*

6.12.2. In determining the level of effect, the sensitivity to change and magnitude of effect are combined and assessed to give a final judgement on the overall level of the effects on visual receptors. The results of this assessment are set out in **Appendix 6C** and summarised in **Table 6-12** below:

Table 6-12 - Sensitivity of Viewpoint/ Visual receptors Summary Table

Viewpoint	Sensitivity of receptors
Viewpoint 1 – Junction of Footpaths MAE/13/4 and MAE/15/2	High (Footpath users)
Viewpoint 2 – Foel y Dyffryn (summit)	High (Visitors to the Summit and Open Access Land area)
Viewpoint 3 – A4063	High (Residents) Medium (Road users)
Viewpoint 4 – Junction of Footpath MAE/1/2 and Byway MAE/12/1 / 23/37/5	High (Footpath and Byway users)
Viewpoint 5 – Rathbone Terrace / Protheroe Street	Medium (Residents) Low (Road users)
Viewpoint 6 – Footpath MAE/9/1	Medium (Footpath users)
Viewpoint 7 – Croeserw Social Club carpark	Medium (Residents and road users) Low (Recreational users)
Viewpoint 8 – Footpath MAE/3/2	High (Footpath users)
Viewpoint 9 – Bridleway 23/19/1 (Tarren Rhiw-Llech)	High (Bridleway users)
Viewpoint 10 – Footpath GWV/63/1 (Werfa)	High (Footpath users and visitors to Open Access Land area)
Viewpoint 11 – Footpath GWV/103/4 (Mynydd Llangeinwyr / Werfa)	High (Footpath users and visitors to Open Access Land area)
Viewpoint 12 – Footpath MAE/4/3	High (Footpath users)
Viewpoint 13 – Footpath MAE/3A/2 (Darren Y Bannau)	High (Footpath users)
Viewpoint 14 – Mynydd Pwll-yr-lwrch (off Footpath MAE/59/1)	High (Footpath users and visitors to Open Access Land area)

6.12.3. The assessment of effects on the Viewpoints and visual receptors are described in **Appendix 6E** and summarised in **Table 6-13** below:

Table 6-13 - Assessment of effects on Viewpoint/ Visual receptors Summary Table

Viewpoint	Magnitude during Construction	Magnitude during Operation	Level of Effect during construction	Level of Effect during operation
Viewpoint 1 – Junction of Footpaths MAE/13/4 and MAE/15/2	High	Medium	Major and significant, Short-term, direct and negative (western OHL)	Major to Moderate and significant, long-term, direct and negative (western OHL)

Viewpoint	Magnitude during Construction	Magnitude during Operation	Level of Effect during construction	Level of Effect during operation
Viewpoint 2 – Foel y Dyffryn (summit)	High	Medium	Major and significant , Short-term, direct and negative (western OHL)	Major to Moderate and significant , long-term, direct and negative (western OHL)
Viewpoint 3 – A4063	High (western UGC)	Negligible (western UGC)	Major to Moderate and significant (residents) and Moderate to Minor, Short-term, direct and negative (road users and pedestrians) – western UGC	Minor to Negligible, Long-term, direct, neutral (residents, road users and pedestrians) – western UGC
Viewpoint 4 – Junction of Footpath MAE/1/2 and Byway MAE/12/1 / 23/37/5	Low (eastern OHL)	Negligible (eastern OHL)	Minor, Short-term, direct, neutral (eastern OHL)	Minor to Negligible, Long-term, direct, neutral (eastern OHL)
Viewpoint 5 – Rathbone Terrace / Protheroe Street	Medium (western UGC)	Negligible (western UGC)	Moderate and significant (residents) and Moderate and not significant, Short-term, direct and neutral (road users and pedestrians) – western UGC	Minor to Negligible, Long-term, direct and neutral (residents, road users and pedestrians) – western UGC
Viewpoint 6 – Footpath MAE/9/1	Low (eastern OHL)	Negligible (eastern OHL)	Minor, Short-term, direct and negative (eastern OHL)	Minor to Negligible, Long-term, direct and neutral (eastern OHL)
Viewpoint 7 – Croeserw Social Club carpark	Low (eastern OHL)	Negligible (eastern OHL)	Minor (residents) and Minor (road users, pedestrians and recreational users), Short-term, direct and neutral – eastern OHL	Minor to Negligible (residents) and Negligible (road users, pedestrians and recreational users) Long-term, direct and neutral – eastern OHL

Viewpoint	Magnitude during Construction	Magnitude during Operation	Level of Effect during construction	Level of Effect during operation
Viewpoint 8 – Footpath MAE/3/2	Medium (eastern OHL)	Low (eastern OHL)	Moderate and significant , Short-term, direct and negative (eastern OHL)	Minor, Long-term, direct and neutral (eastern OHL)
Viewpoint 9 – Bridleway 23/19/1 (Tarren Rhiw-Llech)	Low (eastern OHL)	Low (eastern OHL)	Moderate to Minor, Short-term, direct and neutral (eastern OHL)	Moderate to Minor , Long-term, direct and neutral (eastern OHL)
Viewpoint 10 – Footpath GWV/63/1 (Werfa)	Medium (eastern OHL) and High (eastern UGC)	Negligible (eastern OHL and eastern UGC)	Minor, Short-term, direct and neutral (eastern OHL) and Major to Moderate and significant , Short-term, direct and negative (eastern UGC)	Minor to Negligible, Long-term, direct and neutral (eastern OHL and eastern UGC)
Viewpoint 11 – Footpath GWV/103/4 (Mynydd Llangeinwyr / Werfa)	Low (eastern OHL) and Low (eastern UGC)	Low (eastern OHL) and Negligible (eastern UGC)	Moderate to Minor, Short-term, direct and neutral (eastern OHL and eastern UGC)	Minor to Negligible , Long-term, direct and neutral (eastern OHL and eastern UGC)
Viewpoint 12 – Footpath MAE/4/3	Negligible (eastern OHL)	Negligible (eastern OHL)	Minor to Negligible, Short-term, direct and neutral (eastern OHL)	Minor to Negligible, Long-term, direct and neutral (eastern OHL)
Viewpoint 13 – Footpath MAE/3A/2 (Darren Y Bannau)	Negligible (eastern OHL)	Negligible (eastern OHL)	Minor to Negligible , Short-term, direct and neutral (eastern OHL)	Minor to Negligible , Long-term, direct and neutral (eastern OHL)
Viewpoint 14 – Mynydd Pwll-yr-lwrch (off Footpath MAE/59/1)	Low (eastern OHL)	Negligible (eastern OHL)	Moderate to Minor, Short-term, direct and neutral (eastern OHL)	Minor to Negligible, Long-term, direct and neutral (eastern OHL)

6.13 SUMMARY OF LANDSCAPE, VISUAL AND CUMULATIVE EFFECTS

6.13.1. A summary of the landscape and visual effects are provided in **Table 6-14** and

6.13.2.

6.13.3.

6.13.4. **Table 6-15** respectively.

6.13.5. The information set out in the tables lists the main receptors included in this assessment and provides a summary of the landscape and visual effects of the Project as well as the cumulative effects. Information provided in the table is as follows:

- Receptor Name;
- Receptor Sensitivity. The sensitivity of the receptor is recorded ranging from high, medium, low and negligible (or intermediary values) in accordance with the methodology in Appendix 6A;
- LVIA Assessment (Primary Assessment: the Project only). The information includes:
 - Magnitude: The magnitude of change for the Project is recorded, ranging from high, medium, low and negligible (or intermediary values) in accordance with the methodology; and
 - Level of Effect The level of effect resulting from the Project is recorded (taking account of the sensitivity and magnitude in accordance with the methodology). Those levels of effect shown in bold relate to significant effects in accordance with the relevant EIA Regulations.
- Cumulative Assessment (CLVIA):). The information includes:
 - Magnitude (Consented Development): The magnitude of change, taking account relevant consented development, ranging from high, medium, low and negligible (or intermediary values) in accordance with the methodology;
 - Additional Level of Effect: Adding the Project to the baseline of consented development;
 - Consented Cumulative Level of Effect: The level of effect, taking account of the consented development and the Project (taking account of the sensitivity and magnitude in accordance with the methodology). Those levels of effect shown in bold relate to effects considered to be significant, and the development contributing most to the cumulative effect is recorded in brackets;
 - Magnitude (Application Development): The magnitude of change, taking account relevant consented development, ranging from high, medium, low and negligible (or intermediary values) in accordance with the methodology;
 - Additional Level of Effect: Adding the Project to the application development;
 - Application Cumulative Level of Effect: The level of effect, taking account of the application developments and the Project, is recorded (taking account of the sensitivity and magnitude in accordance with the methodology). Those levels of effect shown in bold relate to

significant effects in accordance with the relevant EIA Regulations and the wind farm contributing most to the cumulative effects is recorded in brackets.

Table 6-14 - Summary Effects Table for Landscape Receptors

Receptor	Primary Assessment: LVIA - Project only			Assessment: CLVIA - Project (PD) and other Development					
	Sensitivity	Magnitude (Standalone)	Level of Effect (Standalone)	Magnitude (Consented)	Additional Level of Effect	<u>Consented:</u> Combined Level of Effect	Magnitude (Applications)	Additional Level of Effect	<u>Application</u> Combined Level of Effect
Local Landscape Character Areas									
LCA 1: Llangynwyd Rolling Uplands and Forestry	High	High	Major and significant (Project only - western OHL section)	High	Major and Significant (Foel Trawsnant Wind Farm)	Major and Significant (Foel Trawsnant Wind Farm and Project - western OHL section)	High	Major and significant (Foel Trawsnant Grid Connection)	Major and Significant (Foel Trawsnant Grid Connection, and Project - western OHL section)
LCA 3: Llynfi & Garw Uplands and Forestry	Medium	Low	Minor (Project only – eastern OHL)	Zero	None	None	None	Zero	None

Receptor	Primary Assessment: LVIA - Project only			Assessment: CLVIA - Project (PD) and other Development					
	Sensitivity	Magnitude (Standalone)	Level of Effect (Standalone)	Magnitude (Consented)	Additional Level of Effect	<u>Consented:</u> Combined Level of Effect	Magnitude (Applications)	Additional Level of Effect	<u>Application</u> Combined Level of Effect
LCA 6: Mynydd Llangeinwyr Upland	High	Negligible	Minor to Negligible (Project only – eastern UGC)	Zero	None	None	Zero	None	None
CA 11: Cwm Afan and Cwm Pelenna	Medium	Negligible	Minor to Negligible (Project only – western UGC and eastern OHL)	Zero	None	None	Zero	None	None
CA 13: Foel Trawsnant	Medium	High	Major to Moderate and Significant (Project – western OHL)	Zero	None	None	Negligible	Minor to Negligible	Moderate and Significant (Foel Trawsnant Grid Connection and Project – Western OHL)

Receptor	Primary Assessment: LVIA - Project only			Assessment: CLVIA - Project (PD) and other Development					
	Sensitivity	Magnitude (Standalone)	Level of Effect (Standalone)	Magnitude (Consented)	Additional Level of Effect	<u>Consented:</u> Combined Level of Effect	Magnitude (Applications)	Additional Level of Effect	<u>Application</u> Combined Level of Effect
CA 14: Foel Fawr	Medium	Low (Construction Compound) and Negligible (western UGC and eastern OHL)	Minor (Construction Compound) and Minor to Negligible (eastern UGC and western OHL)	Zero	None	None	Zero	None	None
CA 15: Mynydd y Gelli	High	Low	Moderate to Minor (Project only – eastern OHL and eastern UGC)	Zero	None	None	Zero	None	None
CA 18: Mynydd Resolfen, Craig-y-Llyn & Mynydd Ynyscorrwg	High	Negligible	Minor to Negligible (eastern OHL)	Zero	None	None	Zero	None	None
LANDMAP VSAA									

Receptor	Primary Assessment: LVIA - Project only			Assessment: CLVIA - Project (PD) and other Development					
	Sensitivity	Magnitude (Standalone)	Level of Effect (Standalone)	Magnitude (Consented)	Additional Level of Effect	<u>Consented:</u> Combined Level of Effect	Magnitude (Applications)	Additional Level of Effect	<u>Application</u> Combined Level of Effect
CYNONVS4 73 – Mynydd baedan	High-Medium	High	Major and significant (Project only – western OHL)	High	Major and Significant (Foel Trawsnant Wind Farm)	Major to and Significant (Foel Trawsnant Wind Farm and Project – western OHL)	High	Major and significant (Foel Trawsnant Grid Connection)	Major and Significant (Trawsnant Grid Connection, and Project – western OHL)
CYNONVS3 51 – Maesteg	Low	Negligible	Minor to Negligible (Project only – western UGC and eastern OHL)	Zero	None	None	Zero	None	None
NPTVS215 – Upland Settlements	Low	Negligible	Minor (Project only – western UGC and eastern OHL)	Zero	None	None	Zero	None	None

Receptor	Primary Assessment: LVIA - Project only			Assessment: CLVIA - Project (PD) and other Development					
	Sensitivity	Magnitude (Standalone)	Level of Effect (Standalone)	Magnitude (Consented)	Additional Level of Effect	<u>Consented:</u> Combined Level of Effect	Magnitude (Applications)	Additional Level of Effect	<u>Application</u> Combined Level of Effect
CYNONVS8 11 – Garth Hill	Medium	Low	Minor (Project only – eastern OHL)	Zero	None	None	Zero	None	None
NPTVS547 – Mynydd y Gelli	High-Medium	Low	Moderate to Minor (Project only – eastern OHL and eastern UGC)	Zero	None	None	Zero	None	None
CYNONVS6 22 – Mynydd Llangeinwyr	High	Negligible	Minor to Negligible (Project only – eastern UGC)	Zero	None	None	Zero	None	None
CYNONVS8 13 – Garw and Caerau Forest	Medium	Low	Minor (Project only – eastern OHL)	Zero	None	None	Zero	None	None

Receptor	Primary Assessment: LVIA - Project only			Assessment: CLVIA - Project (PD) and other Development					
	Sensitivity	Magnitude (Standalone)	Level of Effect (Standalone)	Magnitude (Consented)	Additional Level of Effect	<u>Consented:</u> Combined Level of Effect	Magnitude (Applications)	Additional Level of Effect	<u>Application</u> Combined Level of Effect
NPTVS465 – Foel Fawr	Medium	Low (Construction Compound) and Negligible (western UGC and eastern OHL)	Minor (Construction Compound) and Minor to Negligible (eastern UGC and western OHL)	Zero	None	None	Zero	None	None
NPTVS962 – Mynydd Nant y bar / Mynydd Blaenafan	High	Negligible	Minor to Negligible (eastern OHL)	Zero	None	None	Zero	None	None

Receptor	Primary Assessment: LVIA - Project only			Assessment: CLVIA - Project (PD) and other Development					
	Sensitivity	Magnitude (Standalone)	Level of Effect (Standalone)	Magnitude (Consented)	Additional Level of Effect	<u>Consented:</u> Combined Level of Effect	Magnitude (Applications)	Additional Level of Effect	<u>Application</u> Combined Level of Effect
NPTVS358 – Foel Trawsnant	Medium	High	Major to Moderate and Significant (Project – western OHL)	Zero	None	None	Negligible	Minor to Negligible	Moderate and Significant (Foel Trawsnant Grid Connection and Project – Western OHL)

Table 6-15 - Summary Effects Table for Visual Receptors

Receptor	Primary Assessment: LVIA: Project only			Assessment: CLVIA: Project (PD) and other Development					
	Sensitivity	Magnitude (Standalone)	Level of Effect (Standalone)	Magnitude (Consented)	Additional Level of Effect	<u>Consented:</u> Combined Level of Effect	Magnitude (Applications)	Additional Level of Effect	<u>Application</u> Combined Level of Effect
Viewpoint 1 – Junction of Footpaths MAE/13/3 and MAE/15/2 (upper slopes)	High (Footpath users)	Medium	Major to Moderate and significant (Project only – western OHL)	Zero	None	None	Low	Moderate to Minor and Significant (Foel Trawsnant Grid Connection)	Major to Moderate and Significant (Foel Trawsnant Grid Connection and Project – western OHL)

Receptor	Primary Assessment: LVIA: Project only			Assessment: CLVIA: Project (PD) and other Development					
	Sensitivity	Magnitude (Standalone)	Level of Effect (Standalone)	Magnitude (Consented)	Additional Level of Effect	<u>Consented:</u> Combined Level of Effect	Magnitude (Applications)	Additional Level of Effect	<u>Application</u> Combined Level of Effect
Viewpoint 2 – Foel y Dyffryn (summit)	High (visitors to OAL and Summit)	Medium	Major to Moderate and significant (Project only - western OHL)	Zero	None	None	Low	Moderate to Minor significant (Y Brin Wid Farm)	Major to Moderate and significant (Y Brin Wind Farm and Project – western OHL)
Viewpoint 3 – A4063	High (residents), Medium (road users)	Negligible	Minor to Negligible (residents and road users) – Project only – western UGC	Zero	None	None	Zero	None	None

Receptor	Primary Assessment: LVIA: Project only			Assessment: CLVIA: Project (PD) and other Development					
	Sensitivity	Magnitude (Standalone)	Level of Effect (Standalone)	Magnitude (Consented)	Additional Level of Effect	<u>Consented:</u> Combined Level of Effect	Magnitude (Applications)	Additional Level of Effect	<u>Application</u> Combined Level of Effect
Viewpoint 4 – Junction of Footpath MAE/1/2 and Byway MAE/12/1 / 23/37/5	High (Footpath and byway users)	Negligible	Minor to Negligible (Footpath and byway users) – Project only – eastern OHL	Zero	None	None	Zero	None	None
Viewpoint 5 – Rathbone Terrace / Protheroe Street	High (residents), Low (road users)	Negligible (western UGC)	Minor to Negligible (residents), Negligible (road users) – Project only – western UGC	Zero	None	None	Zero	None	None
Viewpoint 6 - Footpath MAE/9/1	Medium (Footpath users)	Negligible	Minor to Negligible (Project only – eastern OHL)	Zero	None	None	Zero	None	None

Receptor	Primary Assessment: LVIA: Project only			Assessment: CLVIA: Project (PD) and other Development					
	Sensitivity	Magnitude (Standalone)	Level of Effect (Standalone)	Magnitude (Consented)	Additional Level of Effect	<u>Consented:</u> Combined Level of Effect	Magnitude (Applications)	Additional Level of Effect	<u>Application</u> Combined Level of Effect
Viewpoint 7- Croeserw Social Club carpark	High (residents), Medium (Road users), Low (recreation al users)	Negligible	Minor to Negligible (residents and road users) and Negligible (recreational users) – Project only – eastern OHL	Zero	None	None	Zero	None	None
Viewpoint 8 – Footpath MAE/3/2	High (footpath users)	Low	Moderate to Minor (Project only – eastern OHL)	Zero	None	None	Zero	None	None
Viewpoint 9 – Bridleway 23/19/1 (Tarren Rhiw-Llech)	High (recreation al users)	Low	Moderate to Minor (Project only – eastern OHL)	Zero	None	None	Zero	None	None

Receptor	Primary Assessment: LVIA: Project only			Assessment: CLVIA: Project (PD) and other Development					
	Sensitivity	Magnitude (Standalone)	Level of Effect (Standalone)	Magnitude (Consented)	Additional Level of Effect	<u>Consented:</u> Combined Level of Effect	Magnitude (Applications)	Additional Level of Effect	<u>Application</u> Combined Level of Effect
Viewpoint 10 – Footpath GWV/63/1 (Werfa)	High (footpath users and visitors to OAL)	Negligible (eastern OHL and eastern UGC)	Minor to Negligible (Project only – eastern OHL and eastern UGC)	Zero	None	None	Zero	None	None
Viewpoint 11 – Footpath GWV/103/4 (Mynydd Llangeinwyr – Werfa)	High (footpath users and visitors to OAL)	Negligible (eastern OHL and eastern UGC)	Minor to Negligible (Project only – eastern OHL and UGC)	Zero	None	None	Zero	None	None
Viewpoint 12 – Footpath MAE/4/3	High (footpath users)	Negligible	Minor to Negligible (Project only – eastern OHL)	Zero	None	None	Zero	None	None
Viewpoint 13 – Footpath MAE/3A/2 (Darren Y Bannau)	High (footpath users)	Negligible	Minor to Negligible (Project only – eastern OHL)	Zero	None	None	Zero	None	None

Receptor	Primary Assessment: LVIA: Project only			Assessment: CLVIA: Project (PD) and other Development					
	Sensitivity	Magnitude (Standalone)	Level of Effect (Standalone)	Magnitude (Consented)	Additional Level of Effect	<u>Consented:</u> Combined Level of Effect	Magnitude (Applications)	Additional Level of Effect	<u>Application</u> Combined Level of Effect
Viewpoint 14 – Mynydd Pwll-yr-lwrch (off Footpath MAE/59/1)	High (footpath users and visitors to OAL	Negligible	Minor to Negligible (Project only – eastern OHL)	Zero	None	None	Zero	None	None

6.14 CONCLUSIONS OF SIGNIFICANCE EVALUATION

LANDSCAPE CHARACTER - SIGNIFICANT EFFECTS OF THE PROJECT

- 6.14.1. At construction phases, the western OHL section of the Project is assessed as having a **Major and significant** level of effect on **LCA 1: Llangynwyd Rolling Uplands** and **LANDMAP Visual and Sensory Aspect Area CYNONVS473 Mynydd Baedan** (which cover the same geographic area). The increased frequency of movement brought about by construction vehicles to these areas will also greatly reduce their tranquillity. Construction of the western UGC section of the Project will also have the same level of effect on **LCA 6: Mynydd Llangeinwyr Upland** and **VSAA CYNONVS622 Mynydd Llangeinwyr** (which also cover the same geographic area) due to trenching activities and the increased frequency of movement from construction vehicles.
- 6.14.2. **LCA 15: Mynydd y Gelli** and **VSAA NPTVS547 Mynydd y Gelli**, and **CA 13 Foel Trawsnant** and **VSAA NPTVS358 Foel Trawsnant** (which also cover the same geographic area) will experience a **Major to Moderate and significant** level of effect due to the construction of the eastern UGC section of the Project.
- 6.14.3. At operation, the Project is considered to have a **Major to Moderate and significant** level of effect on **LCA 1: Llangynwyd Rolling Uplands** and on **LANDMAP VSAA CYNONVS473 Mynydd Baedan** (which cover the same geographic area) as a result of the western OHL section of the Project. The effect is influenced by its High sensitivity, brought about by its location within the Foel Dyffryn SLA. The qualities of the SLA include a strongly rural and tranquil landscape with some panoramic views to more distant hillsides. The operational phase would result in the western OHL section of the Project being noticeable in the landscape as the upland areas of Foel Dyffryn, where the OHL section would be located, are generally devoid of modern development. At the lower slopes of Foel y Dyffryn towards the valley settlement of Maesteg, the OHL would be situated in a context where built development is present, slightly decreasing the landscape effects of the Project in these areas.

VISUAL AMENITY - SIGNIFICANT EFFECTS OF THE PROJECT

- 6.14.4. At construction phases, the western OHL section of the Project is assessed to have a **Major and Significant** level of effect on views for users of **Footpaths MAE/13/4** and **MAE/15/2** (represented by **Viewpoint 1**) and on visitors to the area of **Open Access Land** on Foel y Dyffryn (represented by **Viewpoint 2**). These viewpoints are situated within the Foel y Dyffryn SLA, and within an area of low grass cover where there will be high visibility of the construction works, resulting in significant temporary adverse effects to receptors. There would be visibility of construction machinery, vehicle movements and lay down areas during the construction phase, resulting in a temporary adverse effect on the views experienced.
- 6.14.5. Construction on the western UGC section of the Project is assessed as having a **Major and Significant** level of effect on views experienced by **residential receptors** along the A4063 (represented by **Viewpoint 3**). Meanwhile, a **Major to Moderate and Significant** level of effect will be experienced by road users at **Viewpoint 3** due to the construction of the western UGC and for **recreational receptors** at **Viewpoint 10** due to construction works on the eastern UGC section of

the Project. Construction works on the underground sections of the Project are considered to be highly disruptive due to the trenching and ground movement activities that will be a very noticeable element for views experienced by receptors.

- 6.14.6. At Operation, the Project is considered to have a **Major to Moderate** and **Significant** level of effect on views experienced by users of **Footpaths MAE/13/4** and **MAE/15/2** (represented by **Viewpoint 1**) and visitors to the area of **Open Access Land** on Foel y Dyffyn (represented by **Viewpoint 2**) as a result of the proposed western OHL. In these locations, this significant level of effect has resulted from a combination of the high sensitivity of receptors and a moderate magnitude of change resulting from the western OHL section of the Project. This is mostly due to the Project occupying a significant portion of views experienced by receptors because of the close proximity of the Project to receptors at these viewpoint locations.

6.15 REFERENCES

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7 TRAFFIC AND TRANSPORT

7.1 INTRODUCTION

- 7.1.1. This chapter of the ES sets out the assessment of likely significant traffic and transport effects of the Project. The chapter sets out a summary of relevant policy and baseline information for the traffic and transport study area, identifies highways receptors and presents an assessment of effects and identifies mitigation measures to minimise the impact of the Project on the highways receptors.
- 7.1.2. This chapter is accompanied by the following appendices and figures:
- Appendix 7A – Outline Construction Traffic Management Plan (CTMP);
 - Appendix 7B – Outline Public Rights of Way Management Plan (PRoWMP);
 - Figure 7.1 – Traffic and Transport Study Area;
 - Figure 7.2 – Transport Network Summary;
 - Figure 7.3 – Accidents in the Study Area Summary;
 - Figure 7B.1 – PRoWs affected by the Project; and
 - Figure 7B.2 – OALs affected by the Project.
- 7.1.3. This chapter should be read in conjunction with the Project description provided within **Chapter 4: Description of the Project**.

7.2 LIMITATIONS OF THIS ASSESSMENT

- 7.2.1. To ensure transparency within the EIA process, the following sections set out limitations and assumptions that have been identified relating to the traffic and transport assessment.
- 7.2.2. Detailed information regarding the Project design is not currently known, such as the locations of materials suppliers. Therefore, the traffic and transport assessment is based on reasonable assumptions and currently known information. As the Project design and programming develops and further information becomes available through the appointment of contractors, the Outline CTMP and Outline PRoWMP will be updated into 'full' versions which will be consulted upon and agreed with the relevant Local Highway Authorities (LHAs) to ensure that appropriate mitigation is in place to minimise the impacts of construction traffic and facilitate safe and efficient movements.
- 7.2.3. As set out in detail within **Section 7.6**, this traffic and transport assessment has been based on Department for Transport's (DfT) Average Annual Daily Flow (AADF) data³¹ from count point locations on the Local Road Network (LRN) within the traffic and transport study area. Some of the survey sites have data from counts undertaken during the 2020 and 2021 periods, when travel patterns were affected by the Covid pandemic. To address this, Automatic Traffic Counts (ATCs)

³¹ Department for Transport, (2025). Road traffic statistics. Available online at: <https://roadtraffic.dft.gov.uk/#6/55.254/-6.053/basemap-regions-countpoints> [Accessed June 2025]

were undertaken in June 2025 at two key locations to obtain up-to-date baseline traffic flows to supplement and compare the assessment made based on the DfT data (as set out in **Section 7.10**).

- 7.2.4. While there is potential for some deliveries to the Project to be undertaken via helicopter transport, (for further detail see **Section 4.2** of **Chapter 4**), in order to undertake a robust assessment of traffic and transport effects, the assessment within this chapter of the ES assumes all deliveries to Site will be undertaken by road.

7.3 POLICY, LEGISLATION AND GUIDANCE

POLICY

- 7.3.1. **Table 7-1** lists the key relevant national and local policy and plans to the Project in relation to traffic and transport.

Table 7-1 – National and Local Planning Policies

Policy reference	Policy issues
Planning Policy Wales (PPW) Section 4.1: Transport (2024)	Section 4.1 - This policy provides guidance on the integration of land use, planning and transport matters to promote more sustainable transport choices for people and freight, thus reducing the need to travel, particularly by private transport.
National Planning Statement EN-1 (2023)	This guidance sets out the methodologies to be used should the development in question be considered to give rise to significant transport effects. Travel Plans should be provided should the development generate significant numbers of vehicle movements during operation.
TAN 18 Transport (2007)	Paragraph 9.16 - Many proposed developments will require access to the existing highway network. The type of access provided should reflect the type and nature of the road and the volume and character of traffic likely to use the access. Paragraph 9.18 - The extra trips generated by a proposed development may bring forward the need for transportation improvements in the vicinity of the scheme and beyond.
Neath Port Talbot County Borough Council Local Development Plan (2011-2026) (2016)	Policy SP 20 - This policy states that proposals will be resisted if they are considered to cause unacceptable impact on highway safety. The document also outlines that the M4 and A465(T) are part of the primary road network and the A4107 is part of the core network. Policy TR2 - This policy states that a proposal will only be permitted if: "The development does not compromise the safe, effective and efficient use of the highway network and does not have an adverse impact on highway safety or create unacceptable levels of traffic generation". Policy TR 4 - This policy states that proposals that would inhibit the use of certain freight facilities will be resisted "unless it can be demonstrated that the use of the route for movement of freight is not realistic or necessary".

Policy reference	Policy issues
	Achieving Sustainable Accessibility objectives - Objective 21: <i>“Increase accessibility, promote active travel and encourage a shift to more sustainable modes of transport for people and freight.”</i> Objective 22: <i>“Reduce impacts of traffic growth and congestion and promote the efficient and effective use of the transport network.”</i>
Bridgend County Borough Council Local Development Plan 2018-2033 (2024)	PLA6 – <i>“New development proposals must be located in areas which can be effectively accessed so that the impact of road freight movement on the environment is minimised.”</i> <i>“The following transport corridors are identified as the main routes in the County Borough for the movement of people and goods:</i> <i>PLA6(1) M4, PLA6(2) Lynfi, PLA6(3) Garw, PLA6(4) Ogmore, PLA6(5) Aberkenfig-Brynmenyn, PLA6(6) Pyle-Aberkenfig, PLA6(7) Pencoed-Pyle, PLA6(8) Porthcawl-Cornelly”.</i> Developments must not result in adverse impact on the main transport corridors within the County Borough; where adverse impacts are predicted these must be mitigated. Within Appendix 3 of the document further details are provided on the PLA6 transport corridors noting that the A4061 routing through the Ogmore Corridor (through settlements from Nantymoel south to Bryncethin) may have capacity and transportation-related environmental issues that act as a constraint to development.
Rhondda Cynon Taf Local Development Plan up to 2021 (2011)	This plan sets out the A465 as a strategic highway link for Rhondda Cynon Taf and associated dualling scheme.

LEGISLATION

- 7.3.2. As set out in the Outline CTMP (**Appendix 7A**) there are various legislations regarding the co-ordination and notification of street works and movement of goods. The full CTMP will set out the works required for the construction of the Project and the contractor will comply with the LHA procedures and legislations regarding traffic management and accommodation works.

TECHNICAL GUIDANCE

- 7.3.3. A summary of the technical guidance referenced in the projection of the traffic and transport assessment is as follows:

- Institute of Environmental Management and Assessment (IEMA) Guidelines: Environmental Assessment of Traffic and Movement (EATM) (IEMA, 2023) which is the current guidance for assessing potentially significant environmental impacts³².

7.4 CONSULTATION

7.4.1. A traffic and transport scoping chapter was produced as part of the ES scoping documentation. The following is a summary of responses from the local authorities received to date:

- NPTCBC – noted the presence of the following PRoWs 23/10/2, 23/64/1, 23/69/1, 23/65/1 and 23/70/1, specifying that there are three PRoWs crossed by the OHL or UGC and that these aspects of the development ‘should not interfere with the current routes or obstruct users of the PRoW network.’ Also noted that PRoWs should be protected, damage-rectified and no change or alteration made to them without prior consultation with the NPTCBC Countryside Team. The response also noted the need for further discussion with the Highways team.
- BCBC- confirmed agreement with the methodology proposed within Section 3.6 of the traffic and transport scoping chapter, including elements of the Project to be scoped out, and the commitment to produce a CTMP and PRoWMP to provide a framework for packages of measures to minimise the impact of the Project in the construction phase on the highway and PRoW networks.

7.4.2. This chapter is accompanied by an Outline CTMP (Appendix 7A) and Outline PRoWMP (Appendix 7B) and therefore addresses the provided local authority comments.

7.5 DATA GATHERING METHODOLOGY

7.5.1. Baseline data collection has been undertaken to obtain information within the traffic and transport study area. The description of the baseline conditions presented in **Section 7.6** is based on currently available data from within the study area. A summary of the data sources referenced is provided in **Table 7-2**.

Table 7-2 – Data sources used to inform the traffic and transport assessment

Source	Description
Google Maps ³³ /Streetview/Google Earth Pro	Mapping data and imagery.
NPTCB ³⁴	PRoW information.

³² Davis, S., Hoare, D., Howard, R. and Ross, A., (2023). Institute of Environmental Management and Assessment (IEMA) Guidelines: Environmental Assessment of Road Traffic and Movements (EATM).

³³ Google, (2025). Google Maps. Available online at: <https://www.google.co.uk/maps> [Accessed June 2025].

³⁴ Neath Port Talbot Neath Port Talbot County Borough Council (2016) Online mapping (online) Available at: https://maps.npt.gov.uk/rights_of_way/index.html [Accessed October 2025]

Source	Description
Findmystreet derived from the National Street Gazetteer ³⁵	Highways status information.
BCBC ³⁶	PRoW and highways status information.
National Rail ³⁷	Rail service information.
First bus ³⁸	Bus service information.
Walk Wheel Cycle Trust ³⁹	National Cycle Network (NCN) route information.
Bing Maps ⁴⁰	Mapping data including OS map layer.
DfT ³¹	Traffic flow data.
DfT ⁴¹	Trip End Model Presentation Program (TEMPro) – for traffic growth factors.
WSP (in-house WSP tool known as Collision – Analysis – UK Wide Dashboard – which uses DfT STATS 19 data) ⁴²	Highways collision data.

³⁵ Findmystreet derived from the National Street Gazetteer (2025) Adopted Highway. Available online at: <https://www.npt.gov.uk/parking-roads-and-travel/roads-and-pavements/adopted-highway/> [Accessed June 2025]

³⁶ Bridgend County Borough Council (2024) Bridgend County Borough Council: Web Mapping <https://maps.bridgend.gov.uk/webmap9/Map.aspx?MapName=OSWMTSBasemap> [Accessed October 2025]

³⁷ National Rail, (2025). National Rail. Available online at: <https://www.nationalrail.co.uk/> [Accessed June 2025].

³⁸ First bus (2025) Timetables (online). Available at: <https://www.firstbus.co.uk/south-west-wales/plan-journey/timetables> [Accessed June 2025]

³⁹ Walk Wheel Cycle Trust (formerly Sustrans) (2025). The National Cycle Network (online). Available at: www.walkwheelcycletrust.org.uk/national-cycle-network/ [Accessed October 2025]

⁴⁰ Bing Maps and Ordnance Survey data (2025) Bing Maps Ordnance Survey Layer (online) Available at: <https://www.bing.com/maps/> [Accessed June 2025]

⁴¹ Department for Transport (2023) Trip End Model Presentation Program (TEMPro) Version 8.1 Available at: <https://www.gov.uk/government/publications/tempo-downloads>

⁴² In-house WSP tool known as Collision – Analysis – UK Wide Dashboard – which uses DfT STATS 19 data

Source	Description
Crashmap ⁴³	Highways collision data.
Welsh Government, Natural Resources Wales ⁴⁴	Open Access Land (OAL) information.
Intelligent Data Collection Limited	ATCs (traffic surveys) undertaken in June 2025

7.6 OVERALL BASELINE

- 7.6.1. This section outlines the transport network in the vicinity of the Project. The study area for the traffic and transport assessment is defined in more detail within **Section 7.7**; in brief this consists of the LRN roads on the proposed construction traffic routes connecting the Project accesses to each other and to the A465 and also the A465 to the M4

STRATEGIC ROAD NETWORK

- 7.6.2. The A465 to the north of the Project is part of the trunk road network (the Strategic Road Network (SRN)), which is maintained by the Welsh Government, and provides connection to the M4 at Junction 43. **Figure 7.1** shows the extent of the A465 between M4 Junction 43 and the intersection with the LRN that connects to the Site. To the south of the Project, the nearest connection to the trunk road network is the M4 at Junction 36. The M4 provides connections to the east and west and the A465 to the northeast.

A465

The A465 between the M4 and A4061 is within the traffic and transport assessment area. The A465 routing north from the M4 is a typical dual carriageway road without footway with occasional parking areas, subject to the Nation Speed Limit (NSL) and 50mph speed limits. In the vicinity of Resolven, on the approach to a roundabout, the road is subject to a 30mph speed limit and north from the roundabout it becomes NSL again; similarly on approach to a roundabout near Blaengwrach the road is subject a 30mph speed limit.

⁴³ Department for Transport data published by www.crashmap.co.uk (2025) crashmap data: Great Britain 1999-2023 (verified) (online) Available at: <https://www.crashmap.co.uk> [Accessed June 2025]

⁴⁴ Welsh Government, Natural Resources Wales (2016) DataMapWales Open Access – Open Country (online) Available at: https://datamap.gov.wales/layers/inspire-nrw:NRW_OPEN_COUNTRY_2014 [Accessed June 2025]

LOCAL ROAD NETWORK

- 7.6.3. This section describes the LRN within the traffic and transport study area. The LRN roads within the study area are identified in **Figure 7.1** and **Figure 7.2**.

A4061

- 7.6.4. The A4061 north of Treherbert is a single carriageway road subject to a combination of 40mph and the NSL. Through rural areas there is no footway, but in the vicinity of the approach to the A465, the road character becomes urban and has footway provision on at least one side of the carriageway (including sections of shared foot/cycleway) and bus stops. Route 47 of the NCN crosses the A4061. On approach to Treherbert there is a tight bend in the road and after this a drainage or cattle grid and the road is subject to a 30mph speed limit. Within the settlement, the A4061 passes through residential and retail areas and routes passed a primary school and community and leisure destinations. The A4061 within the urban area has footway provision on at least one side of the carriageway and streetlighting; there are controlled crossings and bus stops and has sections subject to 30mph and 20mph speed limits. Routing southwest out of the urban area, to the A4107, the A4061 is rural in character with footway or streetlighting and is subject to the NSL, has a drainage or cattle grid, has a number of tight bends, and routes to the A4107. The location of this road is identified in **Figure 7.1**.

A4107

- 7.6.5. Within Cymmer, east of the A4063, the A4017 is a single carriageway road, subject to a 30mph speed limit routing through a residential and retail area with footway, street-lighting, on-street parking and bus stops. The A4017 between Cymmer and Abergwynfi is subject to 30mph and 40mph speed limits; it routes through rural areas and areas with some residential properties, bus stops. In the vicinity of the residential properties there is footway provision (of varying width and quality) on at least one side of the carriageway. Google Street View shows vehicles being parked on-street, and along some section of this road there are no footway provided.
- 7.6.6. Within the settlement of Abergwynfi, the A4017 is subject to a 30mph speed limit and a 20mph speed limit; there is footway (varying in width and quality) on a minimum of one side of the carriageway, residential properties. Google Street View shows vehicles being parked on-street and a bus stop. Routing east out of Abergwynfi the road is subject to a 30mph speed limit; there are speed humps and a grid. Routing east from these features the road is subject to a 40mph speed limit and then the NSL; routes are through a rural area without footway provision.

A4063

- 7.6.7. The section of the A4063 between Nantyffyllon Terrace and the A4107 is within the traffic and transport study area. Routing north from Nantyffyllon Terrace, this section of the A4063 is single carriageway, subject to a 20mph speed limit, routes through an urban area, with footway on both sides of the carriageway, streetlighting and bus stops. Within Caerau there is a zebra crossing of the A4063 and pedestrian crossings with central refuges. Between Caerau and Croeserw the A4063 is subject to a 40mph speed limit and does not have footway provision. Within Croeserw the road is subject to the NSL, has footway on one side of, or set back from, the carriageway. Between Croeserw

and Cymmer there is no footway provision adjacent to the A4063; there is a cycle crossing of the A4063 (uncontrolled) along the NCN route 885.

Brynheulog Road and Pen-Y-Mynydd

- 7.6.8. These connected single carriageway roads route through an urban area with leisure, including a playground, and residential properties adjacent to the carriageway. There are bus stops, streetlighting, footway on both sides of the carriageway and the road is subject to 30mph and 20mph speed limits. The location of this road is shown within **Figure 7.2**.

Bryn Coed

- 7.6.9. A short section of Bryn Coed is within the traffic and transport study area connecting Pen-Y-Mynydd to unadopted access roads south of Croeserw. It is a single carriageway road routing through a residential area with streetlighting and footway on both sides of the carriageway. The location of this road is identified in **Figure 7.2**

Nantyffyllon Terrace

- 7.6.10. Nantyffyllon Terrace is an approximate 200m length of road connecting the A4063 south to Davies Terrace. It is a single carriageway road with footway on both sides of the carriageway and routes through a residential area subject to a 20mph speed limit. The location of this road is identified in **Figure 7.2**

Kings Terrace and Unnamed Road

- 7.6.11. Kings Terrace (location of this road is identified in **Figure 7.2**) is connected to Nantyffyllon Terrace via an unnamed road. Both roads provide access to a residential area to the west of Davies Terrace / Nantyffyllon Terrace. The road is a single carriageway subject to 20mph speed limit, with footway on both sides and streetlighting. Google maps streetview indicated both sides of the carriageways are used for on-street car parking.

PUBLIC TRANSPORT

- 7.6.12. The nearest railway station to the Project is Maesteg Station. Maesteg Station is served by services to Cardiff Central and Ebbw Vale Town. The station is managed by Transport for Wales and has 12 car parking spaces³⁷. The railway station location is shown in **Figure 7.2**.
- 7.6.13. The nearest bus stops to the Project are on the A4063, A4107, Brynheulog Road and Pen-Y-Mynydd. The main bus services serving the A4063, Brynheulog Road and Pen-Y-Mynydd within the study area are³⁸:
- 70 (Firstbus) – operates between Cymmer and Bridgend, with a minimum of 13 services per day per direction Monday to Saturday and ten services per direction on Sunday; and
 - 71 (Firstbus) – operated between Cymmer and Bridgend, Monday to Saturday with 11 services per day per direction.
- 7.6.14. The bus stops on the A4107 are served by³⁸:
- 83 (Firstbus) – operates between Port Talbot and Blaengwynfi/Glyncorrwg, with a minimum of 9 services per day per direction Monday to Friday and a minimum of 8 services per day per direction on Saturdays.

ACTIVE TRAVEL

- 7.6.15. The nearest NCN route³⁹ to the Project is the 885 which routes between Maesteg and Cymmer. The majority of the 885 route is off-carriageway with some sections of on-carriageway route. At Cymmer there is connection to NCN route 887, which links to Port Talbot, Aafan Forest Park and other NCN routes. Route 885 is planned to connect south to Bridgend; however, this section is still under development. South of the Project, NCN route 884 and 883 route southwards. Within the traffic and transport study area the A4061 is crossed by NCN route 47 and has a section of traffic-free Route 46 adjacent to the carriageway and the A465 is crossed by NCN Route 46.
- 7.6.16. The NCN routes in the vicinity of the Project are shown in **Figure 7.2**.
- 7.6.17. In general, within the traffic and transport study area there are footway provided within urban areas and no footway provision through rural areas.
- 7.6.18. There are PRoWs in the vicinity of the Project; those that interact with the Project are outlined within the accompanying PRoWMP (**Appendix 7B**).

TRAFFIC FLOW DATA

- 7.6.19. Traffic flow data has been sourced from DfT traffic counts for locations within the traffic and transport study area. **Table 7-3** summarises the latest available data that is relevant to the study area and shows the following for each survey site (the 'Count ID'):
- the road;
 - description of the location of the survey site on that road;
 - the date and type of traffic data – whether derived from a traffic count or 'estimated' based on the previous year and the last available traffic count and if estimated, the date of the last traffic count;
 - the AADF for all vehicles; and
 - Heavy Goods Vehicles AADF (HGVs, also referred to as 'Heavy Vehicles' [HVs])).

Table 7-3 – Baseline Traffic Flow Data

Count ID	Road	Location	Date and Type of Data [date of last manual count]	AADF - all vehicles	AADF HVs
20631	A4061	Treorchy between Woodland Terrace and Mace Lane	2024 – estimated [2023]	10,729	106
20643	A4107	Abergwynfi – approximately 50m east of Scotch Street	2024 – estimated [2020]	1,506	32
73147	A4063	Croeserw – between Eastern Avenue and Llyod Terrace	2024 – estimated [2020]	2,627	32
622	A4063	Maesteg – north of A4063 / Nantyfyllon Terrace junction	2024 – estimated [2020]	6,915	49
92055	A465	Neath – between the M4 and the A474	2024 – estimated [2022]	48,562	1,873
10535	A465	Neath - between the A474 and B4434	2024 – estimated [2021]	31,776	1,163

Count ID	Road	Location	Date and Type of Data [date of last manual count]	AADF - all vehicles	AADF HVs
99582	A465	Glynneath -northeast of the A465/A4109 junction	2024 – estimated [2022]	15,193	859
93260	A465	Rhigos – west of the A465/A4061 junction	2024 – estimated [2021]	19,362	856

Data source: DfT Road Traffic Statistics³¹

- 7.6.20. In recognition that a number of the survey sites in the vicinity of the Project have estimates based on traffic counts undertaken in 2020 and 2021 when travel patterns were impacted by the Covid pandemic, ATC surveys have been undertaken at two key locations to supplement the DfT data. **Table 7-4** summarises the June 2025 ATC traffic flow data; ATC 1 provides an up-to-date context for DfT Count ID 20643 and ATC 2 supplements DfT Count ID 622. The raw data is available on request.

Table 7-4 – Baseline Traffic Flow Data: June 2025 ATCs

ATC ID	Road	Location	AADF - all vehicles	AADF HVs
ATC 1	A4061	West of Treorchy between A4107 and B4223	2,766	134
ATC 2	A4063	Caerau - between Treharne Road and Protheroe Street	6,051	181

- 7.6.21. **Figure 7.1** shows the locations of the DfT count sites and the ATC sites.

HIGHWAY COLLISION DATA

- 7.6.22. Personal Injury Accident (PIA) data has been sourced from Crashmap⁴³ (DfT data published by www.crashmap.co.uk) and WSP's in-house tool known as Collision – Analysis – UK Wide Dashboard – which uses DfT STATS 19 data⁴². The latest available and verified five-year period of PIA data is 2019-2023 inclusive.
- 7.6.23. The purpose of assessing recorded PIAs is to determine if there is a history of accidents in proximity to the Site and to investigate any patterns or contributing factors to the accidents recorded. Clusters of accidents could indicate that improvements are required to enable development on the Site to come forward. Consideration, during this assessment, has been given to accidents involving vulnerable road users (cyclists / pedestrians).
- 7.6.24. The impact of casualties differs according to the severity of the injuries sustained:
- a) Fatal: any death that occurs within 30 days from causes arising out of the accident.
 - b) Serious: records casualties who require hospital treatment and have lasting injuries, but who do not die within the recording period for a fatality.
 - c) Slight: injury severity is defined as injuries that do not require hospital treatment, or, if they do, the effects of the injuries quickly subside.
- 7.6.25. **Figure 7.3** shows the PIA study area.

7.6.26. **Table 7-5** summarises the recorded accidents on links and junctions in the PIA study area. No accidents were recorded between 2019 and 2023 on: Brynheulog Road, Pen-Y-Mynydd and Bryn Coed.

Table 7-5 – PIA Summary 2019-2023

Link/Junction	Approximate Link Length	Casualty Injury Severity			Total	Average Accident Rate per Annum	No. PIA with Vulnerable Road User Casualties*
		Slight	Serious	Fatal			
A465/M4	N/A	2	0	0	2	0.4	-
A465 between A4061 and M4	27.5km	40	4	6	50	10	2 x pedestrian (fatal) 1 x cyclist (serious)
A465/A4061	N/A	7	0	0	7	1.4	-
A4061 between A4107 and A465	21.4km	31	6	1	38	7.6	6 x pedestrian (slight) 1 x pedestrian (serious) 3 x cyclist (slight)
A4107 between A4063 and A4061	10.3km	4	4	0	8	1.6	1 x pedestrian (slight) 1 x cyclist (serious)
A4063 between A4107 and Nantyffyllon Terrace	3.8km	4	0	0	4	0.8	1 x pedestrian (slight)
Nantyffyllon Terrace/A4063	N/A	1	0	0	1	0.2	-
Unnamed Road/ Nantyffyllon Terrace	N/A	1	0	0	1	0.2	-

*Vulnerable road users are pedestrians and cyclists. Data source: Department for Transport data published by www.crashmap.co.uk

- 7.6.27. In total, 111 accidents were recorded in the PIA study area between 2019 and 2023, seven of which resulted in a fatality (six located on the A465 and one on the A4061), 14 of which resulted in serious injuries and 90 in slight injuries. Approximately 45% of accidents in the study area occurred along the A465, along the approximately 27.5km section in the PIA area and 34% on the approximately 21.4km section of the A4061 within the PIA area. 16 accidents involved vulnerable road user casualties, which resulted in two fatal accidents, three accidents resulting in serious injuries and 11 injuries rated slight in severity.

7.7 SCOPE OF THE ASSESSMENT

- 7.7.1. The scope of the traffic and transport assessment was set out within the ES Scoping Report Chapter 3 Traffic and Transport and agreed by BCBC in their scoping response and was not raised within NPTCBC's response. For reference **Table 7-6** summarises the elements scoped out of the traffic and transport assessment.

Table 7-6 – Elements scoped in and out of the assessment of traffic and transport effects

Project Element	Scoped In or Scoped Out and Rationale
Impacts of construction traffic during the construction phase of the Project on highways that form the traffic and transport study area during the construction phase.	Scoped in – as further detailed within this Section 7.7 .
Impacts on the PRoW/OALs/Other Routes with Public Access (ORPAs).	Identified within the accompanying Appendix 7B Outline PRoWMP along with mitigation measures to minimise impacts.
Impacts on the highway due to in carriageway works and crossing of highways by the Project.	Identified within the accompanying Appendix 7A Outline CTMP along with mitigation measures to minimise impacts.
Impacts during the construction phase on navigable waterways and the rail network.	Scoped out – as none are crossed by the Project route.
Impacts during the operational phase of the development.	Scoped out – due to minimal traffic movements for maintenance generated during this phase. (as further detailed within this Section 7.7).
Impacts during the decommissioning phase of the development.	Scoped out - due to minimal movements during this phase than in the construction traffic phase (as further detailed within this Section 7.7).
Impacts resulting from AIL movements of the movement of hazardous loads.	Scoped out – as none are anticipated as part of the Project.

TEMPORAL SCOPE

- 7.7.2. EATM advises that the greatest environmental change will generally be when the project traffic is at the largest proportion of the total flow. As set out below, the phase of the Project that will generate the most traffic movements will be the construction phase, therefore only the construction phase has been assessed with respect to traffic and transport effects as this represents the worst-case scenario of traffic and transport effects.

Construction Phase

- 7.7.3. The construction phase of the development represents the worst-case phase of development for traffic and transport effects and therefore is the basis for the assessment of likely significant traffic and transport effects.
- 7.7.4. **Section 7.10** sets out the anticipated construction traffic movements based on known information, to allow an assessment of a reasonable worst-case scenario of peak construction traffic flow for the Project's construction phase.
- 7.7.5. The year in which the peak daily construction traffic movements is anticipated to occur will be the year of assessment of traffic and transport effects (the future year). It is currently anticipated that construction will commence in September 2028 and is expected to be nine months in duration.
- 7.7.6. A growth factor has been applied to the 2024 baseline traffic flows set out in **Table 7-3** derived from the DfT's TEMPro version 8.1. The traffic flows have been projected to 2025 in order to create a baseline traffic flow which will be aligned to the year the ATCs have been undertaken. The growth factor for 2024 to 2025 is 1.006, which is the locally adjusted growth rates derived for the average day and the average of the Bridgend, Rhondda Cynon Taf and Neath Port Talbot authority areas using the 'Core' scenario. This growth factor has been applied to all of the traffic data sourced from the DfT and the results are summarised in **Table 7-7**.

Table 7-7 – 2025 Baseline Traffic Flows

Count ID	Road and Location	2025 AADF – all vehicles	2025 AADF - HVs
20631	A4061 - Treorchy	10,793	107
20643	A4017 - Abergwunfi	1,515	32
73147	A4063 - Croeserw	2,643	32
622	A4063 – Maesteg	6,956	49
92055	A465 - Neath (west)	48,853	1,884
10535	A465 - Neath (east)	31,967	1,170
99582	A465 - Glynneath	15,284	864
93260	A465 - Rhigos	19,478	861

- 7.7.7. The 2025 baseline traffic flows, sourced from both the DfT AADF and the ATCs have been projected to 2028 which has been identified as the future year in terms of worst-case scenario for construction traffic volumes (as set out in **Section 7.10**). A growth factor of 1.036 for 2025 to 2028 has been derived from TEMPro. The resultant 2028 baseline traffic flows are presented in **Table 7-8**.

Table 7-8 – 2028 Baseline Traffic Flows

Count ID	Road and Location	2028 AADF – all vehicles	2028 AADF - HVs
20631	A4061 - Treorchy	11,182	110
20643	A4017 - Abergwunfi	1,570	33
73147	A4063 - Croeserw	2,738	33
622	A4063 – Maesteg	7,207	51
92055	A465 - Neath (west)	50,610	1,952
10535	A465 - Neath (east)	33,116	1,212
99582	A465 - Glynneath	15,834	895
93260	A465 - Rhigos	20,179	892
ATC1	A4061 – West of Treorchy	2,865	139
ATC2	A4063 – Caerau	6,269	187

- 7.7.8. As shown in **Table 7-8**, the HV AADF numbers are very low for the three DfT count sites that are estimated based on 2020 counts (Count IDs 20643, 73147 and 622), particularly when compared to the ATC data, indicating that there is an underestimation of HVs.

Operational Phase

- 7.7.9. During the operational phase, traffic movements associated with the Project will be minimal, comprising trips for inspection, repair and maintenance purposes. Vehicles used for repair work are likely to be similar to those used during construction, however, these would be infrequent. The operational phase has been scoped out of the assessment of traffic and transport effects.

Decommissioning Phase

- 7.7.10. The operational life of the Project is anticipated to be up to 30 years. Post operation, the above and below ground infrastructure is assumed to remain in situ. Therefore, the development traffic movements associated with the Project decommissioning phase will be lower than those associated with the construction phase. The decommissioning phase has been scoped out of the assessment of traffic and transport effects.

SPATIAL SCOPE

- 7.7.11. The spatial scope of the assessment (the traffic and transport study area) is based on the proposed construction traffic routes (shown in **Figure 7.1**), the routes on the LRN that construction traffic will

use to access the Project access points and the A465 between the A4061 and M4. The route to the Project area (the A465 (from the M4) to the A4061 to the A4107) is the same as the construction route set out for the Upper Ogmere Wind Farm main construction route. **Section 7.6** provides a summary description of the relevant transport context of the study area.

7.7.12. Transport receptors are the users or beneficiaries of the highways network assets and facilities. EATM identifies the following key user groups: non-motorised users, PRow users, motorists/freight vehicles, public transport and emergency services. The EATM further identifies sensitive locations or users that may be affected:

- *“People at home;*
- *People at work;*
- *Sensitive and/or vulnerable groups (including young age; older age; income; health status; social disadvantage; and access and geographic factors);*
- *Locations with concentrations of vulnerable users (e.g. hospitals, places of worship, schools);*
- *Retail areas;*
- *Recreational areas;*
- *Tourist attractions;*
- *Collision clusters and routes with road safety concerns: and*
- *Junctions and highway links at (or over) capacity”.*

7.7.13. Each of the DfT traffic count locations identified within **Table 7-8** and **Figure 7.1** will represent the highways receptors on associated sections of the LRN/A465 within the traffic and transport study area. While data is not available for every LRN road within the traffic and transport assessment area, data is available for roads on the primary construction route to the Project which will be used by the majority of construction traffic, while other roads will be utilised by only a proportion of construction traffic. It should be noted however, appropriate management measures are set out in the Outline CTMP (Appendix 7A) to minimise impacts on all roads to be used by construction traffic, where required. It should be noted that the A4061 south of the A4107 will not be used by construction traffic and therefore is not within the traffic and transport study area.

7.7.14. Additionally, two locations (one on the A4107 (the primary construction route) and one on the A4063 (part of the secondary construction routes) are intended to be undertaken (as outlined in **Section 7.5**) to supplement the traffic and transport assessment set out within this Chapter.

LIKELY SIGNIFICANT TRAFFIC AND TRANSPORT EFFECTS

7.7.15. The potential likely significant traffic and transport effects of the Project that are identified within EATM are summarised below:

- Severance: the separation of people from places and other people and places or impede pedestrian access to essential facilities;
- Driver delay: traffic delays to non-development traffic;
- Non-motorised user amenity: the effect on the relative pleasantness of a pedestrian journey resulting from changes in traffic flow, traffic composition and pavement width/separation from traffic;

- Non-motorised user delay: the ability of people to crossroads as a result of changes in traffic volume, composition and speed, the level of pedestrian activity, visibility and general physical conditions of the Project;
- Fear and intimidation: the change in fear and intimidation levels experienced by people as a result of an increase in traffic volume and its proximity or the lack of protection caused by such factors as narrow pavement widths; and
- Road safety: the risk of accidents occurring where the Project is expected to produce a change in the character of traffic.

7.7.16. These effects will be assessed within this traffic and transport chapter for highway sections that are identified as requiring detailed assessment.

7.7.17. EATM, also, identifies the potential likely significant traffic and transport effects of the following:

- Impacts of Abnormal Indivisible Loads (AILs)⁴⁵.
- Impacts of Hazardous Loads.

7.7.18. These effects are scoped out of the assessment (as stated in the ES Scoping Report Chapter 3 Traffic and Transport as no AIL or hazardous load movements are anticipated to be required for the Project. This methodology was agreed by BCBC in their scoping response and was not raised within NPTCBC's response.

7.8 EMBEDDED MEASURES

7.8.1. Two supporting documents have been prepared which include the key management and mitigation measures related to traffic and transport:

- An Outline CTMP (**Appendix 7A**) - a CTMP sets out details of the impacts of the Project construction traffic on the road network and the mitigation measures and management strategy for the effects. The Outline CTMP will be developed into a full CTMP in consultation and agreement with the relevant local authority officers.
- An Outline PRoWMP (**Appendix 7B**) – a PRoWMP sets out details of the impacts of the Project on the PRoW network and the mitigation measures and management strategy for the effects. The Outline PRoWMP will be developed into a full PRoWMP in consultation and agreement with the relevant local authority officers.

7.8.2. In addition, an Outline Construction Environment Management Plan (CEMP) has been developed as part of the EIA (**Appendix 4A**).

⁴⁵ AILs are long, wide or heavy loads that cannot reasonably be divided into smaller/lighter loads for road transport. In the UK there are set thresholds for these criteria. For a summary of criteria see National Highways (2024) Abnormal Loads and the ESDAL system <https://nationalhighways.co.uk/road-safety/abnormal-loads-and-the-esdal-system/>

7.9 ASSESSMENT METHODOLOGY

- 7.9.1. As set out in **Section 7.7**, EATM outlines that the greatest environmental change will generally be when the project traffic is at the largest proportion of the total flow. Therefore, the assessment of traffic and transport effects, within this ES, will be undertaken for the construction phase of the Project.
- 7.9.2. EATM sets out two rules to establish the need for an environmental assessment of traffic and transport effects on highways receptors, relating to the proportional change in traffic flows on highways with the Project traffic:
- *“Rule 1: Include highway links where traffic flows will increase by more than 30% (or where the number of heavy goods vehicles will increase by more than 30%).*
 - *Rule 2: Include highway links of high sensitivity where traffic flows have increased by 10% or more”.*
- 7.9.3. Rule 1 and Rule 2 will be used to identify highways within the traffic and transport study area that required detail assessment within the EIA.
- 7.9.4. EATM outlines that predicted traffic flow increases below 10% are generally considered to be not significant as daily variations in background traffic flow may fluctuate by this amount. Changes in traffic flows below this level are, therefore, assumed to result in not significant environmental effects.

DETERMINATION OF RECEPTOR SENSITIVITY

- 7.9.5. Each highway section that forms part of the construction traffic route will be assigned a receptor sensitivity of high, medium, low or negligible based on the guidance provided within EATM and professional judgement. This includes consideration of proximity of sensitive receptors to the roads to be used by construction traffic and the highway environment, as summarised in **Table 7-9**.

Table 7-9 – Receptor sensitivity summary

Sensitivity	Description/Reason	Receptor
High	Highway links with a high sensitivity to changes in traffic flows includes routes: ■ With sensitive receptors alongside them (such as schools, colleges and playgrounds); and/or ■ Where there are land uses which result in high volumes of pedestrian/cycle users and the road is narrow and/or footway provision is poor or non-existent and/or existing traffic volumes are high for the type of road resulting in congestion and road safety issues.	Occupants of land uses alongside the highway link and users of the highway link.
Medium	Highway links with a medium sensitivity to changes in traffic flows include routes: ■ With some sensitive receptors alongside them (such as retail areas); and/or	Occupants of land uses alongside the highway link and users of the highway link.

Sensitivity	Description/Reason	Receptor
	Where there are land uses which result in some pedestrian/cyclist users, road design and footway provision is adequate/appropriate and/or existing traffic volumes can be accommodated for the type of road by approaching capacity.	
Low	Highway links with low sensitivity to changes in traffic flows include routes: With no sensitive receptors and some land uses alongside and no/very limited pedestrian/cyclist users and/or road design and footway provision is appropriate and existing traffic volumes can be accommodated for the type of road.	Occupants of land uses alongside the highway link and users of the highway link.
Negligible	Highway links with negligible sensitivity to changes in traffic flows include routes: With no sensitive receptors and very few land uses alongside them, which have no direct access or are sufficiently set back from the carriageway, and no/very limited pedestrian/cyclist users and existing traffic volumes can be accommodated for the type of road.	Users of the highway link.

- 7.9.6. For highways links where the sensitivity is judged as 'High' or 'Medium', Rule 2 is applied (sensitive areas where traffic flows are predicted to increase by 10% or more). For highway links where the sensitivity is judged as 'Low' or 'Negligible', Rule 1 is applied (areas where traffic flows are predicted to increase by more than 30% or where the number of HGVs is predicted to increase by more than 30%).

DETERMINATION OF MAGNITUDE OF CHANGE

- 7.9.7. For each highway section that forms part of the construction traffic route, the magnitude of change will be determined (high, medium, low or negligible) based on the guidance provided within EATM and professional judgement. These criteria are summarised in **Table 7-10**.

Table 7-10 – Magnitude of change summary

Traffic and Transport Impact	Magnitude of Change			
	High	Medium	Low	Negligible
Severance	Change in total traffic or HV flows over 91%.	Change in total traffic or HV flow of 61% to 90%.	Change in total traffic or HV flows of 31% to 60%	Change in total traffic or HV flows of less than 30%.

Traffic and Transport Impact	Magnitude of Change			
	High	Medium	Low	Negligible
	Context should, also, be considered including the local population and number of local facilities potentially impacted. EATM states caution should be applied when applying these thresholds to highway links with low baseline flows.			
Driver Delay	High increase in queuing at junctions and/or congestion on road links.	Medium increase in queuing at junctions and/or congestion on road links.	Low increase in queuing at junctions and/or congestion on road links.	Low or no increase in queuing at junctions and/or congestion road links.
Non-motorised User Amenity	A halving or doubling of traffic flow (or HV flow) can be used as a broad threshold when considered in the local context and applied with caution. Assignment of magnitude is based on a variety of factors including general level of pedestrian activity, visibility, and physical conditions such as traffic flow, traffic composition, crossing points and pavement width/separation from traffic.			
Non-motorised User Delay	Generally, increases in traffic may lead to greater delay, though is dependent on the level of non-motorised users' activity in the area. Magnitude is assigned on pedestrian delay experienced when crossing highways links considering a range of factors including crossing type, pedestrian flows, traffic levels, visibility and general highway condition.			
Fear and Intimidation	Magnitude is assigned based on the scoring system provided in EATM (which is dependent on 18hr average HV traffic flow and vehicle speed). The scores comprise extreme (71+); great (41 to 70); moderate (21 to 40) and small (0 to 20).			
	Two step change in level score of fear and intimidation.	One step change in level score of fear and intimidation and >400 average 18hr vehicle increase or >500 HV 18hr vehicle increase	One step change in level score of fear and intimidation and <400 average 18hr vehicle increase or <500 HV 18hr vehicle increase.	No change to step in level score of fear and intimidation.
Road Safety	Magnitude is assigned by reviewing exiting collision patterns and trends based upon existing personal injury accident records and the forecast increase in traffic that may change the risk of serious and fatal injuries.			

SIGNIFICANCE OF EFFECT

7.9.8. Significance of likely traffic and transport impacts will be derived by considering the receptor sensitivity and the magnitude of change as defined within

7.9.9. **Table 7-11** (shading denotes significant impacts).

Table 7-11 – Traffic and transport significance evaluation matrix

Receptor Sensitivity	Magnitude of Change			
	High	Medium	Low	Negligible
High	Major (Significant)	Major (Significant)	Moderate (Significant)	Negligible (Not Significant)
Medium	Major (Significant)	Moderate (Significant)	Minor (Not Significant)	Negligible (Not Significant)
Low	Moderate (Significant)	Minor (Not Significant)	Negligible (Not Significant)	Negligible (Not Significant)
Negligible	Negligible (Not Significant)	Negligible (Not Significant)	Negligible (Not Significant)	Negligible (Not Significant)

CUMULATIVE EFFECTS

- 7.9.10. As outlined previously, TEMPro is used to project the baseline traffic flow data to the future year of assessment, 2028. DfT's TEMPro⁴¹ forecasts of traffic growth, takes into account national projections of population, employment, housing, car ownership and trips rates. Therefore, TEMPro should account for all cumulative and anticipated development within the local plans at the time of its production.
- 7.9.11. Consideration will be given as to whether any of the identified receptor locations are likely to be subjected to cumulative effects due to traffic and transport effects generated by other proposed developments in the area that are not included within the TEMPro growth factor (i.e. recently approved development that was not part of a local plan allocation or the construction phases of nearby local developments). The cumulative assessment for traffic and transport effects is presented in **Section 7.11**.

7.10 ASSESSMENT OF EFFECTS

CONSTRUCTION TRAFFIC GENERATION AND DISTRIBUTION

- 7.10.1. Several elements of the Project will generate construction traffic movements through the construction programme. These movements will include both HV and light vehicle (LV) movements. Calculations have been undertaken to estimate the construction traffic generation of the following Project elements:
- OHL works mobilisation (the set-up of a construction compound);
 - OHL line survey;
 - OHL tree cutting;
 - OHL access accommodation works;
 - OHL material deliveries to compound;
 - OHL conductor wire delivered to accesses;
 - OHL pole erection;
 - OHL conductor wire pulling;

- Scaffolding;
- UGC access accommodation works;
- UGC materials deliveries;
- UGC civil works;
- UGC installations;
- Reinstatements; and
- Construction staff at the construction compound.

7.10.2. Assumptions have been undertaken as to the number of days that each activity will occur, and likely traffic generated per day. This traffic generation has been distributed across the assumed nine-month construction programme. In order to generate a 'worst-case' scenario, traffic has been assumed to occur on five days per week, as opposed to the anticipated 5.5 days. **Table 7-12** summarises the average daily two-way traffic generation per week of the construction phase, demonstrating the peak construction traffic occurs across only four weeks of the nine-month construction programme, between weeks 23 and 26. It should be noted that two-way traffic generation includes the trip to the Site and the return journey, for example an HV delivering materials would constitute two trips or traffic movements as the HV needs to return to its origin. Trips have been rounded to an even number to reflect this.

Table 7-12 – Estimated Two-way Construction Traffic Generation

Week	Weekly Construction Traffic Movements			Average Daily Construction Traffic Movements		
	HV	LV	Total	HV	LV	Total
1	10	100	110	2	20	22
2	34	126	160	7	26	32
3	34	84	118	7	17	24
4	52	86	138	11	18	28
5	52	86	138	11	18	28
6	91	86	177	19	18	36
7	82	48	130	17	10	26
8	43	73	116	9	15	24
9	43	73	116	9	15	24

Week	Weekly Construction Traffic Movements			Average Daily Construction Traffic Movements		
	HV	LV	Total	HV	LV	Total
10	41	95	136	9	19	28
11	41	95	136	9	19	28
12	45	101	146	9	21	30
13	41	65	106	9	13	22
14	41	55	96	9	11	20
15	41	55	96	9	11	20
16	41	55	96	9	11	20
17	41	55	96	9	11	20
18	41	55	96	9	11	20
19	41	55	96	9	11	20
20	41	55	96	9	11	20
21	41	55	96	9	11	20
22	41	55	96	9	11	20
23	147	85	232	30	17	47
24	147	85	232	30	17	47
25	147	85	232	30	17	47
26	147	85	232	30	17	47
27	106	85	191	22	17	39

Week	Weekly Construction Traffic Movements			Average Daily Construction Traffic Movements		
	HV	LV	Total	HV	LV	Total
28	9	50	59	2	10	12
29	9	50	59	2	10	12
30	26	69	95	6	14	19
31	17	49	66	4	10	14
32	17	49	66	4	10	14
33	17	49	66	4	10	14
34	17	49	66	4	10	14
35	17	49	66	4	10	14
36	17	49	66	4	10	14
37	17	49	66	4	10	14
38	17	49	66	4	10	14
39	17	49	66	4	10	14

Note: some values may not sum due to rounding.

7.10.3. Some traffic movements will route from the SRN via the LRN to the construction compound (shown on **Figure 7.2**) and the Project access points and some traffic movements will be inter-site, for example from the construction compound to a specific Project access point. The peak week of construction traffic has been estimated to occur during the following activities overlapping:

- UGC cable materials deliveries;
- UGC civil works;
- UGC installations; and
- Construction staff at the construction compound.

7.10.4. The UGC materials deliveries traffic will route from the SRN via the LRN to the construction compound location. The UGC civil works activities will consist of delivery movements of the

construction material to the Project access points along with staff movements and other material deliveries between the SRN, the compound and the Project access points.

- 7.10.5. With the construction period anticipated to commence in September 2028, the peak construction weeks of 23 to 26 would occur within January 2029, however, given that the construction programme is illustrative and subject to change, it is more robust to assess the proportional impact of the construction traffic in 2028 rather than 2029 (when background traffic is greater) as a 'worst-case' assessment.

SENSITIVITY OF RECEPTOR

- 7.10.6. Each of the DfT count locations (set out in **Table 7-8**) have been assigned a sensitivity based on the criteria set out in **Table 7-9**, as summarised in

- 7.10.7. **Table 7-13.**

Table 7-13 – Highway Receptor Sensitivity

Count ID	Road and Location	Applicable Area	Sensitivity	Rationale
20631	A4061 - Treorchy	A4061 between the A465 and the A4061/B4223 junction at Treorchy	High	The A4061 routes passed sensitive receptors, including a primary school. There is also an uncontrolled crossing of the A4061 by a NCN route.
20643	A4017 - Abergwunfi	A4107 between A4063 and A4061.	Medium	The road routes through urban and rural areas. Where residential properties are adjacent to the carriageway there is footway provided on a minimum of one side of the carriageway, however these footways vary in width and quality.
73147	A4063 - Croeserw	A4063 between the northern edge of Caerau and the A4107.	Medium	The road routes through urban area with varying footway provision, including a section without footway signed as 'pedestrians in road ahead' and uncontrolled crossing of a NCN route.
622	A4063 – Maesteg	A4063 between Nantyllyllon Terrace and the northern edge of Caerau.	Low	The road routes through urban residential areas with footway provided. There are some pedestrian crossings provided in the vicinity of a nearby retail area.
92055	A465 - Neath (west)	A465 between the M4 and the A474	Negligible	The road is dual carriageway without sensitive receptors adjacent to the carriageway.
10535	A465 - Neath (east)	A465 between the A474 and A4109	Negligible	The road is dual carriageway without sensitive receptors adjacent to the carriageway.
99582	A465 - Glynneath	A465 between A4109 and A4063	Negligible	The road is dual carriageway without sensitive receptors adjacent to the carriageway.

Count ID	Road and Location	Applicable Area	Sensitivity	Rationale
93260	A465 - Rhigos	A465 between A4109 and A4063	Negligible	The road is dual carriageway without sensitive receptors adjacent to the carriageway.
ATC1	A4061 – West of Treorchy	A4061 between the A4061/B4223 junction at Treorchy and the A4107	Low	The road routes through a rural area, without pedestrian provision, low pedestrian flows would be anticipated in this area. No highly sensitive land-uses are present adjacent to the carriageway.
ATC2	A4063 – Caerau	A4063 between Nantyffyllon Terrace and the northern edge of Caerau	Low	The road routes through urban residential areas with footway provided. There are some pedestrian crossings provided in the vicinity of a nearby retail area.

7.10.8. For receptors identified in as negligible or low the EATM Rule 1 applies and for receptors identified as medium or high EATM, Rule 2 applies.

MAGNITUDE OF CHANGE

7.10.9.

7.10.10. **Table 7-14** sets out the magnitude of change of the calculated peak daily (24-hour) development's construction traffic on the identified highways links and presented:

- 2028 future year baseline traffic (without the Project construction traffic) AADF for all motor vehicles and for HVs only;
- the estimated 2028 future year baseline traffic with the Project construction traffic AADF for all motor vehicles ('AADF All') and for HVs only ('AADF – HVs');
- the percentage change in AADF for all motor vehicles and for HVs only; and
- sets out if each highways link requires detailed assessment based on the EATM Rule 1 and Rule 2 thresholds. Where a highways link percentage change exceeds the EATM threshold it is set out in **red**.

Table 7-14 – Magnitude of Change

Count ID	Road and Location	2028 Baseline		2028 + Project Construction Traffic		2028 Baseline Compared to 2028 + Project		Requires Detailed Assessment
		AADF – All	AADF – HVs	AADF – All	AADF – HVs	% Change – All	% Change – HVs	
20631	A4061 - Treorchy	11,182	110	11,207	119	0.2%	7.4%	N
20643	A4017 - Abergwunfi	1,570	33	1,616	63	3.0%	88.2%	Y
73147	A4063 - Croeserw	2,738	33	2,784	63	1.7%	88.2%	Y
622	A4063 – Maesteg	7,207	51	7,239	72	0.4%	41.5%	Y
92055	A465 - Neath (west)	50,610	1,952	50,635	1,960	0.0%	0.4%	N
10535	A465 - Neath (east)	33,116	1,212	33,141	1,220	0.1%	0.7%	N
99582	A465 - Glynneath	15,834	895	15,859	903	0.2%	0.9%	N
93260	A465 - Rhigos	20,179	892	20,204	900	0.1%	0.9%	N
ATC1	A4061 – West of Treorchy	2,865	139	2,890	147	0.9%	5.9%	N
ATC2	A4063 – Caerau	6,269	187	6,301	208	0.5%	11.3%	N

7.10.11.

7.10.12. **Table** 7-14 shows that the percentage impact of the Project on all motor vehicle AADF is minimal. The HV threshold is triggered at DfT Count ID sites 20643, 73147 and 622, all of which are estimated based on 2020 counts, as previously identified. Regardless of this, for robustness, the locations are assessed in detail in the following section.

SIGNIFICANCE OF EFFECT

7.10.13. As identified in

7.10.14. **Table 7-14**, three receptors require detailed assessment as follows:

- A4107 between A4063 and A4061.
- A4063 between the northern edge of Caerau and the A4107.
- A4063 between Nantyffyllon Terrace and the northern edge of Caerau.

7.10.15. As the traffic and transport impact relates to the construction of the Project, the duration is temporary, with the peak HV flow being for a period of four weeks.

A4107 between A4063 and A4061

This receptor is identified as medium sensitivity and therefore EATM Rule 2 applies. The percentage change in total traffic, with the addition of the Project traffic, does not exceed the threshold however, the percentage change in HVs does exceed the 10% threshold. As such a further assessment of likely traffic and transport impacts is set out below:

- Servance – the change in HVs flows at this location is 88.2%, therefore based on the criteria in **Table 7-10** the magnitude of change is medium, however EATM notes caution should be used with low baseline flows which this road has (33 HVs in the 2028 baseline) and an addition of 29 HVs would result in approximately three additional HVs per hour assuming a ten-hour working day, approximately one HV every 20 minutes in the peak week on average. It is considered that this temporary level of additional traffic would not result in severance of people to people or places and the magnitude of impact is low. The significance of the effect is therefore minor (**Not Significant**).
- Driver Delay - an addition of 29 HVs per day, which is an average of three additional HVs per hour would be unlikely to result in delay to drivers and the total increase in traffic is well below 10% therefore the magnitude of change is low. The significance effect is therefore minor (**Not Significant**);
- Non-motorised user amenity and delay - The A4107 has footway provision along the section of the road within the settlements of Cymmer and Abergwynfi and has footway provision in the vicinity of residential properties on the rural sections of the road, though this provision does vary in quality and width. An addition of 29 HVs per day which is three additional HVs per hour or one HV every 20 minutes in the peak week is not likely to cause a significant impact on non-motorised user amenity or delay at this location. The percentage change in total traffic and HV traffic do not result in a doubling in traffic levels therefore the magnitude of change is low and the significance of effect is minor (**Not Significant**);
- Fear and intimidation - the impact on fear and intimidation is likely to be negligible due to no steep change in the level of fear and intimidation score estimated on this road section with the introduction of the Project construction traffic based on known information. The magnitude of change is therefore negligible, and the significance of the effect is also negligible (**Not Significant**); and
- Accidents and safety - the A4107 within the traffic and transport study area has an average accident rate above 1 (1.6) for the last five years of available data and the accidents that did occur are not clustered. Therefore, there is no data to suggest that the level of increase in traffic due to the Project would exacerbate an existing highway issue. Therefore, the magnitude of change is considered to be low and the significance of the effect is therefore minor (**Not Significant**).

A4063 between the northern edge of Caerau and the A4107

This receptor is identified as medium sensitivity and therefore EATM Rule 2 applies. The percentage change in total traffic, with the addition of the Project traffic, does not exceed the threshold however, the percentage change in HVs does exceed the 10% threshold. As such a further assessment of likely traffic and transport impacts is set out below:

- Servance – the change in HVs flows at this location is 88.2%, therefore based on the criteria in **Table 7-10** the magnitude of change is medium, however EATM notes caution should be used with low baseline flows which this road has (33 HVs in the 2028 baseline). The addition of 29 HVs would result in approximately three additional HVs per hour assuming a ten-hour working day, or approximately one HV every 20 minutes in the peak week would not result in severance of people to people or places and the magnitude of impact is low. The significance of the effect is therefore minor (**Not Significant**)
- Driver Delay - an additional 29 HVs per day in the peak week, or approximately three additional HVs per hour / one HV every 20 minutes in the peak week would not result in delay to drivers and the total increase in traffic is well below 10% therefore the magnitude of change is low. The significance effect is therefore minor (**Not Significant**);
- Non-motorised user amenity and delay - An additional 29 HVs per day in the peak week or approximately three additional HVs per hour/ one HV every 20 minutes in the peak week would not cause a significant impact on non-motorised user delay at this location, the magnitude of change is low and the significance of effect it therefore minor (**Not Significant**). There are varying levels of footway provision on this section of the A4063, between Caerau and Croeserw there is no footway provision, within Croeserw there is footway adjacent to or set back from the carriageway. Between Croeserw and Cymmer there is no footway provision however there is an alternate parallel route for pedestrians/cyclists that forms part of NCN Route 885 (a traffic-free route), as shown on **Figure 7.2**. It is also of note that there is an uncontrolled crossing of the A4063 by NCN Route 885 on this section of the A4063. The percentage changes in total traffic and HV traffic do not result in a doubling in traffic levels. Given the character of the road and the increase of 88.2% in HV traffic, the magnitude of change on non-motorised amenity is low and therefore the significance of effect is minor (**Not Significant**);
- Fear and intimidation - the impact on fear and intimidation is likely to be negligible due to no steep change in the level of fear and intimidation score estimated on this road section with the introduction of the Project construction traffic based on known information. The magnitude of change is therefore negligible, and the significance of the effect is also negligible (**Not Significant**); and
- Accidents and safety - the A4063 within the traffic and transport study area has an average accident rate below 1 (0.8) for the last five years of available data and the accidents that did occur are not clustered. Therefore, there is no data to suggest that the level of increase in traffic due to the Project would exacerbate an existing highway issue. Therefore, the magnitude of change is considered to be low and the significance of the effect is therefore minor (**Not Significant**).

A4063 between Nantyllyllon Terrace and the northern edge of Caerau

This receptor is identified as low sensitivity and therefore EATM Rule 1 applies. The percentage change in total traffic, with the addition of the Project traffic, does not exceed the threshold however, the percentage change in HVs does exceed the 30% threshold. As such a further assessment of likely traffic and transport impacts is set out below:

- Servance – the change in HVs flows at this location is 41.5%, therefore based on the criteria in **Table 7-10** the magnitude of change is low. The significance of impact is therefore negligible (**Not Significant**);
- Driver Delay - an addition of 21 HVs would result in approximately three additional HVs per hour assuming a ten-hour working day, approximately one HV every 20 minutes in the peak week. The HV increase would be unlikely to result in delay to drivers and the total increase in traffic is well below 10% therefore the magnitude of change is low. The significance effect is therefore negligible (**Not Significant**);
- Non-motorised user amenity and delay – The A4063 has footway provision along this section of the road and within Caerau in the vicinity of local retail there is a zebra crossing of the A4063, along with pedestrian crossings with central refuges. An addition of 21 HVs would result in approximately three additional HVs per hour assuming a ten-hour working day, approximately one HV every 20 minutes in the peak week which is not likely to cause a significant impact on non-motorised user amenity or delay at this location. The percentage change in total traffic and HV traffic do not result in a doubling in traffic levels therefore the magnitude of change is low and the significance of effect is negligible (**Not Significant**);
- Fear and intimidation - the impact on fear and intimidation is likely to be negligible due to no steep change in the level of fear and intimidation score estimated on this road section with the introduction of the Project construction traffic based on known information. The magnitude of change is therefore negligible, and the significance of the effect is also negligible (**Not Significant**); and
- Accidents and safety – the A4063 within the traffic and transport study area has an average accident rate below 1 (0.8) for the last five years of available data and the accidents that did occur are not clustered. Therefore, there is no data to suggest that the level of increase in traffic due to the Project would exacerbate an existing highway issue. Therefore, the magnitude of change is considered to be low and the significance of the effect is therefore negligible (**Not Significant**).

7.11 ASSESSMENT OF CUMULATIVE EFFECTS

7.11.1. Potentially significant developments are shown on **Figure 4.3** Research into these developments has been undertaken to establish likely cumulative effects regarding traffic and transport. Of the potentially significant developments, only three have potentially significant traffic generation on road sections with the Project traffic and transport study area:

- Upper Ogmore Wind Farm (P23/473/RLX)
- Foel Trawsant Wind Farm Grid Connection (P2025/0043)
- Land at Pen Y Bryn Croeserw/Crymmer Port Talbot (P/21/901/OBS)

- 7.11.2. The Upper Ogmores Wind Farm will be fully constructed prior to any grid connection works (the Project) construction. Therefore, the construction traffic generations of the two developments will not overlap. Therefore, there are no cumulative traffic and transport effects with the Upper Ogmores Wind Farm development and the Project.
- 7.11.3. It is likely that the construction routes of the Foel Trawsnant Wind Farm grid connection and the Project will overlap within Maesteg. The traffic and transport documents for Foel Trawsnant Wind Farm grid connection state an anticipated construction commencement of January 2028 and a duration of nine months. The documentation also notes the peak construction traffic calculated occurs across nine weeks of the nine-month construction programme, between weeks 18 and 26. The Project is anticipated to commence construction in September 2028 and the peak construction weeks of 23 to 26 would occur within January 2029. Therefore, while there is a slight overlap in construction programme, at the end of the Foel Trawsnant Wind Farm grid connection and the commencement of the Project construction, the overlap is limited and is not anticipated to be when either development is at peak construction. Therefore, it is unlikely that any cumulative traffic and transport construction effects (beyond the magnitude of those assessed within this chapter) would occur.
- 7.11.4. The development on the Land at Pen Y Bryn Croeserw includes a secondary site access for staff onto the A4063, therefore, staff movements for this development overlap with a section of the Project's traffic and transport study area. The staff trips for Land at Pen Y Bryn Croeserw are anticipated to occur in relation to two-day time shifts and one night-time shift. The transport documents available for the Land at Pen Y Bryn Croeserw planning application, which was submitted in 2018, anticipated full site occupation in 2024. However, as planning permission was only recently granted, in 2025, it is unlikely that the development will be at full occupation during the Project's construction phase. Therefore no cumulative effects are anticipated between the Project and the operational phase of the Land at Pen Y Bryn Croeserw and sufficient detail is not available to determine any cumulative construction effects, however it is unlikely the peak construction periods will overlap.

7.12 MITIGATION AND RESIDUAL EFFECTS

- 7.12.1. Mitigation measures relating to the road network will be set out within the full CTMP, the Contractor will consult/agree with the LHA suitable mitigation measures.
- 7.12.2. Though not requiring detailed assessment, the accident records (summarised in **Section 7.6**) on some roads within the traffic and transport study area are of note, particularly relating to the A465 and A4061. In part the accident records on these two road sections are a result of the length of the road however both have had fatal accidents on the sections within the Project study area within the last five years. The full CTMP will include specific mitigation regarding these routes such as information provision for drivers alerting them to the route accident context.
- 7.12.3. There will be impacts on the A4063 due to the UGC highways works. The CTMP will include mitigation measures for these impacts. For the highway works the client will agree appropriate traffic management measures in agreement with the LHA. The agreed mitigation will be detailed within the final CTMP, it is not anticipated that any full road closures will be required.

7.13 CONCLUSIONS OF SIGNIFICANCE EVALUATION

- 7.13.1. The assessment of traffic and transport effects has been undertaken based on a reasonable estimate, based on currently available information regarding the Project, of peak day construction traffic, therefore presents an approximate worst-case daily traffic generation. It should be noted that all traffic and transport impacts will be temporary in nature, due to them occurring within the construction phase of the Project.
- 7.13.2. With the implementation of the full CTMP and full PRowMP there will be a package of measures in place to minimise the traffic and transport effects of the Project construction traffic. These mitigation measures will need to include specific measures to address the various single-track roads proposed to be used by Project construction traffic. With appropriate mitigation and management in place the impact of the Project on traffic and transport is likely to be **Not Significant**.

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8 TERRESTRIAL ECOLOGY

8.1 INTRODUCTION

8.1.1. This Chapter provides an assessment of the potentially significant effects resulting from the Project with respect to Terrestrial Ecology and specific ecological features. This Chapter should be read in conjunction with:

- Figures:
 - 8.1 - Site location
 - 8.2 - Statutory Designated Sites within 3km and 10km of the Site
 - 8.3 - Non-Statutory Designated Sites Within 3km of the Site
 - 8.4 - NRW Priority Habitats and Ancient Woodland Inventory
 - 8.5 - Phase 1 Habitat Survey Map
 - 8.6 - Bat Aerial Tree Climbing Survey Results
- Appendices:
 - 8A – PEA Survey Report
 - 8B – GCN Survey Report
 - 8C – Bat Survey Report
 - 8D – Water Vole Survey Report
 - 8E – Bat Aerial Tree Climbing Survey Report
 - 8F – ES Chapter 8 Terrestrial Ecology – Supplementary Information
 - 8G – Habitats Regulations Assessment: Screening Report
 - 8H – Net Benefit for Biodiversity Report (draft)
- The description provided in **Chapter 4: Description of the Project**; and
- The relevant parts of the following chapters where common receptors have been considered and where there is an overlap or relationship between the assessments of effects:
 - Chapter 6: Landscape and Visual Impact Assessment (due to the association between removing, replacing and creating habitats and the Project's ability to achieve a Net Benefit for Biodiversity (NBB) (Welsh Government, 2024)⁴⁶; and
 - Chapter 11: Water Resources and Flood Risk (due to the close association between ecological features and local hydrology).

8.1.2. Within this Chapter, the 'Project' refers to construction of an overhead line (OHL) and underground cables (UGC), proposed to connect the Upper Ogmere Wind Farm to the wider national grid. The

⁴⁶ Achieving a Net Benefit for Biodiversity (NBB) is a requirement for all new developments as per Planning Policy Wales (PPW, 2024). Welsh Government (February 2024) Planning Policy Wales Edition 12.

area to be covered by the OHL and UGC is hereafter referred to as the ‘Site’ and is shown in red on **Figure 8.1**.

8.2 LIMITATIONS OF THIS ASSESSMENT

8.2.1. The following limitations and assumptions relating to the collection of the ecological baseline data are relevant to the assessment:

- Ecological survey data is typically valid for 18-24 months unless otherwise specified, for example if conditions are likely to change more quickly due to ecological processes or anticipated changes in management⁴⁷. In this case, all ecological survey data has been collected between August 2024 to October 2025 and therefore can confidently contribute towards our understanding of the current ecological baseline of the Site.
- Records held by local biological record centres and local recording groups are generally collected on a voluntary basis, therefore, the absence of records does not demonstrate the absence of species, it may simply indicate a gap in recording coverage.
- The habitat survey (UKHab Survey)⁴⁸ carried out to inform the Project was carried out over a period of three days, as such, only a selection of all species that occur within the Site (and within suitable buffers) will have been recorded. However, through use of desk study information to supplement survey data, it is considered that an accurate assessment of the potential for the Site to support protected species or those of conservation concern was possible.
- The UKHab Survey habitat map (included within the Preliminary Ecological Appraisal (PEA) report⁴⁹) has been reproduced from field notes and plans. Whilst this provides a sufficient level of detail to fulfil the requirements of a PEA, the maps are not intended to provide exact locations of key habitats. The UKHab Survey habitat map has also been used as a base template, to create a Phase 1 Habitat survey map, displaying the habitat types under JNCC Phase 1 classifications⁵⁰.
- Survey data collected up to end of August 2025 has been used to inform the assessment, conclusions and recommendations within this Chapter (dated October 2025). Bat surveys (aerial tree climbing) are ongoing, with a further visit programmed for November 2025, however a precautionary approach has been applied to this assessment. The results of the November survey visit will be presented within the final ES Chapter, for Development of National Significance (DNS) submission.

⁴⁷ Chartered Institute of Ecology and Environmental Management (CIEEM) (2019). Advice Note on the Lifespan of Ecological Reports and Surveys. Available at: <https://cieem.net/wp-content/uploads/2019/04/Advice-Note.pdf>

⁴⁸ CSA Environmental (2024). Upper Ogmores Wind Farm – Preliminary Ecological Appraisal, August 2024. Report No: CSA/6891/01

⁴⁹ CSA Environmental (2024). Upper Ogmores Wind Farm – Preliminary Ecological Appraisal, August 2024. Report No: CSA/6891/01

⁵⁰ Joint Nature Conservation Committee (JNCC) (2016). Handbook for Phase 1 habitat survey – a technique for environmental audit. JNCC, Peterborough.

8.3 POLICY, LEGISLATION AND GUIDANCE

8.3.1. The following legislation (**Table 8.1** - Legislation relevant to the biodiversity assessment), planning policy (**Table 8.2** - Planning policy relevant to the biodiversity assessment) and technical guidance (**Table 8.3** - Technical guidance relevant to the biodiversity assessment) are relevant to informing an EIA with respect to Ecology, hereafter referred to as an 'Ecological Impact Assessment (EcIA)'.

Table 8.1 - Legislation relevant to the biodiversity assessment

Legislation	Legislative context
The Conservation of Habitats and Species Regulations 2017 (as amended) ⁵¹	The Conservation of Habitats and Species Regulations 2017 ("the Habitats Regulations") transposes the Council Directive 92/43/EEC, on the conservation of natural habitats and of wild fauna and flora (Habitats Directive) into English and Welsh law. This also transpose elements of the EU Wild Birds Directive in England and Wales. The Habitats Regulations provides for the designation and protection of European sites, the protection of certain species (referred to as European Protected Species or EPS) and the adaptation of planning and other controls for the protection of European sites. Note that the Habitats Regulations were amended by the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 to reflect the UK's exit from the EU. These largely carried forward the provisions and terminology of the 2017 Habitats Regulations, and so the term 'European site' is currently retained and for all practical purposes the definition is essentially unchanged. The UK European sites are no longer legally part of the 'Natura 2000' network of protected sites, with this being replaced in the UK by the 'National Site Network' which comprises all existing Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) and any new SACs and SPAs designated under the 2019 Regulations (Ramsar sites do not form part of the network). For this reason, and to avoid confusion, all sites which belong to the 'National Site Network' are hereafter referred to as 'International Sites'. This also has relevance if compensation measures are required for an adverse effect, as the relevant metric is the overall coherence of the 'National Site Network'. The 2019 Regulations establish management objectives for the 'National Site Network' which contribute to the conservation of UK habitats and species that are also of pan-European importance, and to the achievement of their favourable conservation status within the UK.
The Environment (Wales) Act 2016 ⁵²	The Act makes provisions within Wales for the planning and managing of natural resources at the national and local level. Section 6 of the Act introduces the biodiversity and resilience of ecosystems duty whereby public authorities are required to seek to maintain and enhance biodiversity so far as it is consistent with the proper exercise of those functions. Section 7 of the Act introduces a list of living organisms and types of habitat in Wales, known as Priority Species or Priority Habitats, which in Wales are considered of key significance to sustain and improve biodiversity.

⁵¹ Conservation of Habitats and Species Regulations 2017 ("the Habitats Regulations") has been amended by (*inter alia*) the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 [online]. Available at: <https://www.legislation.gov.uk/ukdsi/2019/9780111179512/contents?sort=year> [Accessed June 2025].

⁵² The Environment (Wales) Act 2016. Available at: <https://www.legislation.gov.uk/anaw/2016/3/contents> [Accessed June 2025].

Legislation	Legislative context
The Wildlife and Countryside Act 1981 (as amended) (WCA) ⁵³	This Act consolidates and amends existing national legislation to implement the Bern Convention. This piece of legislation remains the primary UK mechanism for statutory site designations (e.g. Sites of Special Scientific Interest, SSSI) and the protection of individual species listed under Schedules 5 and 8 of the Act, each subject to varying levels of protection.
Countryside & Rights of Way Act 2000 ⁵⁴	This Act details further measures for the management and protection of SSSIs and strengthens wildlife enforcement legislation.
The Hedgerows Regulations 1997 ⁵⁵	The Hedgerows Regulations is intended to protect important countryside hedges from damage or destruction.
Protection of Badgers Act 1992 ⁵⁶	The Protection of Badgers Act provides protection to badgers and their places of shelter (setts).

Table 8.2 - Planning policy relevant to the biodiversity assessment

Policy	Policy context
National planning policy	
Future Wales: The National Plan ⁵⁷	The Welsh national development framework sets the direction for development in Wales to 2040 and includes a Habitats Regulations Assessment. Policy 9 – Resilient Ecological Networks and Green Infrastructure outlines measures to ensure the enhancement of biodiversity, the resilience of ecosystems and the provision of green infrastructure.
Planning Policy Wales –Chapter 6 Distinctive and Natural Places (12th Ed.; 2024) ⁵⁸	Chapter 6 of Planning Policy Wales (PPW ⁵⁹) sets out the Welsh Government's objectives for Distinctive and Natural Places theme of planning policy. The topics covered comprise historic environment, landscape, biodiversity and habitats, coastal characteristics, air quality, soundscape, water services, flooding and other environmental (surface and sub-surface) risks. In particular, the Biodiversity and Resilience of Ecosystems section puts emphasis on planning authorities to have regard for the State of Natural Resources Report (SoNaRR) and Area Statements published by Natural Resources Wales (NRW). In this chapter, a 'stepwise approach' is introduced as a means of demonstrating that a NBB has been achieved by Projects. As part of achieved NBB, planning authorities must also consider ecosystem resilience following the DECCA Framework.

⁵³ The Wildlife And Countryside Act 1981 (as amended) <https://www.legislation.gov.uk/ukpga/1981/69> [Accessed June 2025].

⁵⁴ Countryside and Rights of Way Act 2000 (<https://www.gov.uk/guidance/open-access-land-management-rights-and-responsibilities>) [Accessed June 2025].

⁵⁵ The Hedgerows Regulations 1997 <https://www.legislation.gov.uk/uksi/1997/1160/contents/made> [Accessed June 2025].

⁵⁶ Protection of Badgers Act 1992

⁵⁷ Welsh Government (2021) Future Wales: The National Plan 2040, February 2021. [online]. Available at: <https://gov.wales/future-wales-national-plan-2040>

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⁵⁹ Welsh Government. (2024). Planning Policy Wales (PPW). (Edition 12) 2024.

Policy	Policy context
Planning Policy Wales – Stepwise approach	Biodiversity enhancements that achieve NBB must be delivered following the implementation of the ‘stepwise approach’ of firstly avoiding, then minimising, mitigating and, as a last resort, compensating for adverse impacts on the environment that occur as part of a development. Therefore, compensation should only be considered as a last resort, where it has been demonstrated clearly that adverse effects on the environment cannot be avoided or fully mitigated. If compensation is necessary, this must be delivered on-site where possible but off-site compensation can be sought if demonstrated that this is not possible. This approach will encourage the consideration of features that may not necessarily be protected, but are crucial for ecosystem functioning, leading to more joined up spaces for nature.
Planning Policy Wales – DECCA Framework	NRW have developed a framework for evaluating ecosystem resilience based on five attributes and properties specified in the Environment (Wales) Act 2016. This is referred to as DECCA and comprises the objectives listed: ■ Diversity – maintaining and enhancing diversity at every scale, including genetic, structural, habitat and between-habitat levels. This supports the complexity of ecosystem functions and interactions that deliver services and benefits. ■ Extent – incorporating measures which maintain and increase the area of semi-natural habitat/features and linkages between habitats. In general, smaller ecosystems have reduced capacity to adapt, recover or resist disturbance. ■ Condition – the condition of an ecosystem is affected by multiple and complex pressures acting both as short term and longer-term types of disturbance. Both direct and wider impacts should be considered, for example avoiding or mitigating pressures such as climate change, pollution, invasive species, land management neglect etc. ■ Connectivity – this refers to the links between and within habitats, which may take the form of physical corridors, stepping stones in the landscape, or patches of the same or related vegetation types that together create a network that enables the flow or movement of genes, species and natural resources. Developments should take opportunities to develop functional habitat and ecological networks within and between ecosystems, building on existing connectivity. ■ Adaptability to change – ecosystem resilience is a product of the above four attributes. Adaptability, recovery and resistance to/from a disturbance are defining features of ecosystem resilience. NRW define ecosystem resilience as “An environment that can respond to pressures by resisting, recovering or adapting to change, and is able to continue to provide natural resources and benefits to people”.
Technical Advice Note 5 (TAN5) Nature Conservation and Planning (2009) ⁶⁰	Welsh Government (WG) policy on positive planning for nature conservation and developments affecting designated sites and habitats, along with protected priority habitats and species. It brings together advice on sources of legislation relevant to

⁶⁰ Welsh Government, (2009). Planning Policy Wales Technical Advice Note 5: Nature Conservation and Planning

Policy	Policy context
	various nature conservation topics which may be encountered by local planning authorities. It sets out the key principles of planning for nature conservation and addresses nature conservation in development control procedures. It also deals with the conservation of protected and priority species. It also outlines that developments that may adversely impact on sites designated for their national nature conservation interest will generally not be permitted.
Local planning policy	
Replacement Neath Port Talbot (NPT) Local Development Plan (LDP) 2023-2038 ⁶¹	The LDP identifies the key issue NKI 2 Nature Emergency with respect to Biodiversity and has the following related vision: <i>'The nature emergency is being positively addressed: NPT will be delivering on-going net benefit for biodiversity, geodiversity and soils and will be promoting the resilience of ecosystems as a result of development proposals over the plan period'.</i> In one of its objectives (NO2), the LDP aims to <i>'Achieve a net biodiversity benefit and enhanced ecosystems resilience from new developments across the county borough'.</i>
Replacement Bridgend Local Development Plan 2018 to 2033 ⁶² (adopted 2024)	The LDP identifies the key issue SPG 19 Biodiversity and Development and sets out a Green Infrastructure Approach.
Bridgend Biodiversity Duty Plan 2022-2025 ⁶³	The measures set out in this Plan are part of broader ambitions by the Council to deliver a healthy natural environment, supporting communities and livelihoods.

Table 8.3 - Technical guidance relevant to the biodiversity assessment

Technical guidance document	Context
Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine (CIEEM, 2024) ⁶⁴	Sets out the industry standard approach to EclA for assessing the potential effects of a project on ecological receptors.

⁶¹ The Replacement NPT LDP is currently in production is currently progressing to the Deposit Plan stage. The Preferred Strategy documents are available at <https://www.npt.gov.uk/planning-and-building-control/planning-policy/replacement-local-development-plan-rldp-2023-2038/preferred-strategy/> [Accessed June 2025].

⁶² Bridgend County Borough Council (2024) Adopted Replacement Local Development Plan 2018 – 2033. Available at: <https://www.bridgend.gov.uk/residents/planning-and-building-control/local-development-plan/adopted-replacement-local-development-plan-2018-2033/> [Accessed June 2025].

⁶³ Bridgend County Borough Council (2022) Biodiversity Duty Plan 2022 – 2025. Available at: <https://democratic.bridgend.gov.uk/documents/s28424/Appendix%20%20-%20Bridgend%20Biodiversity%20Duty%20Plan%202022-25%20FINAL.pdf> [Accessed June 2025]

⁶⁴ CIEEM, (2024). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.3. Chartered Institute of Ecology and Environmental Management, Winchester.

8.4 CONSULTATION

- 8.4.1. The assessment has been informed by consultation responses and ongoing stakeholder engagement. This Chapter has taken account of:
- A Scoping Report (**Appendix 2A**) which set out the overall approach that would be taken in an EclA for the Project. This assessed the potentially significant effects of the Project with respect to Ecology and the potential Zone of Influence (ZoI) for these effects;
 - An EclA Scoping Opinion request submitted to Planning and Environment Decisions Wales (PEDW) in April 2025;
 - Response from Natural Resources Wales (NRW) in the form of a Scoping Response on 9th May 2025 (**Appendix 2B**); and
 - Response from PEDW in the form of a Scoping Direction on 19th June 2025 (**Appendix 2C**).
- 8.4.2. A summary of the relevant responses received in the Scoping Direction from PEDW (which incorporated consultation responses from NRW, Neath Port Talbot Council (NPTC), Bridgend County Borough Council (BCBC) and Rhondda Cynon Taf County Borough Council (RCTCBC) in relation to terrestrial ecology and confirmation of how these have been addressed within the assessment to date is presented in **Table 8.4** – Summary of PEDW's Scoping Direction consultation responses (which incorporates NRW's Scoping Response) relevant to Terrestrial Ecology

Table 8.4 – Summary of PEDW’s Scoping Direction consultation responses (which incorporates NRW’s Scoping Response) relevant to Terrestrial Ecology

ID	Consideration	How this has been addressed in the Draft ES
ID.22	<u>Assessment Methodology</u> NPTC and BCBC are ‘content with the approach outlined in the Scoping Report, subject to surveys and mitigation measures / activities being carried out and assessed as detailed in the report’. BCBC also ‘highlight appropriate mitigation measures will need to be provided, which will allow the LPA to provide more informed comment on the impact of the development on habitats, species and the ecology and ecological resilience of the site and its surroundings’. PEDW ‘recommends the applicant liaises directly with NPTC, BCBC and NRW on assessment requirements and outcomes, including any required mitigation measures, ensuring this is appropriately addressed in the ES’.	Mitigation requirements are discussed in Table 8.13 and an outline Habitat Management Plan (OHMP) will be prepared in consultation with the LPAs (BCBC, NPTC, RCTCBC). An outline Construction Environmental Management Plan (CEMP) has been produced and will be developed by the contractor prior to construction (Appendix 4A).
ID.23	‘NRW notes the Scoping Report states that a UKHab assessment was carried out in April 2024. They highlight that in Wales they advise that Phase 1 habitat surveys are undertaken, and where any existing classifications have been made they should be related to Phase 1 as far as possible’. ‘PEDW recommends the applicant liaises directly with NRW to agree habitat survey methodology and PEDW advises the outcome is clearly outlined in the ES’.	The habitat classifications identified during the UKHab Survey have been re-assessed by WSP, with habitat classifications converted to JNCC Phase 1 Habitat classification⁶⁵ - see Table 8.8 and Figure 8.5.

⁶⁵ Joint Nature Conservation Committee (JNCC) (2016). Handbook for Phase 1 habitat survey – a technique for environmental audit. JNCC, Peterborough.

ID	Consideration	How this has been addressed in the Draft ES
ID.24	<i>'The applicant's attention is drawn to comments from NRW regarding the assessment of impacts on protected species, including requirements for targeted species surveys'.</i>	Further assessment and targeted species surveys have been undertaken for species scoped in and where impacts cannot be avoided or suitably mitigated against, in accordance with best practice guidelines – see Section 8.6 .
ID.25	<u>Great Crested Newt</u> <i>'NRW welcomes the additional information provided in relation to GCN' (which accompanied the Scoping Report), 'highlighting there are no direct impacts to ponds or to any suitable terrestrial habitat. NRW confirms they therefore agree with the conclusions made in respect of GCN and have no further comment to make on this species'.</i>	N/A – species scoped out
ID.26	<u>Dormouse</u> <i>'NRW notes the Preliminary Ecological Assessment (PEA) concludes that dormice will not be impacted by the proposal. They confirm they agree with the conclusions made in respect of dormice and have no further comments to make on this species'.</i>	N/A – species scoped out
ID.27	<u>Otter</u> Otter was scoped out within the Scoping Report. <i>NRW states that whilst they agree with the conclusions made in respect of otter, they advise that appropriate buffers are designed from the development to all water courses / riparian habitat on site, and where works are undertaken in the vicinity of water courses, that pre-construction surveys are included within the CEMP'.</i> <i>'PEDW recommends the CEMP is included as a technical appendix to the ES'.</i>	A CEMP will be prepared and secured via DNS Condition. A draft CEMP is included in Appendix 4A .

ID	Consideration	How this has been addressed in the Draft ES
ID.28	<u>Bats</u> <i>'NRW notes and welcomes that all trees with potential to be affected by the development were inspected and welcomes that trees identified as having Potential Roost Features can either be avoided or that additional climbing / emergence inspections are being undertaken'.</i> <i>'PEDW notes that the Scoping Report states that bat activity surveys are scoped out. The applicant's attention is drawn to NRW's advising that in the event that trees will require removal within woodland, that bat activity surveys are undertaken'.</i> <i>NRW also advises that survey results are used to determine minimum stand off buffers from sensitive habitats to bats. They add that where possible all features with suitability for bats should be retained and poles micro sited away from features and areas of sensitivity. NRW further advises that all trees to be impacted by the works are clearly marked on a submitted plan, including their potential for roosting bats'.</i>	Aerial tree climbing surveys for bats have been undertaken (with two survey visits carried out to date (by mid-July 2025)), and the results have been incorporated and considered within this Draft ES Chapter – see Section 8.6 and Figure 8.6. Further survey visits are scheduled November 2025, as per best practice guidelines. No trees within woodland will be felled to facilitate the Project and therefore bat activity surveys have been scoped out. Tree removal has been minimised through design, however some direct impacts e.g. trimming or lopping works, is anticipated at select locations to maintain safety clearances towards OHL and access points - see Section 8.6 The extent of such impacts will be confirmed within the Final ES Chapter and taken into consideration. The Project includes an allowance of 10 m to micro-site the location of OHL poles – See Table 8.9.
ID.29	<u>Water vole</u> <i>'NRW welcomes that water vole survey is being undertaken and advises this is undertaken along the length of the overhead line route, including a walkover of all watercourses within the site to search for signs of the species. NRW advises the survey considers the water courses and surrounding suitable habitat extending beyond the immediate water environment'.</i> <i>'NRW adds that poles should be located as far away from water vole habitat as possible. Where possible, habitat suitable for supporting water vole should be retained and protected and minimum development buffers utilised to protect water vole habitat. NRW advises that where water vole are recorded</i>	Surveys have identified suitable habitat (water courses and riparian habitats) for water vole on Site, isolated to the south-western end of the Project, and evidence of water vole presence has been identified in this area - Section 8.6 and Appendix 8D. No works will occur within these areas and the habitats will be retained throughout construction. Other water courses and riparian habitats present within the Site are considered to be of negligible suitability for supporting the species.

ID	Consideration	How this has been addressed in the Draft ES
	<i>on site, and habitat cannot be adequately avoided, the principles of a Conservation Plan for the species is included within the application'.</i>	
ID.30	<u>Designated Statutory Sites</u> RCTCBC highlights <i>'there is important Site of Special Scientific Interest (SSSI) habitat on the RCT side of the county boundary with Bridgend, with key biodiversity issues including peat bogs and upland heath / acid / marshy grassland mosaics. RCTCBC also states the potential for golden plover wintering flocks, and birds of prey use of the landscape and bat movements (particularly seasonal movements).</i>	Consultation with RCTCBC shall be undertaken in relation to designated statutory sites, and the agreed measures shall be incorporated into the final ES Chapter (in the form of a Method Statement to minimise impacts during construction). Ornithology is discussed in Chapter 9.
ID.31	<u>Sites of Importance for Nature Conservation (SINC)</u> BCBC highlights <i>'the site overlaps with a number of SINC and that development within a SINC should be compatible with the nature conservation or scientific interest of the area, whilst promoting their educational role'.</i> NRW also advise that <i>'the applicant liaises with the relevant LPA and their ecologist to understand the impacts and mitigation requirements for these SINC sites.</i> <i>'PEDW recommends the applicant liaises with both LPAs on this matter, ensuring the impacts on SINC are appropriately addressed in the ES'.</i>	Consultation with BCBC shall be undertaken in relation to SINCs, and the agreed measures shall be incorporated into the final ES Chapter (in the form of a Method Statement to minimise impacts during construction).
ID.32	<u>Locally Biodiversity Interests</u> <i>'NRW recommends consultation with the BCBC an NPTC Ecologists on the scope to ensure regional and local biodiversity issues are adequately considered and that other relevant stakeholders are contacted for biological information relevant to the site and its surrounds'.</i>	Consultation with BCBC and NPTC shall be undertaken in relation to locally biodiversity interests, and the agreed measures shall be incorporated into the final ES Chapter.
ID.33	<u>Cumulative effects</u>	Cumulative effects are discussed in Section 8.13 .

ID	Consideration	How this has been addressed in the Draft ES
	<i>'PEDW recommends the applicant liaises with both LPAs on development proposals that should be included in the cumulative assessment, as they will be aware of developments in their area which will need to be considered. PEDW advises that further to paragraph 1.1.5 of the Scoping Report, Upper Ogmere Wind Farm and Foel Trawsnant Grid Connection should also be included in the cumulative assessment'.</i>	
ID.34	<u>Mitigation and compensation</u> NRW advises that the 'ES sets out how the long-term site security of any mitigation or compensation will be assured, advocating that where the potential for significant impacts on protected species is identified, a Conservation Plan is prepared for the relevant species and included as an annex to the ES'. RCTCBC advise 'that the development should deliver effective nature conservation mitigation and enhancement, with a particular reference to the priority habitat and species context of the area'. 'PEDW recommends the CEMP is included as a technical appendix to the ES'.	The final ES will include a Net Benefit for Biodiversity report and an Outline Habitat Management Plan. Where applicable consultation shall be undertaken with relevant consultees (including LPAs). A draft CEMP is included in Appendix 4A.

8.5 DATA GATHERING METHODOLOGY

- 8.5.1. Various ecological surveys and assessments have been completed in support of the Project, to provide a comprehensive ecological baseline for the Site. Such surveys and assessments include:
- A Preliminary Ecological Appraisal (PEA)⁶⁶ (**Appendix 8A**), comprising a desk study and a UKHab survey in April and May 2024. The PEA identified various habitats on Site with suitability to support a range of protected and/or notable species;
 - Great Crested Newt *Triturus cristatus* survey (GCN)⁶⁷ (**Appendix 8B**) in June 2024, comprising a Habitat Suitability Index (HSI) Assessment and environmental DNA (eDNA) to determine the presence or likely absence of the species;
 - Bat survey⁶⁸ (**Appendix 8C**), comprising Ground Level Tree Assessment (GLTA) in September 2024; and
 - Water vole *Arvicola arvensis* survey⁶⁹ (**Appendix 8D**), comprising a search for field signs in June and September 2024⁷⁰; and
 - Bat Aerial Tree Climbing survey⁷¹ (**Appendix 8E**).
- 8.5.2. The overall Study Area for ecology extends up to 10 km from the Project (but varies within this Study Area dependant on the ecological receptor being considered). The CIEEM Guidelines for Ecological Impact Assessment for the UK and Ireland were used to determine the extent of the Study Area (CIEEM, 2024)⁷². The Study Area comprised:
- The land within the Site and the immediate surrounding area, referred to as the 'Survey Area'. The 'Survey Area' was defined for the purposes of the PEA, as being the Site plus a 25m buffer on either side of the proposed corridor of the OGL and UGC.
 - Statutory designated sites within 10 km of the Site (as shown on **Figure 8.2**);
 - Non-statutory designated sites up to 3 km from the Site (as shown on **Figure 8.3**);
 - Habitats of conservation importance up to 1 km from the Site, including waterbodies within 500m (as shown on **Figure 8.4**); and
 - Desk study records of protected and notable species up to 2 km from the Site.

⁶⁶ CSA Environmental (2024). Upper Ogmores Wind Farm – Preliminary Ecological Appraisal, August 2024. Report No: CSA/6891/01

⁶⁷ CSA Environmental (2024). Upper Ogmores Wind Farm, Maesteg – Great Crested Newt Report, November 2024. Report No. CSA/6891/02

⁶⁸ CSA Environmental (2024). Upper Ogmores Wind Farm – Bat Survey Report, November 2024. Report No: CSA/6891/03

⁶⁹ CSA Environmental (2024). Foel Trawsnant Wind Farm – Water Vole Survey Report, November 2024. Report No: CSA/7086/04.

⁷⁰ The water vole survey was undertaken by CSA Environmental in support of two different development proposals (Upper Ogmores Grid Connection and Foel Trawsnant Grid Connection). Whilst the report title references Foel Trawsnant only, the development boundaries overlap and the water vole survey area encompasses all areas of suitable water vole habitat identified within the Upper Ogmores Site, isolated to the south-western end of the Project. This report and survey data is therefore considered relevant for this Proposed Development.

⁷¹ WSP (2025). Upper Ogmores Grid Connection – Bat Aerial Tree Climbing Survey Report (July 2025).

⁷² CIEEM, (2024). *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.3*. Chartered Institute of Ecology and Environmental Management, Winchester.

- 8.5.3. The Study Area was defined on a precautionary basis to ensure that the Zols relevant to all ecological features were covered during baseline data collection activities. Zols are the areas within which a potentially significant effect associated with the Project may be identified for a particular ecological feature.

8.6 OVERALL BASELINE

- 8.6.1. The description of the ecological features below provides a summary of the biodiversity baseline as determined through the assessments and surveys undertaken to date. Full details, as well as figures showing detailed survey results, are included within the respective survey reports (**Appendix 8A – 8E**).

CURRENT BASELINE

Designated Sites

- 8.6.2. No statutory designated sites fall within the Site.
- 8.6.3. The desk study identified one statutory designated site of international importance within 10 km of the Survey Area, and one statutory designated site of national importance within 3 km of the Survey Area. These are shown in **Figure 8.2** and listed in **Table 8.5**, along with a description of the reasons for designation. Additional statutory sites of national importance were identified between 3km and 10km of the Survey Area, as shown in **Figure 8.2**.

Non-statutory Designated Sites

- 8.6.4. The desk study identified 21 non-statutory designated sites within 3km of the Site, comprising Sites of Importance to Nature Conservation (SINCs), as shown on **Figure 8.3**. Of these, the Caerau West SINC lies within the Survey Area.
- 8.6.5. Due to the nature and scale of the Project, only non-statutory sites within 1km of the Site have been described and assessed within the PEA report⁷³. These are listed and described in **Table 8.6**.

Other Habitats of conservation importance

Priority Habitats

- 8.6.6. A total of 117 parcels of Priority Habitats were identified within 1 km of the Site. Details are provided in **Table 8.7** and shown in **Figure 8.4**, including the Priority Habitats which are present within the Survey Area.

⁷³ CSA Environmental (2024). Upper Ogmores Wind Farm – Preliminary Ecological Appraisal, August 2024. Report No: CSA/6891/01

Table 8.5 - Statutory designed sites of international importance within 10km, and of national importance within 3km of the Survey Area

Site name	Designation	Size (hectares (ha))	Approximate distance and orientation from the Site	Description
Blackmill Woodlands.	Special Area of Conservation (SAC)	70.56	8.7 km SE	Blackmill Woodlands is an example of old sessile oak woods at the southern extreme of the habitat's range in Wales and contributes to representation of the habitat in Wales and in south-west England. Annex I habitats that are a primary reason for site selection: 91A0 Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles.
Mynydd-Ty-isaf	SSSI	322	0.5 km NE	This site is characterised by the cliffs and crags of glacial corries which support a mosaic of vegetation types including <i>Calluna</i> dominated heath, <i>Vaccinium myrtillus</i> heath, a range of species poor grasslands, bracken-dominated slopes and fern-rich screes and rock outcrops. Parsley fern <i>Crypogramma crispa</i>, beech fern <i>Phegopteris connectillis</i>, and mountain fern <i>Oreopteris limbosperma</i> are examples of some of the fern species found here. The geology of the site supports a number of arctic-alpine and other plant species of local distribution in Wales. The high crags also provide nesting sites for a Schedule 1 raptor.

Table 8.6 - Non-statutory designated sites within 1 km of the Project

Site name	Designation	Size (hectares (ha))	Approximate distance and orientation from the Survey Area	Description
Caerau West	SINC	62.09	Within the Survey Area	Supports a range of different habitats including flush spring and acid/neutral flush, sphagnum blanket bog, and semi-improved acid grassland. A variety of heathland habitats are also present, namely: dry heath acid mosaic, dry dwarf shrub heath, and wet dwarf shrub heath. Marshy grassland and scattered bracken also exist throughout the site.
Caerau North	SINC	47.78	0.08 km W	A large site with a mosaic of habitats including sphagnum blanket bog, marshy grassland, fen, and semi-improved acid grassland. Wet dwarf shrub heath, acid dry dwarf shrub heath, and broad-leaved semi-natural woodland habitats are also present.
Tudor West	SINC	3.84	0.09 km NW	A variety of grassland habitats are present; namely, neutral unimproved, marshy, and semi-improved acid grassland. Acid/neutral flush habitats are also found here, and the site supports a large area of ancient semi-natural woodland alongside broad-leaved semi-natural woodland.
Parc Croeserw	SINC	2.58	0.2 km N	A mosaic of purple moor grass and rush pasture, lowland acidic grassland and lowland heathland supporting a range of flora and fauna with a high suitability for reptiles.
Nant-y-Wern	SINC	5.51	0.3 km N	Area of ancient woodland and marshy grassland, including priority habitat 'purple moor grass and rush pasture'. The habitats support a diversity array of vascular plants, bryophytes and support a number of important bird species

Table 8.7 - Priority Habitats Within 1 km of the Site

Habitat type	No. Of Parcels	Present within the Survey Area
Blanket bog	9	No
Lowland dry acid grassland	35	No
Lowland fens and reedbeds	15	No
Lowland heathland	36	No
Open mosaic habitat on previously developed land	7	No
Purple moor grass and rush pastures	39	Yes
Raised bog	6	No
Upland flushes, fens and swamps	10	No
Upland heathland	19	No
Wood pasture	1	No

Ancient Woodland

- 8.6.7. There is no ancient woodland covering any part of the Survey Area, or on adjacent land. The desk study identified one Plantation on Ancient Woodland Site (PAWS) within 1 km of the Project, located 0.9 km west.
- 8.6.8. No trees on or adjacent to the Survey Area are listed on the Ancient Tree Inventory^{74 75}.

Notable Plants

- 8.6.9. A total of 557 records of notable plant species were returned during the desk study within 2 km of the Project. This included records of the invasive non-native species hollyberry cotoneaster *Cotoneaster bullatus*, Himalayan balsam *Epilobium brunnescens* and montbretia *Crocsmia pottsii x aure*. Additional non-native invasive species recorded in proximity to the Site included New Zealand willowherb *Epilobium brunnescens*, located 0.5 km south.
- 8.6.10. Records of notable species that could also be supported by on-site habitats include heath spotted orchid *Dactylorhiza maculata*, recorded 0.15 km north of the Site dating from 2002, and fir clubmoss *Huperzia selago*, recorded 0.5 km south of the Site dating from 2013.

On-Site Habitats

- 8.6.11. The site visit element of the PEA encompassed a UKHab survey by CSA Environmental in April and May 2024.
- 8.6.12. In response to consultation responses received from PEDW and NRW (see **Section 8.4**), the habitat types have been re-assessed by WSP and converted to Phase 1 habitat classifications in line with JNCC descriptions⁷⁶. A total of 12 Phase 1 habitats are present within the Survey Area, and their conservation value is also detailed within **Table 8.8**.

⁷⁴ The Woodland trust Ancient Tree Inventory. Accessible online at <https://ati.woodlandtrust.org.uk/>

⁷⁵ Welsh Government Data Map Wales Ancient Woodland Inventory 2021. Accessible online at https://datamap.gov.wales/layers/inspire-nrw:NRW_ANCIENT_WOODLAND_INVENTORY_2021

⁷⁶ Joint Nature Conservation Committee (JNCC) (2016). Handbook for Phase 1 habitat survey – a technique for environmental audit. JNCC, Peterborough.

Table 8.8 - Habitat types within the Survey Area and their nature conservation value

UKHab code	UKHab description	Phase 1 code	Phase 1 description	Nature conservation value
f2b	Purple moor grass and rush pasture	B5	Marsh / marshy grassland	This habitat has County importance and is listed as a Priority Habitat
g1b	Upland acid grassland	B12	Semi-improved acid grassland	This habitat has Local importance
g1b, 14, 102	Upland rush pasture	B12	Semi-improved acid grassland	This habitat has Local importance
g1c	Bracken	C1	Bracken	This habitat has Site importance
g4	Modified grassland	G4	Improved grassland	This habitat has Site importance
h1	Heathland	D1	Dry dwarf shrub heath	This habitat has Site importance
h3j	Willow scrub	A21	Dense / continuous scrub	This habitat has Site importance
h3d	Bramble scrub	A21	Dense / continuous scrub	This habitat has Site importance
h3e	Gorse scrub	A21	Dense / continuous scrub	This habitat has Site importance
h3h	Mixed scrub	A21	Dense / continuous scrub	This habitat has Site importance
r2	Rivers and streams	G2	Running open water	This habitat has County importance
s	Sparsely vegetated land	I14	No description of habitat is included within the PEA report. However, most likely to be I14 - Other natural rock exposure.	This habitat has Site importance
u1b	Developed land; sealed surface	-	No description of habitat is included within the PEA report. However, most likely to be hardstanding.	This habitat has Negligible importance
u1b5	Buildings	J36	Buildings	This habitat has Site importance

UKHab code	UKHab description	Phase 1 code	Phase 1 description	Nature conservation value
w1g	Other broadleaved woodland	A21	Dense / continuous scrub scrub ⁷⁷	This habitat has Site importance
w2	Plantation coniferous woodland	A122	Plantation coniferous woodland	This habitat has Site importance
N/A	Artificial unvegetated, unsealed surface	J1	Cultivated/disturbed ground	This habitat has Site importance

⁷⁷ Typically, UKHab habitat 'w1g Other broadleaved woodland' is comparable with JNCC Phase 1 habitat 'A11 Broadleaved woodland'. However, an on-site assessment by WSP on 8th July classified the specific habitat as dense / continuous scrub. Further justification is included within **Appendix 8F**.

Species

8.6.13. Following the habitat survey and an evaluation of desk study records, and protected species surveys completed, the Site is considered suitable for supporting the following protected and / or notable species:

- Bats (all UK species);
- Water vole⁷⁸;
- Brown hare *Lepus europaeus*;
- Harvest mouse *Micromys minutus*;
- Birds⁷⁹;
- Reptiles (common lizard *Zootoca vivipara*⁸⁰, adder *Vipera berus*, grass snake *Natrix Helvetica* and slow worm *Anguis fragilis*);
- Amphibians (smooth newt *Lissotriton vulgaris*, palmate newt *Lissotriton helveticus*, common toad *Bufo bufo* and common frog *Rana temporaria*); and
- Terrestrial invertebrates, including red-necked footman *Atolmis rubricollis* (nationally scarce), and green hairstreak *Callophrys rubi* (locally important).

Bats

- 8.6.14. A total of 63 bat records were identified within the search area, dating from 1989 to 2023. These include the following species: common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *P. pygmaeus*, Nathusius' pipistrelle *Pipistrellus nathusii*, noctule *Nyctalus noctula*, Leisler's bat *Nyctalus leisleri*, brown long-eared bat *Plecotus auritus*, Natterer's bat *Myotis nattereri* and serotine *Eptesicus serotinus*.
- 8.6.15. The majority of records are associated with the residential area of Maesteg. The closest records are of common pipistrelle and unidentified bats c. 0.02 km east and west of the proposed route.
- 8.6.16. Seven confirmed bat roosts and two possible bat roosts were returned within the search area, comprising common pipistrelle and unidentified bat roosts dating from 2002 to 2020. These records appear to be associated with the residential area of Maesteg, with the closest roost located c. 0.03 km east of the proposed route along the A4063.
- 8.6.17. During the UKHab survey, a group of trees which were considered likely to be impacted by the Project, were assessed as having suitability for supporting roosting bats. Further survey (aerial tree climbing) has been undertaken to provide additional information on these trees. The first survey visit was carried out on 28th May and 8th June 2025, which allowed a more detailed assessment of the

⁷⁸ A water vole latrine was identified within the upland acid grassland in the south-western end of the Site during the UKHab survey.

⁷⁹ Chapter 9 of the ES relates to Ornithology. Birds are therefore not discussed further within this chapter.

⁸⁰ A common lizard was sighted at the south-western end of the Site within purple moor grass and rush pasture habitat during the UKHab survey.

trees (at height) and to ascertain their level of suitability for supporting bat roosts. Of the 22 trees that were inspected;

- four (T3, T5, T14 and T16) were classified as 'PRF-M' (a tree with Potential Roosting Features (PRF) suitable for supporting multiple bat roosts);
- nine (T1, T6, T8, T9, T10, T11, T18, T21 and T22) were classified as 'PRF-I' (a tree with PRFs suitable for supporting individual bats); and
- nine trees were as having negligible suitability for supporting roosting bats.

- 8.6.18. No evidence of roosting bats or signs of use have been found to date at the time of writing of this Chapter (October 2025), however further survey visits are scheduled for trees classified as 'PRF-M' in November 2025 (to establish hibernation use), in accordance with best practice survey guidelines.
- 8.6.19. Two of the trees (T5 (PRF-M) and T18 (PRF-I)) are located within 10 m of the Project.
- 8.6.20. Whilst effort has been made to avoid the removal of trees along the Site, some trimming / lopping work is anticipated to trees within 4 m of the OHL to maintain required safety clearances. A precautionary distance of 10 m however has been applied within this Chapter, until the design is finalised. Trees T5 and T18 are therefore considered to be 'at risk' of being impacted. The final pole locations will also be allowed to be micro-sited within 10 m on Site during construction to further minimise impacts where possible.
- 8.6.21. The majority of the Survey Area is not considered to be of high suitability for bats, with limited linear features for commuting and foraging, particularly within the uplands in the east to west section of the route.
- 8.6.22. An area of dense / continuous scrub south of Croeserw (which was previously classified as 'Other – Broadleaved Woodland' during the UKHab survey, is considered suitable for foraging and commuting purposes (see **Appendix 8F**).
- 8.6.23. Bats are protected by legislation at the national level. When considering the desk study results and the habitats present on Site, along with a precautionary approach to the assessment (as targeted bat surveys are ongoing, with further aerial tree climbing surveys scheduled for August and November 2025), bats are considered to be of **County conservation importance**.

Water vole

- 8.6.24. No records of water vole were identified within the search area, although a search of online databases suggests presence within the 10 km grid square that includes the Survey Area.
- 8.6.25. Most of the aquatic and terrestrial habitats within the Site (and surrounding area) are considered to be of negligible suitability for water vole. However, some suitable habitat is present, confined to the south-western end, consisting of several small, connected streams and surrounding boggy purple moor grass and rush habitats (marshy grassland). Evidence of use by water vole (a latrine site) was also incidentally identified within this area of grassland during the UKHab survey.

- 8.6.26. Targeted surveys for water vole were carried out in June and September 2024⁸¹, which focussed on the areas of suitable habitat (referenced as Watercourse A, A.1 and A.2 within the survey report – **Appendix 8D**) and surrounding habitat at the south-western end of the Site. The surveys concluded the presence of water vole within watercourses A and A.1, and the likely absence of water vole in watercourse A.2.
- 8.6.27. Water voles are protected under legislation at the national level and are declining with a restricted distribution across Wales. In this context, given the presence of water vole on Site and habitats present, water voles are considered to be of **National conservation importance**.

Other mammals

- 8.6.28. Nine records of brown hare were identified within the search area, dating from 1997 to 2012. The closest record point is located c. 0.01 km north of the upland section of the route, associated with five records from between 1997 to 2018 of live adults. Open grassland habitats and adjacent woodlands associated with the eastern section and western end of the survey area may support brown hare, with records suggesting they are present locally. However, given the vast areas of open habitat in the surrounding upland area, a significant population is not anticipated within the survey area.
- 8.6.29. No records of harvest mouse were identified within the search area. Given upland habitats are dominated by a patchwork of short, sheep-grazed pasture and scattered rush, these areas are less suitable for harvest mice. Dense continuous tussocky habitats associated with purple moor grass and rush pasture (marshy grassland) provide greater suitability for this species. There are records of harvest mouse scattered across lowland areas in north, west and south Wales, including a cluster in Bridgend, with records from online resources covering the valley surrounding Maesteg. It is possible this species is present in discrete locations.
- 8.6.30. Brown hare and harvest mouse are afforded protection through legislation and / or policy up to the national level. Brown hare numbers are stable across Wales, but there is a lack of data to assess the population trends of harvest mice⁸². Owing to the extent of similar or more suitable habitat outside the Site, any populations of these two species within the Site are considered to be of **Site conservation importance**.

Reptiles

- 8.6.31. A total of 73 records of four reptile species were identified within the search area including common lizard, adder, grass snake and slow worm. The closest record is of a common lizard adjacent to the proposed route within the Upper Ogmere Wind Farm section recorded in 2022, and a cluster of three records within 100m of the south-west section for grass snake, adder and common lizard,

⁸¹ CSA Environmental (2024). Foel Trawsnant Wind Farm – Water Vole Survey Report, November 2024. Report No: CSA/7086/04.

⁸² Mammal Society (2021). The State of Mammals in Wales - A report by the Mammal Society for Natural Resources Wales.

dated 2000. The majority of the remaining records are from incidental sightings within and around Maesteg within gardens and nearby open spaces.

- 8.6.32. Work associated with a nearby planning application for the Afan Valley Adventure Resort (reference: P2018/0493) confirmed a population of common lizard in 2017, as well as the presence of slow-worms and adders within their survey area in 2017.
- 8.6.33. Short-grazed sheep pasture is unsuitable for foraging and sheltering reptiles, however the open mosaic of grassland, heathland and scrub habitats across the survey area is highly suitable for reptiles and these species are expected to utilise these habitats along the Project. An incidental sighting of common lizard was made at the south-western end of the route within the purple moor grass and rush pasture (marshy grassland).
- 8.6.34. Reptiles are protected by legislation at a national level. Reptiles are widespread in Wales, although there is evidence indicating decline of all native reptile species⁸³. Owing to the extent of habitat within the Site with suitability for supporting reptiles, the reptile population within the Site is considered to be of **County conservation importance**.

Amphibians

- 8.6.35. A total of 73 records of four amphibian species were identified within the search area, including smooth newt, palmate newt, common toad and common frog. The closest record was recorded of a common frog c. 0.05 km west of the Project along the A4063. A further three records of common toads were identified within ponds c. 0.4 km south and c. 0.6 km west of the southern end of the Project
- 8.6.36. Common or widespread amphibians (e.g. common toad, common frog, and palmate newt) are afforded a level of protection by legislation at a national level. Amphibians are widespread in Wales, although there is evidence indicating decline of several native amphibian species including all native species of newt and common toad⁸⁴. Common frog populations have been recorded as stable since the 1970s. Owing to the extent of similar or more suitable habitat outside the Site, the amphibian population within the Site is considered to be of **Local conservation importance**.

Invertebrates

- 8.6.37. A total of 935 records of 132 invertebrate species were identified within the search area. Those of potential relevance include nationally scarce species, such as the red-necked footman *Atolmis rubricollis*, and locally important species such as green hairstreak *Callophrys rubi*. The Project does not fall within an Important Invertebrate Area (IIA).

⁸³ Humphreys, E., Toms, M., Newson, S., Baker, J. & Wormald, K. 2010. An examination of reptile and amphibian populations in gardens, the factors influencing garden use and the role of a 'Citizen Science' approach for monitoring their populations within this habitat.

⁸⁴ Humphreys, E., Toms, M., Newson, S., Baker, J. and Wormald, K. (2011). An examination of reptile and amphibian populations in gardens, the factors influencing garden use and the role of a 'Citizen Science' approach for monitoring their populations within this habitat. British Trust for Ornithology.

- 8.6.38. The mosaic of grassland, scrub, and woodland habitats across the proposed route are likely to support many generalist species, as well as less frequent specialist species. Given the impacts are fairly restricted to a narrow working corridor over the short term, with habitats left to re-establish upon completion, the invertebrate assemblage is not considered to be significantly affected and further surveys were not considered necessary
- 8.6.39. Owing to the extent of similar or more suitable habitat outside the Site, the terrestrial and aquatic invertebrate population within the Site is considered to be of **Site conservation importance**.
- 8.6.40. **Protected and / or Notable Species Considered to be Likely Absent**
- 8.6.41. As detailed within the Scoping Report (**Appendix 2A**), the following species are considered to be likely absent from the Site, or only present in low numbers and on an occasional basis:
- Badger *Meles meles*;
 - Otter *Lutra lutra*;
 - Dormouse *Muscardinus avellanarius*;
 - Hedgehog *Erinaceus europaeus*; and
 - GCN.

FUTURE BASELINE

- 8.6.42. Determining a future baseline draws upon information about the likely future use and management of the Site in the absence of the Project, known population trends (for species), climate change and any other Projects (consented or otherwise) that may act cumulatively to affect ecological features.
- 8.6.43. In this instance, the future baseline in the absence of the Project is unlikely to be markedly different from the current baseline, as land use / management within the Site is anticipated to remain largely unchanged. It is therefore considered appropriate to use the current baseline for the purpose of this assessment.

8.7 EMBEDDED MEASURES

- 8.7.1. A range of environmental measures have been embedded into the Project as outlined in **Chapter 12**. Embedded measures are measures that will be implemented as part of the Project regardless of the requirement for ecological mitigation / assessment outcomes, for example as a result of legislative requirements and / or standard best practice and, as such, the subsequent EclA assumes they are in place. **Table 8.9** outlines how these embedded measures during the construction phase influence the assessment.

Table 8.9 - Summary of embedded measures and compliance mechanisms

Aspect / feature	Potential changes and effects	Embedded measures	Compliance Mechanism
Dust management and air quality (habitat degradation)	Loss or damage of sensitive flora through smothering resulting in effects on habitat composition and the species that it supports. Deposition of dust resulting in enrichment of sensitive Priority Habitats, including those contained within statutory and non-statutory designated sites, leading to alteration of flora through changes in baseline conditions and the species which they support. Direct effects on invertebrates through ingestion or direct deposition on sedentary species.	Dust nuisance and air quality impacts have been scoped out of the EIA and any effects arising from exhaust emissions of construction plan is expected to be minimal. Construction works will be undertaken using all necessary and practical measures to minimise the release of dust including: adequate dust suppression facilities on site including water bowzers, use of enclosures and screening for on-site storage of aggregate or fine materials and good housekeeping arrangements and regular inspections to ensure measures remain suitable.	CEMP secured via DNS condition
Hydrological effects / run-off	Introduction of toxic pollutants or sediments into the environment resulting in changes, loss or damage to terrestrial or freshwater environments and the fauna they support.	Construction works would be undertaken using all necessary and practical measures to minimise the release of sediment-laden run-off and toxic materials e.g. as a result of refuelling, into nearby watercourses.	CEMP secured via DNS condition
Noise, vibration, and visual disturbance	Temporary disturbance to protected species.	Construction works would be undertaken using all necessary and practical measures to minimise the noise, vibration and visual disturbance. Construction works will take place between 07:00 to 19:00 hours on weekdays and 07:00 to 13:00 on Saturdays. In exceptions, there may be a requirement for a 7-day work week. This would be agreed with the local council as appropriate.	CEMP, secured via DNS condition
Light	Changes in artificial light levels leading to direct impact to nocturnal / diurnal protected species such as bats and water vole.	Construction works are currently programmed to start in September 2028 for a total of 9 months. There will be no nighttime working with works taking place between 07:00	CEMP, secured via DNS condition

		and 19:00 hours on weekdays and 07:00 to 13:00 on Saturdays. In exceptions, there may be a requirement for a 7-day work week. This would be agreed with the LPA as appropriate During the winter months when day length is shorter, some site lighting will be required. Site lighting will be controlled to prevent incidental spillage on to features that may be used by nocturnal / diurnal species.	
Habitat loss (permanent and temporary)	Direct habitat loss (permanent and temporary) within construction zone; temporary loss of habitat for protected species. Permanent habitat loss will entail the vegetation clearance required within the footprint of the OHL poles. Temporary habitat loss will entail vegetation clearance within a buffer around each OHL pole. No habitat loss will occur to facilitate the construction of site compounds or construction lay-down areas, with these proposed for areas of existing hardstanding. Similarly, existing access routes will be used for construction to transport materials onto Site and no habitat loss is anticipated. The Project also includes an allowance for helicopter delivery of goods within the more upland areas of the Site (if considered beneficial).	By applying the step-wise approach and the DECCA framework, habitat loss will be avoided in the first instance to minimise the overall habitat loss resulting from the Project. Where habitats are subject to temporary loss, these will be allowed to naturally regenerate as soon as possible following construction. Permanent habitat loss, if any, will be compensated for by enhancement / creation of new habitats.	CEMP, secured via DNS condition
Habitat fragmentation	Fragmentation of habitats and the species they support	Where habitats are subject to temporary loss, these will be allowed to naturally regenerate as soon as possible following construction. The OHL poles would predominantly be located in open grassland fields however some will be positioned in habitats of higher biodiversity value e.g. scrub / marshy grassland. Permanent habitat loss, if any, will be confined to the absolute minimum required, confined to the footprints of the OHL poles only.	CEMP, secured via DNS condition

		The Project includes an allowance of 10 m to micro-site the location of poles and to avoid impacts to hedgerows, tree lines and watercourse or other sensitive habitat where possible.	
General species safeguarding	Death, injury or displacement of protected species during construction e.g. due to entrapment within excavations or collisions with construction traffic.	Appropriate pre-construction surveys or inspections will be carried out as required. A Method Statement will be prepared (to be included within the CEMP), to minimise impacts and will include measures such as: ensuring all excavations will have sloped sides or have a means of escape for entrapped animals; excavations to be checked each morning by operatives prior to work within the excavation, protection of retained habitats / features, designated haul routes, Ecological Clerk of Works (ECOW) and timing of work, restricting work to daylight hours.	Pre-construction surveys or inspections where required, Method Statement and ECoW.
Tree removal	Direct and permanent loss of trees with bat roosting suitability	Whilst the intention is for the OHL route to be as straight as possible, there will be some deviation to avoid environmental features, such as trees. At points of deviation, angle poles will be used; these are likely to be H-pole structures. Trees with bat suitability will be avoided where possible; however, two of the trees identified (T5 and T18) are considered to be 'at risk' of being directly impacted by the Project. Appropriate pre-construction surveys or inspections will be carried out as required, with works to, or near trees following a Method Statement (to be included within the CEMP) and overseen by ECoW (as required).	Pre-construction surveys or inspections where required, Method Statement and ECoW.
Spread of INNS	Direct impacts to habitats	Biosecurity measures, such as boot wash stations, will be implemented throughout construction to avoid the introduction or spread of INNS	CEMP, Method Statement and ECoW

SINCs	Permanent and / or temporary land-take or changes to habitats resulting in degradation and / or loss of habitat	An Outline Habitat Management Plan (OHMP) will be prepared which will include measures that compensate and enhance the SINCs impacted by proposals and produce a net gain in nature conservation across the Site by designing in wildlife, and ensuring any avoidable impacts are appropriately mitigated.	OHMP

8.8 COMPLIANCE WITH POLICY

- 8.8.1. To ensure compliance with PPW (2024⁸⁵), it is necessary to demonstrate that the Project will achieve a NBB by following both the stepwise approach and the DECCA framework.

THE STEPWISE APPROACH

- 8.8.2. The stepwise approach, as mentioned in the PPW (2024), entails firstly avoiding, then minimising, mitigating and, as a last resort, compensating for adverse impacts on the environment that occur as part of a development. Therefore, compensation should only be considered as a last resort, where it has been demonstrated clearly that adverse effects on the environment cannot be avoided or fully mitigated. If compensation is necessary, this must be delivered on-site where possible but off-site compensation can be sought if demonstrated that this is not possible.

THE DECCA FRAMEWORK

- 8.8.3. PPW (2024) instructs planning authorities to take account, and promote the resilience, of ecosystems when assessing planning applications.
- 8.8.4. NRW has developed a framework for evaluating ecosystem resilience based on five attributes and properties specified in the Environment (Wales) Act 2016². This is referred to as DECCA and comprises the objectives listed:
- Diversity – maintaining and enhancing diversity at every scale, including genetic, structural, habitat and between-habitat levels. This supports the complexity of ecosystem functions and interactions that deliver services and benefits;
 - Extent – incorporating measures which maintain and increase the area of semi-natural habitat/features and linkages between habitats. In general, smaller ecosystems have reduced capacity to adapt, recover or resist disturbance;
 - Condition – the condition of an ecosystem is affected by multiple and complex pressures acting both as short term and longer-term types of disturbance. Both direct and wider impacts should be considered, for example avoiding or mitigating pressures such as climate change, pollution, invasive species, land management neglect etc; and
 - Connectivity – this refers to the links between and within habitats which may take the form of physical corridors, stepping stones in the landscape, or patches of the same or related vegetation types that together create a network that enables the flow or movement of genes, species and natural resources. Developments should take opportunities to develop functional habitat and ecological networks within and between ecosystems, building on existing connectivity.
- 8.8.5. Ecosystem resilience is a product of the above four attributes. Adaptability, recovery and resistance to / from a disturbance are defining features of ecosystem resilience. NRW define ecosystem

⁸⁵ Welsh Government. (2024). Planning Policy Wales (PPW). (Edition 12) 2024.

resilience as “An environment that can respond to pressures by resisting, recovering or adapting to change, and is able to continue to provide natural resources and benefits to people”.

- 8.8.6. NRW has a duty to ensure that the environment and natural resources of Wales are sustainably maintained, sustainably enhanced and sustainably used. Article 4 of the Natural Resource Body for Wales (Establishment) Order 2012 (Welsh Government, 2012) sets a general purpose for NRW to pursue the Sustainable Management of Natural Resources (SMNR) in the exercise of its functions. In order to achieve this, NRW applies a set of nine principles: adaptive management, scale, collaboration and engagement, public participation, evidence, multiple benefits, long term (consequences of actions), preventative action, and building resilience.
- 8.8.7. Importantly, the objective of the SMNR is to maintain and enhance the resilience of ecosystems and the benefits they provide and, in doing so, meet the needs of present generations of people without compromising the ability of future generations to meet their need, and contribute to the achievement of the well-being goals of the Well-being of Future Generations Act 2015.
- 8.8.8. As per policy guidance, habitat loss will be minimised as far as possible and temporarily lost habitats will be allowed to naturally regenerate immediately following construction. Where habitats are planned for permanent removal (confined to the footprints of the OHL poles only), compensation / enhancement measures shall be provided.
- 8.8.9. Any trees that would be removed, will be replaced at a 3:1 ratio.
- 8.8.10. Select areas within / immediately adjacent to the Site will be focused for recreating lost habitat on a like-for-like basis. This will include planting rush pasture with purple moor-grass and acid grassland species to help recreate Priority Habitat and replace temporarily lost / impacted SINC habitat.
- 8.8.11. Furthermore, some retained habitats will be enhanced for biodiversity. This will include the enhancement of existing improved grassland habitat by planting with species-rich seed mixes and managing appropriately to maintain botanical diversity, i.e., a single late-summer cut with removal of arisings. The benefits will be realised during the operational phase and offset the short-term adverse effects. These measures will be outlined and discussed within the future Net Benefit for Biodiversity Report for the Project, which will accompany the PAC submission. The measures will also be incorporated into an outline Habitat Management Plan.

8.9 SCOPE OF THE ASSESSMENT

- 8.9.1. The CIEEM guidelines recognise that an EclA cannot consider in detail every individual species or habitat that may potentially be present at a Site or affected by a development. The EclA process therefore aims to focus the assessment on those ecological features that could be ‘significantly’ affected by the Project (i.e. where the effects on the ecological features are of sufficient concern that they could influence the decision on whether or not planning permission should be consented), or for which the development could result in the contravention of relevant legislation. The EclA process therefore includes a ‘scoping’ stage (which excludes those ecological features that cannot be

'significantly' affected⁸⁶) and a 'detailed assessment' stage, which examines more closely the potential effects of the Project on those ecological features that could be subject to 'significant' effects. Detailed assessments may also be undertaken where it is considered appropriate to examine the predicted effects on a feature in more detail, for example due to consultee comments. This section summarises the approach to the EclA scoping stage. The outcomes of the scoping stage, i.e. features scoped, out is provided in **Table 8.11**.

THE PROJECT

- 8.9.2. All the activities and consequent environmental changes associated with the construction and operation of the Project, as set out in **Chapter 4: Description of the Project** have been considered.

SPATIAL SCOPE

- 8.9.3. The spatial scope of the assessment covers the area of the Project contained within the Site, consisting of OHL and UGC sections, together with the Zols that have formed the basis of the Study Area.
- 8.9.4. Through an understanding of the activities associated with the Project and the resulting environmental change, it is possible to identify ecological features that cannot be subject to potentially significant effects due to an absence of effect pathways, or certainty that incorporated measures will be entirely successful in preventing a significant effect occurring. In order to identify such ecological features, all the activities and consequent environmental changes associated with the construction and operation of the Project have therefore been considered.
- 8.9.5. The construction and operation of the Project may result in the following environmental changes, which have the potential to cause significant effects on ecological features at or near the Site. Many of these aspects will operate additively or synergistically to affect ecological features.

Construction

- Permanent or temporary habitat loss;
- Habitat degradation;
- Noise, vibration and visual disturbance from construction traffic and personnel;
- Changes in air quality – dust;
- Changes in light levels;
- Removal of trees and trimming / lopping works;
- Introduction or spread of invasive non-native species (INNS); and
- Direct mortality of species during construction.

Operation

⁸⁶ Based on the results of desk-studies, field surveys, consultations, the importance of the ecological feature, the presence (or not) of pathways for effects, and the measures incorporated into the scheme to avoid effects occurring.

- Trimming / lopping of trees to maintain safety clearances with OHL

- 8.9.6. Following the operational phase, the connection (OHL and UGC) will be left in situ as it has the potential to become integrated into the wider distribution network. Therefore, the decommissioning stage has been scoped out of this assessment.
- 8.9.7. Given these environmental changes, the spatial scope of the biodiversity assessment covers the area of the Project, together with the ZOI that have formed the basis of the Study Area described in **Section 8.5**. However, ZOI differ depending on the type of environmental change (i.e. the change from the existing baseline) as a result of the Project and the ecological feature being considered.
- 8.9.8. The most straightforward ZOI to define is the area affected by land-take and direct land-cover changes associated with the Project. This ZOI is the same for all affected ecological features.
- 8.9.9. By contrast, for each environmental change that can extend beyond the area affected by land-take and land-cover change (e.g. increased noise associated with construction activities within the land-take area), the ZOI may vary between ecological features, dependent upon their sensitivity to the change and the precise nature of the change. For example, a badger might only be disturbed by noise generated very close to its sett, while nesting goshawk might be disturbed by noise generated at a much greater distance; other species (e.g. many invertebrates) may be unaffected by changes in noise. In view of these complexities, the definition of the ZOIs that extend beyond the land-take area was based upon professional judgement informed as far as possible by a review of published evidence (e.g. disturbance criteria for various species) and discussions with the technical specialists who are working on other chapters of the ES.
- 8.9.10. The spatial extent of the assessment therefore reflects the area occupied by the ecological feature that is being assessed and the ZOI of the changes that are likely to affect it. Where part of a designated site which is considered as an ecological feature for the purposes of this assessment is located within the ecological ZOI relating to a particular biophysical change as a result of the Project, an assessment would be made of the effects on the designated site as a whole. A similar approach has been taken for areas of notable habitat. For species that occur within the ZOI, the assessment has considered the total area that is used by the affected individuals or the local population of the species (e.g. for foraging or as breeding territories).
- 8.9.11. It should be noted that the avoidance of potential effects through design are implicitly taken into account through the consideration of each ZOI.

TEMPORAL SCOPE

- 8.9.12. The temporal scope of the assessment of effects on Terrestrial Ecology is consistent with the period over which the development would be carried out, as defined in **Chapter 4**, and therefore covers the construction and operational periods.

8.10 ECOLOGICAL FEATURES

- 8.10.1. The starting point for defining which ecological features are taken forward to the detailed assessment stage was to use the baseline data collected through the desk study and field surveys to determine which of those are 'important' at the level of the project. Following CIEEM, the importance of ecological features was determined using a geographic scale and described in

relation to UK legislation and policy, and with regard to the extent of habitat or size of population that may be affected by the Project.

- 8.10.2. The importance of ecological features can therefore differ from that which would be conferred solely by legislative protection or identification as a conservation notable species. For example, a small length of hedgerow (a Section 7 Priority Habitat), even if deemed to be ‘important’ with regard to the Hedgerows Regulations 1997, is unlikely to be considered to have greater than ‘local’ importance due to the extent of this habitat type across a given county.
- 8.10.3. Where possible, information regarding the extent and population size, population trends and distribution of the ecological features have been used to inform the categorisation and determine importance at the project level. Where detailed criteria or contextual data are not available, professional judgement has been used to determine importance. **Table 8.10** – High-level description of features relative to the geographic scale of importance provides a high-level description of features assigned to respective geographic scale of importance and displays the corresponding level of sensitivity as set out on **Table 2.1**.

Table 8.10 – High-level description of features relative to the geographic scale of importance

Geographic Context of Importance	Corresponding Sensitivity as per Table 2.1	Description
International	Very high	- European sites (SPAs, SACs, cSACs and SCI), plus sites treated as such by national planning policy (pSPA, pSAC and Ramsar sites (designated under international convention)). - Areas of habitat or populations of species which meet the published selection criteria for designation as a European site, but which are not themselves currently designated at this level (this would be agreed with NRW where applicable).
National (UK context)	High	- Nationally designated sites including SSSIs and NNRs. - Areas (and the populations of species which inhabit them) which meet the published selection criteria guidelines for selection of biological SSSIs, but which are not themselves designated (this would be agreed with NRW where applicable). - Section 7 habitats and species, Red listed and legally protected species that are not addressed directly in Part 2 of the “Guidelines for Selection of Biological SSSIs” but can be determined to be of national importance using the principles described in Part 1 of the guidance. - Areas of Ancient Woodland e.g. woodland listed within the AWI and ancient and veteran trees.
National (Wales context)	Medium	Regularly occurring Section 7 habitats or populations of Section 7 species, Red listed, and legally protected species may be of regional (Wales) importance in the context of published information on population size and distribution.
County	Low	- LNRs and Non-Statutory Designated sites including Biodiversity Areas (referred to throughout this Chapter as Wildlife Sites for clarity) and County Wildlife Sites. - Areas which based on field data collected to inform the EcIA meet the published selection criteria for those sites listed above (for habitats or

Geographic Context of Importance	Corresponding Sensitivity as per Table 2.1	Description
		species, including those listed in relevant Local Biodiversity Action Plans) but which are not themselves designated.
Local	Very low	Section 7 habitats and species, Red listed and legally protected species that based on their extent, population size, quality etc are determined to be at a lesser level of importance than the geographic contexts above.
Site	Very low	- Common and widespread semi-natural habitats and species that do not occur in levels elevated above those of the area surrounding the Site. - Common and widespread semi-natural habitats occurring within the study area in proportions greater than may be expected in the local context. - Common and widespread native species occurring within the study area in numbers greater than may be expected in the local context.
Negligible	Very low	- Common and widespread semi-natural habitats and species that do not occur in levels elevated above those of the surrounding area. - Areas of heavily modified or managed land uses (e.g. hard standing used for car parking, as roads etc.)

- 8.10.4. All ecological features that were determined to be of ecological importance at a 'Local', 'Site' or 'Negligible' level were scoped out of the assessment at this stage, with the exception of:
- Species receiving specific legal protection or subject to legal control (e.g. invasive species); or
 - Features which consultees specifically indicated that the ES should consider.
- 8.10.5. Full details are included within **Appendix 2A** however **Table 8.11** provides a summary of the ecological features scoped out, and those scoped in, for further assessment. Ecological features are scoped in where the identified pathways for potentially significant effects lie within the relevant ZOI and where the ecological feature holds value at a County level or above.

Table 8.11 – Important ecological features (IEF) scoped in and out of the assessment

Important ecological feature (IEF)	Value of importance	Pathways for potentially significant effects upon IEFs	Scoped in / out ⁸⁷
Blackmill Woodlands SAC	International	No pathways for potentially significant effects identified.	Out
SSSIs – more than 3 km from Survey Area	National	No pathways for potentially significant effects identified.	Out
SSSI - Mynydd-Ty-Isaf (within 1 km of Survey Area)	National	Identified pathways for potentially significant effects include: habitat degradation as a result of pollution / contamination incidents during construction. Any effects on this IEF were considered likely to be temporary and short-term however was scoped in on a precautionary basis, in the absence of mitigation / embedded measures.	In
SINC - Caerau West (within Survey Area)	County	Identified pathways for potentially significant effects include: - habitat loss (permanent and / or temporary) during construction; - habitat degradation as a result of pollution / contamination results and air quality impacts / dust during construction; and - disturbance / fragmentation of species associated with the habitats.	In
Other SINC – Caerau north, Tudor west, Parc croeserw, Nant-Y-Wern	County	Identified pathways for potentially significant effects include: - habitat degradation as a result of pollution / contamination incidents and air quality / dust impacts during construction; and - disturbance / fragmentation of species associated with the habitats.	In
Priority habitats -	County	Identified pathways for potentially significant effects include: habitat loss (permanent and temporary) during construction;	In

Important ecological feature (IEF)	Value of importance	Pathways for potentially significant effects upon IEFs	Scoped in / out ⁸⁷
		- habitat degradation as a result of pollution / contamination results and air quality impacts / dust during construction; and - disturbance / fragmentation of species associated with the habitats.	
Ancient woodland	National	No pathways for potentially significant effects identified.	Out
All other habitats within the Survey Area (excluding Priority Habitats and Ancient Woodland)	Site	n/a - all other habitats within the Survey Area hold a nature conservation value of Local or Site importance and have been scoped out of the assessment.	Out
Bats	County	Identified pathways for potentially significant effects include: - tree removal or trimming / lopping works during construction, leading to loss or damage to roosts and commuting / foraging habitat; - killing, injury and disturbance of species during potential works to trees; and - Species fragmentation / disturbance as a result of changes in artificial lighting during construction.	In
Water vole	National	Identified pathways for potentially significant effects include: - habitat degradation as a result of pollution / contamination results and air quality impacts / dust during construction; - killing and / or injury of species during vegetation clearance works associated with construction; and - disturbance / fragmentation of species associated with the habitats as a result of changes in artificial lighting during construction.	In
Brown hare	Site	n/a - all other habitats within the Survey Area hold a nature conservation value of less than County importance and have been scoped out of the assessment.	Out
Harvest mouse	Local	Identified pathways for potentially significant effects include: - habitat loss (permanent and / or temporary) during construction; - killing and / or injury of species during vegetation clearance works associated with construction; and - disturbance / fragmentation of species associated with the habitats. Whilst harvest mouse is considered to be of Local importance, the species was scoped in on a precautionary basis due to being a Section 7 (S7) Priority Species and restricted distribution (but	In

Important ecological feature (IEF)	Value of importance	Pathways for potentially significant effects upon IEFs	Scoped in / out ⁸⁷
		known presence in Bridgend and the valley surrounding Maesteg) and in the absence of mitigation / embedded measures.	
Reptiles	County	Identified pathways for potentially significant effects include: ■ habitat loss (permanent and / or temporary) during construction, ■ killing and / or injury to reptiles during vegetation clearance activities during construction.	In
Amphibians (excluding GCN)	Local	n/a - all other habitats within the Survey Area hold a nature conservation value of less than County importance and have been scoped out of the assessment.	Out
Terrestrial invertebrates	Site	Terrestrial invertebrates hold a nature conservation value of less than County importance and have been scoped out of the assessment. Compliance with legislation will be applied for relevant species and mitigation such as wildflower seeding and habitat creation will enhance the Site for this species group.	Out
Badger	Site	No pathways for potentially significant effects identified (species considered to be likely absent from Survey Area).	Out
Dormouse	Site	No pathways for potentially significant effects identified (species considered to be likely absent from Survey Area).	Out
Otter	Local	No pathways for potentially significant effects identified.	Out ⁸⁸

⁸⁸ Consultation comments received as part of the Scoping Direction (**Table 8.4**), specify that whilst NRW agree with the conclusions made in respect of otter and the species being scoped out, they advise that appropriate buffers are designed from the development to all water courses / riparian habitat on site, and where works are undertaken in the vicinity of water courses, that pre-construction surveys are included within the CEMP. Otter are therefore included within **Table 8.14** as mitigation measures (in addition to the Embedded Measures) will be implemented.



Important ecological feature (IEF)	Value of importance	Pathways for potentially significant effects upon IEFs	Scoped in / out ⁸⁷
		However it was considered that otter may occasionally disperse through the network of tributaries that occur on Site but are unlikely to use the Site for regular foraging or sheltering purposes.	
Hedgehog	Site	No pathways identified (species considered unlikely to be present within Survey Area in any notable number).	Out
GCN	Site	No pathways identified (species considered unlikely to be present within Survey Area and / or outside of Zol)	Out

8.11 ASSESSMENT METHODOLOGY

- 8.11.1. The generic Project-wide approach to the assessment methodology is set out in **Chapter 2: Approach to EIA**, and specifically in **Sections 2.5 to 2.7**. However, whilst this has informed the approach that has been used in this Terrestrial Ecology Chapter, it is necessary to set out how this methodology has been applied, and adapted as appropriate, to align with the standard industry guidance provided by CIEEM.
- 8.11.2. The assessment has been based upon not only the results of the desk study and field surveys, but also relevant published information (for example on the status, distribution, sensitivity to environmental changes and ecology of the features scoped into the assessment, where this information is available), and professional knowledge of ecological processes and functions.
- 8.11.3. For each scoped-in ecological feature (**Table 8.11**), effects were assessed against the baseline conditions for that feature during construction and operation.
- 8.11.4. Throughout the assessment process, the initial results of the assessment regarding potentially significant effects have been used to inform whether additional baseline data collection is required, together with the identification of environmental measures that should be embedded into the development proposals (see **Table 8.9**). The results of the assessments therefore reflect the final scheme design (i.e. incorporating the environmental measures described in **Table 8.9**).

SIGNIFICANT EVALUATION METHODOLOGY

Overview

- 8.11.5. CIEEM defines a significant effect as one “that either supports or undermines biodiversity conservation objectives for ‘important ecological features; or for biodiversity in general’.
- 8.11.6. When considering potentially significant effects on ecological features, whether these be adverse or beneficial, the following characteristics of environmental change are taken into account⁸⁹:
 - extent – the spatial or geographical area over which the environmental change may occur;
 - magnitude – the size, amount, intensity or volume of the environmental change;
 - duration – the length of time over which the environmental change may occur;
 - frequency – the number of times the environmental change may occur;
 - timing – the periods of the day/year etc. during which an environmental change may occur; and
 - reversibility – whether the environmental change can be reversed through restoration actions.

Magnitude of change

- 8.11.7. Although the characteristics described above are all important in assessing effects by using information about the way in which habitats and species are likely to be affected, a scale of the

⁸⁹ The definitions of the characteristics of environmental change are based on the descriptions provided in CIEEM (2019). Other chapters in this ES may use some of the same terms albeit with a different definition.

magnitude of the environmental change as a result of the Project has been described in **Table 8.12**. This provides an understanding of the resultant effect in terms of relative change from the baseline position, be that adverse or beneficial. The scale of change is equivalent to the magnitude of change as per **Table 2.1** in **Chapter 2: EIA Approach**.

Table 8.12 - Guidelines for the assessment of the scale of magnitude

Scale of Change	Criteria and Resultant Effect
High	The change permanently (or over the long-term) affects the conservation status of a habitat/species, reducing or increasing the ability to sustain the habitat or the population level of the species within a given geographic area. Relative to the wider habitat resource/species population, a large area of habitat or large proportion of the wider species population is affected. For designated sites, integrity is compromised. There may be a change in the level of importance of the receptor in the context of the project.
Medium	The change permanently (or over the long term) affects the conservation status of a habitat/species reducing or increasing the ability to sustain the habitat or the population level of the species within a given geographic area. Relative to the wider habitat resource/species population, a small-medium area of habitat or small-medium proportion of the wider species population is affected. There may be a change in the level of importance of this receptor in the context of the project.
Low	The quality or extent of designated sites or habitats or the sizes of species' populations, experience some small-scale reduction or increase. These changes are likely to be within the range of natural variability and they are not expected to result in any permanent change in the conservation status of the species/habitat or integrity of the designated site. The change is unlikely to modify the evaluation of the receptor in terms of its importance.
Very Low	Although there may be some effects on individuals or parts of a habitat area or designated site, the quality or extent of sites and habitats, or the size of species populations, means that they would experience little or no change. Any changes are also likely to be within the range of natural variability and there would be no short-term or long-term change to conservation status of habitats/species receptors or the integrity of designated sites.
Negligible	A change, the level of which is so low, that it is not discernible on designated sites or habitats or the size of species' populations, or changes that balance each other out over the lifespan of a project and result in a neutral position.

Determining Significance – adverse and beneficial effects

- 8.11.8. Effects are assessed as being significant if they affect the spatial range, abundance, and other attributes of a population, which all contribute towards the sustainability of the population or habitat assessed. These can either be adverse (negatively affecting an ecological feature), or beneficial (where a resulting change from baseline improves the quality of the environment). For a beneficial effect to be considered significant, the conservation status would need to positively increase in line with a magnitude of change of “high” as described in **Table 8.12**.
- 8.11.9. A similar procedure is used where designated sites may be affected by the Project, except that the focus is on the effects on the integrity of each site; defined as:

- 8.11.10. “The coherence of its ecological structure and function, across its whole area, that enables it to sustain the habitat, complex of habitats and/or the levels of populations of the species for which it was classified”.
- 8.11.11. The assessment of effects on integrity draws upon the assessment of effects on the conservation status of the features for which the site has been designated.

8.12 ASSESSMENT OF ECOLOGICAL EFFECTS

- 8.12.1. The effects of the Project on ecological features that are scoped into this assessment, along with mitigations in place specific to these effects and any residual effects are detailed in **Table 8.13** (relevant to the construction and operational phases of the Project). Although it is expected that embedded mitigation will be successful with regard to prevention of dust deposition and hydrological pollution, for completion, here the original features have been retained. An Outline CEMP will incorporate dynamic measures pertaining to mitigation measures relevant to the Project.

Table 8.13 - Assessment of Potential Effects, Mitigation, Effects, and Monitoring during Construction and Operation

Sensitive Receptor	Potential Effects/ Mitigation/ Effects and Monitoring	
SSSI - Mynydd-Ty-Isaf	Potential Effects	In the absence of mitigation, the Project has the potential to degrade the habitats for which the SSSI is designated for, as a result of pollution / contamination incidents during construction. No direct impacts e.g. habitat loss, will occur within the footprint of the SSSI.
	Mitigation	Construction will adhere to measures outlined within a CEMP to minimise construction effects on the SSSI. Specifically, and incorporated into embedded mitigation, construction works would be undertaken using all necessary and practical measures to avoid the release of additional sediment-laden run-off into nearby watercourses. The measures prescribed within the CEMP shall be agreed with the LPA (RCTCBC) prior to start of construction and incorporated into the final ES chapter.
	Effects and Monitoring	The SSSI is highly unlikely to be subject to effects following the implementation of measures outlined within a CEMP to minimise the release of run-off into rivers as a result of the construction of the Project. On this basis, a negligible (Table 8.12) magnitude of change on an ecological feature of national (Table 8.10) importance is predicted as a result of the Project, with effects concluded to be Not Significant.
SINC - Caerau West	Potential Effects	In the absence of mitigation, the Project has the potential to affect the habitats for which the SINC is designated for, through habitat loss and degradation as a result of pollution / contamination results and air quality impacts / dust during construction. Habitat loss within the SINC will consist of:

Sensitive Receptor	Potential Effects/ Mitigation/ Effects and Monitoring	
		■ Permanent habitat loss: footprint of the OHL poles. Eight wooden H-poles are to be installed within the SINC boundary, with each H-pole consisting of two single wooden poles, assumed to have a diameter of 1.5m each⁹⁰. The total area of permanent habitat loss within the SINC is therefore 24 m². ■ Temporary habitat loss: a minimum ground clearance buffer of 6.3 m⁹¹ is required around each pole (totalling a minimum of 100.8 m²). In the absence of mitigation, the Project will also result in the disturbance / fragmentation of species associated with the habitats.
	Mitigation	Construction will adhere to measures outlined within a CEMP to minimise construction effects on the SINC. Specifically, and incorporated into embedded mitigation, construction works would be undertaken using all necessary and practical measures to avoid the release of additional sediment-laden run-off into nearby watercourses and dust management measures. Habitats which will be temporary lost will be allowed to regenerate naturally following clearance and installation of the OHL poles. Geo-grid matting or similar will also be used where vehicles / plant machinery require tracking across SINC habitats, to minimise effects to the ground flora and compaction of the soil during installation of the poles.
	Effects and Monitoring	The SINC is highly unlikely to be subject to potentially significant effects following the implementation of the mitigation measures above. Whilst permanent habitat loss will occur within the SINC, the extent of which (24 m²) is considered insignificant in relation to the available SINC boundary (0.003% of the SINC will be permanently lost).

⁹⁰ The precise diameter of OHL poles will be confirmed prior to submission of the final ES.

⁹¹ The precise / maximum ground clearance required around each OHL pole will be confirmed prior to submission of the final ES.

Sensitive Receptor	Potential Effects/ Mitigation/ Effects and Monitoring	
		An Outline Habitat Management Plan (OHMP) will also be prepared for the Project, in consultation with the LPA (BCBC), which will set out habitat enhancement and creation, management measures and monitoring requirements within the Site and SINC. Exact management and enhancement measures within the SINC are to be agreed with the LPA (BCBC) but could include invasive species control and bracken management, to ensure habitat enhancement at a ratio of at least 2:1 to that being permanently lost. With habitat management and enhancement measures implemented, a net benefit to biodiversity will occur. On this basis, a negligible magnitude of change on an ecological feature of county importance is predicted as a result of the Project, with effects concluded to be Not Significant.
Other SINCS – Caerau North, Tudor West, Parc Croeserw and Nant-Y-Wern	Potential Effects	In the absence of mitigation, the Project has the potential to affect the habitats for which the SINCS are designated for, through habitat degradation as a result of pollution / contamination and air quality impacts / dust during construction. In the absence of mitigation, the Project will also result in the disturbance / fragmentation of species associated with the habitats. No direct impacts e.g. habitat loss, will occur within the footprints of these SINCS.
	Mitigation	Construction will adhere to measures outlined within a CEMP to minimise construction effects on the SINCS. Specifically, and incorporated into embedded mitigation, construction works would be undertaken using all necessary and practical measures to avoid the release of additional sediment-laden run-off into nearby watercourses. The measures prescribed within the CEMP shall be agreed with the LPAs (BCBC for Caerau West and Tudor Street, and NPTC for Parc Croeserw and Nant-Y-Wern) prior to start of construction and incorporated into the final ES chapter.
	Effects and Monitoring	The SINCS are highly unlikely to be subject to effects following the implementation of measures outlined within a CEMP to minimise the release of run-off into rivers and dust management during construction of the Project. On this basis, a negligible magnitude of change on ecological features of county importance is predicted as a result of the Project, with effects concluded to be Not Significant.
Priority Habitats	Potential Effects	In the absence of mitigation, the Project has the potential to effect Priority Habitats within the Survey Area, through habitat loss and degradation as a result of pollution / contamination results and air quality impacts / dust during construction. Loss of Priority Habitats will consist of:

Sensitive Receptor	Potential Effects/ Mitigation/ Effects and Monitoring	
		■ Permanent habitat loss: footprint of the OHL poles. Four wooden H-poles are to be installed within marshy grassland, south of Croeserw, with each H-pole consisting of two single wooden poles, assumed to have a diameter of 1.5m each⁹². The total area of permanent habitat loss of marshy grassland is therefore 12 m². ■ Temporary habitat loss: a minimum ground clearance buffer of 6.3 m⁹³ is required around each pole (totalling a minimum of 50.4 m²). In the absence of mitigation, the Project will also result in the disturbance / fragmentation of species associated with the habitat.
	Mitigation	Construction will adhere to measures outlined within a CEMP to minimise construction effects on Priority Habitats. Specifically, and incorporated into embedded mitigation, construction works would be undertaken using all necessary and practical measures to avoid the release of additional sediment-laden run-off into nearby watercourses and dust management measures. Habitats which will be temporarily lost will be allowed to regenerate naturally following clearance and installation of the OHL poles. Geo-grid matting or similar will also be used where vehicles / plant machinery require tracking across SINC habitats, to minimise effects to the ground flora and compaction of the soil during installation of the poles.
	Effects and Monitoring	The Priority Habitat is highly unlikely to be subject to potentially significant effects following the implementation of the mitigation measures above. Whilst permanent habitat loss of priority habitat will occur within the SINC, the extent of which (24 m²) is considered insignificant in relation to the available SINC boundary (0.003% of the SINC will be permanently lost). An OHMP will also be prepared for the Project, in consultation with the LPA (BCBC and NPTC), which will set out habitat enhancement and creation, management measures and monitoring requirements for Priority Habitats within the Site. Exact management and enhancement measures are to be agreed with the LPA (BCBC and NPTC) to ensure

⁹² The precise diameter of OHL poles will be confirmed prior to submission of the final ES.

⁹³ The precise / maximum ground clearance required around each OHL pole will be confirmed prior to submission of the final ES.

Sensitive Receptor	Potential Effects/ Mitigation/ Effects and Monitoring	
		habitat enhancement at a ratio of at least 2:1 to that being permanently lost. With habitat management and enhancement measures implemented, a net benefit to biodiversity will occur. On this basis, a negligible magnitude of change on an ecological feature of county importance is predicted as a result of the Project, with effects concluded to be Not Significant.
Bats	Potential Effects	In the absence of mitigation, the Project has the potential to affect habitats used by bats for roosting, commuting and foraging purposes. Identified pathways for potentially significant effects include: ■ Tree removal: tree removal will be limited where possible however two trees with suitability for supporting bat roosts are located within 10 m of the OHL (T5; 'PRF-M' and T18 'PRF-I') and are considered 'at risk' of removal. ■ Trimming / lopping works to trees and other habitat e.g. scrub, which encroach within 4 m of the OHL, required to maintain safety clearances during operation. This includes a parcel of dense / continuous scrub present south of Croeserw (which was previously classified as 'Other – Broadleaved Woodland' during the UKHab survey). ■ Killing, injury and disturbance of species during potential works to trees. ■ Species fragmentation / disturbance as a result of changes in artificial lighting during construction. No evidence of roosting bats has been identified to date within T5 and T18 at the time of writing of this Chapter (October 2025). However further survey visits to T5 are scheduled in November 2025, in accordance with best practice survey guidelines. Due to the mobile nature of bats using PRFs on a transient basis, a low risk of direct mortality or injury resulting from tree removal, should a bat be present, could temporarily reduce the local bat population. Construction working hours will mainly be in daylight however some additional task lighting may be required. Changes in ad hoc artificial light levels could result in disturbance of bats. This could temporarily disrupt foraging, commuting or breeding behaviour in the areas where construction activities are taking place. This effect in the absence of mitigation is predicted to be low, leading to a temporary adverse effect.
	Mitigation	Where construction works occur within 10 m of trees identified as being suitable to support roosting bats, a pre-works survey (aerial inspection) of the tree will be undertaken in line with best practice guidelines, to establish if roosting bats are present during construction. A survey will be undertaken on T5 and T18. All direct works to trees and other habitats e.g. scrub, during felling or clearance works to maintain the required safety clearances will be overseen by a licensed bat ecologist, who will act as an ECoW to ensure works adhere to ecological method statements.

Sensitive Receptor	Potential Effects/ Mitigation/ Effects and Monitoring	
		The Project includes an allowance of 10 m to micro-site the OHL poles, and therefore precise locations will be determined on Site during construction, guided by a suitably qualified ecologist. In the event that trees can be retained, some trimming / lopping works are still anticipated to maintain the required safety clearances. Should bat roosts be identified present, no works to the trees shall take place until a licence from NRW has been obtained to allow the work to proceed lawfully. As part of any licencing (if required), suitable alternative roosting provisions will be provided, either as compensation or as enhancement measures (the need and design will be informed by the roost type and species affected). Any trees removed will be replaced, with new trees planted on a 3:1 ratio. During the winter months, when day length is shorter, and bat activity is likely to be low, construction task lighting will be required. Such lighting will be task specific and controlled to prevent incidental spillage on to features that may be used by nocturnal species and retained habitat.
	Effects and Monitoring	The magnitude of change in the short-term is predicted to be low as mitigation measures will avoid direct mortality or injury to bats and incidental light spill onto features used by bats and retained habitat will be suitably avoided. Any loss of trees (maximum of two trees' T5 and T18) and trimming / lopping works to trees and / or scrub within 4 m of OHL, required to maintain safety clearances (isolated to discrete locations) are predicted to be of negligible magnitude and would result in no change to the status of the County importance bat populations on Site. Effects are therefore concluded to be Not Significant.
Water vole	Potential Effects	In the absence of mitigation, the Project has the potential to effect water vole. Identified pathways for potentially significant effects include: ■ habitat degradation as a result of pollution / contamination results and air quality impacts / dust during construction; ■ killing and / or injury of species during vegetation clearance works associated with construction; and ■ disturbance / fragmentation of species associated with the habitats as a result of changes in artificial lighting during construction. No habitat loss (temporary or permanent) will occur within the areas of the Site where water vole have been confirmed present (water courses and marshy grassland at the south-western end of the Site), however construction works will occur in the vicinity. OHL poles will however be installed within areas of marshy grassland (south of Croeserw) and due to the mobile nature of the species, the presence of water vole within this area cannot be ruled out. Habitat loss at this location will entail:

Sensitive Receptor	Potential Effects/ Mitigation/ Effects and Monitoring
	■ Permanent habitat loss: footprint of the OHL poles. Four wooden H-poles are to be installed within marshy grassland, south of Croeserw, with each H-pole consisting of two single wooden poles, assumed to have a diameter of 0.75m each. The total area of permanent habitat loss of marshy grassland is therefore 12 m². ■ Temporary habitat loss: a minimum ground clearance buffer of 4 m is required around each pole (totalling a minimum of 50.4 m²). Construction working hours will mainly be in daylight however some additional task lighting may be required. Changes in ad hoc artificial light levels could result in disturbance of bats. This could temporarily disrupt foraging, commuting or breeding behaviour in the areas where construction activities are taking place. This effect in the absence of mitigation is predicted to be low, leading to a temporary adverse effect Mitigation A pre-construction survey of the footprint of the Site and a suitably sized area (250 m radius based on the ZoI of disturbance impacts) will be conducted to ascertain any new water vole habitats within the Site and to gain an up-to-date picture of locations of water vole populations immediately prior to construction. If water voles are found to be present within areas that will be impacted by the Project, a development licence will be sought from NRW to allow the work to proceed lawfully. This will include production of a Method Statement which the work must adhere to. Construction will adhere to measures outlined within a CEMP to minimise construction effects on water vole and be overseen by an ECoW. Specifically, and incorporated into embedded mitigation, construction works would be undertaken using all necessary and practical measures to avoid the release of additional sediment-laden and toxic material (e.g. from refuelling) run-off into nearby watercourses and dust management measures. Habitats which will be temporary lost will be allowed to regenerate naturally following clearance and installation of the OHL poles. Geo-grid matting or similar will also be used where vehicles / plant machinery require tracking across marshy grassland habitats, to minimise effects to the ground flora and compaction of the soil during installation of the poles. An OHMP will also be prepared which will set out habitat enhancement and creation and management measures, to benefit the local water vole population. During the winter months, when day length is shorter, and activity is likely to be low, construction task lighting will be required. Such lighting will be task specific and controlled to prevent incidental spillage on to features that may be used by nocturnal species and retained habitat.

Sensitive Receptor	Potential Effects/ Mitigation/ Effects and Monitoring	
	Effects and Monitoring	Water voles are highly unlikely to be subject to effects following the implementation of the mitigation measures outlined above. On this basis, a negligible magnitude of change on ecological features of national importance is predicted as a result of the Project, with effects concluded to be Not Significant .
Harvest mouse	Potential Effects	Whilst harvest mouse is considered to be of Local importance, the species was scoped in on a precautionary basis due to being a S7 Priority Species and restricted distribution (but known presence in Bridgend and the valley surrounding Maesteg) and in the absence of mitigation / embedded measures. In the absence of mitigation, the Project has the potential to effect harvest mouse via habitat loss and accidental killing and / or injury to harvest mice during vegetation clearance activities during construction. Habitat loss will consist of: ■ permanent loss: footprint of the OHL poles, assumed to have a diameter of 0.75m each, installed within suitable harvest mouse habitat. ■ Temporary habitat loss: a minimum ground clearance buffer of 4 m is required around each OHL pole The temporary negative effect on population size from direct mortality and disturbance could impact breeding success of the local harvest mouse population and removal of vegetation could reduce the suitable habitat available for harvest mouse on Site.
	Mitigation	A pre-works check will be carried out prior to habitat removal by a suitably experienced ecologist acting as an ECoW. Any harvest mice discovered during construction will be moved out of harm into adjacent suitable vegetation by the ECoW. The ECoW will oversee all vegetation clearance works, and will ensure clearance follows a two-stage cut (to be safeguarded by a written Method Statement) to minimise the risk of killing and / or injury of harvest mice. An OHMP will also be prepared for the Project, in consultation with the LPA (BCBC, NPTC and RCTCBC), which will set out habitat enhancement and creation, including general measures for harvest mice, management measures and monitoring requirements for Priority Habitats within the Site. Where vegetation clearance or prescribed as a management measure, clearance will be undertaken in a suitable manner for minimising effects on harvest mice.
	Effects and Monitoring	Harvest mice are highly unlikely to be subject to effects following the implementation of the mitigation measures outlined above. On this basis, a negligible magnitude of change on ecological features of local importance is predicted as a result of the Project, with effects concluded to be Not Significant .

Sensitive Receptor	Potential Effects/ Mitigation/ Effects and Monitoring	
Reptiles	Potential Effects	In the absence of mitigation, the Project has the potential to effect reptiles via habitat loss and accidental killing and / or injury to reptiles during vegetation clearance activities during construction. Habitat loss will consist of: ■ permanent loss: footprint of the OHL poles, assumed to have a diameter of 0.75m each, installed within suitable reptile habitat. ■ Temporary habitat loss: a minimum ground clearance buffer of 4 m is required around each OHL pole The temporary negative effect on population size from direct mortality and disturbance could impact breeding success of reptile species on Site and removal of vegetation could reduce the suitable habitat available for reptiles.
	Mitigation	A pre-works survey for reptiles will be carried out prior to habitat removal by a suitably experienced ecologist acting as an ECoW. Any reptiles discovered during construction will be moved out of harm into adjacent suitable vegetation by the ECoW. The ECoW will oversee all vegetation clearance works, and will ensure clearance follows a two-stage cut (to be safeguarded by a written Method Statement) to minimise the risk of killing and / or injury of reptiles. Any potential refugia / hibernacula identified on Site will be dismantled by hand during the active season. No clearance of hibernacula will take place between October – March inclusive. An OHMP will also be prepared for the Project, in consultation with the LPA (BCBC, NPTC and RCTCBC), which will set out habitat enhancement and creation, including general measures for reptiles, management measures and monitoring requirements for Priority Habitats within the Site. Where vegetation clearance or prescribed as a management measure, clearance will be undertaken in a suitable manner for minimising effects on reptiles.
	Effects and Monitoring	Reptiles are highly unlikely to be subject to effects following the implementation of the mitigation measures outlined above. On this basis, a negligible magnitude of change on ecological features of county importance is predicted as a result of the Project, with effects concluded to be Not Significant.
Otter	Potential Effects	There are no pathways for potentially significant effects on otter. However, it is considered that otter may occasionally disperse through the network of tributaries that occur on Site but are unlikely to use the Site for regular foraging or sheltering purposes.
	Mitigation	The risk of potential effects on otter is considered to be low, and construction works will not directly impact water courses or the immediate riparian habitat. Mitigation measures for otter will however be set out within the CEMP for the Project. Such measures will include:

Sensitive Receptor	Potential Effects/ Mitigation/ Effects and Monitoring	
		- Measures to ensure that construction activities do not directly or indirectly effect water courses, including implementation of appropriate buffers and fencing around construction zones to ensure personnel and plant machinery do not stray on to retained habitat, pollution and contamination prevention measures and dust management. - Ensuring all excavations will have sloped sides or have a means of escape for entrapped animals; excavations to be checked each morning by operatives prior to work within the excavation - If construction works are required in the vicinity of water courses, a pre-construction survey will be undertaken by a suitably experienced ecologist. In the unlikely event that an otter holt/ couch/ lay-up is identified and is anticipated to be adversely affected, then a mitigation strategy will be compiled and if necessary, an EPS licence obtained.
	Effects and Monitoring	Otters are highly unlikely to be subject to effects following the implementation of the mitigation measures outlined above. On this basis, a negligible magnitude of change on ecological features of site importance is predicted as a result of the Project, with effects concluded to be Not Significant

8.13 ASSESSMENT OF CUMULATIVE (INTER-PROJECT) EFFECTS

- 8.13.1. Consideration has been given as to whether any of the ecological features that have been taken forward in this chapter are likely to be subject to cumulative effects as a result of the Project and by other developments. This includes the consideration of effects summarised in **Appendix 8J** that are not significant, as a number of minor effects on an ecological feature from multiple projects may result in a significant cumulative effect.
- 8.13.2. Cumulative effects would generally be either:
- Cumulative 'ZoI' effects whereby two or more developments affect the same specific receptor (e.g. two developments in the same river catchment); or
 - Cumulative effects on the total resource (or population) of an ecological feature in a region due to two or more developments (e.g. two developments affect the same habitat type in a region, reducing its overall area).
- 8.13.3. Assessment of these is complex and relies on the definition of a reasonable scope for cumulative effects, and the availability of a reasonable baseline for other developments. However, the same principles of assessment apply, i.e. an effect would have to be significant at the 'County' level to be significant in EclA terms. In addition, the assessment focuses on those occasions where two 'not significant' effects might operate cumulatively to result in a significant effect (rather than where the effects of one development on an ecological feature are already, on their own, considered significant).
- 8.13.4. The developments within 5km of the Site which are considered as part of the cumulative assessment are detailed within **Table 8.14**. Developments are omitted from the assessment where they are considered small scale and residential such as a garage extension or tree removal within a residential property.

Table 8.14 – Cumulative assessment

Planning reference	Location	Proposals	Distance from the Project (km)	Decision	Potential cumulative effects
P2025/0043	Foel Trawsnant Wind Farm	Grid connection	Intersects	Under consideration	Due to the nature and location of this development, there could be cumulative effects when considered alongside the Project.
P/23/319/DNS	Y Bryn Wind Farm Bridgend / Neath Port Talbot	Installation of up to 18x wind turbines	0.08 km S	Under consideration	Due to the nature and location of this development, there could be cumulative effects when considered alongside the Project.
P/23/473/RLX	Upper Ogmere Wind Farm	Vary condition 2 of approved permission to increase the rotor diameter of the proposed wind turbines from 105m to 117m - the overall tip height of the wind turbines will remain as consented	0.15 km S	Under consideration	No potential cumulative effects are considered likely due to the nature and scale of the development.
P/23/555/DOC	Former Blaenllynfi Infants School, Maesteg	Approval of various conditions associated the approved permission of residential development of 20x affordable dwellings and associated works	0.27 km E	Under consideration	No potential cumulative effects are considered likely due to the nature and scale of the development.

Planning reference	Location	Proposals	Distance from the Project (km)	Decision	Potential cumulative effects
P2021/0057	Y Bryn Wind Farm	Consultation request for a Scoping Direction (EIA Development) for a proposed wind farm of up to 26 turbines (6.6 MW per turbine) with a maximum height of 250 m and 170m in rotor diameter, transformer housing, battery storage, permanent anemometry masts, access tracks, crane pads and borrow pits.	0.3 km SW	Objections	Due to the nature and location of this development, there could be cumulative effects when considered alongside the Project.
P/21/547/RLX	Land at Nanttyffyllon RFC, Blossie Street, Maesteg	Vary the standard time condition on approved planning permission for residential development for 35x houses, to extent the consent for a further 5x years	0.78 km S	Decided	No potential cumulative effects are considered likely due to the scale and nature of this proposal.
P/21/1047/SOR	Llynfi Afan Wind farm to Caerau village, Maesteg	Installation of a 33kV private wire to carry renewable electricity generated at Llynfi Afan Wind Farm (connecting at an	1 km S	Under consideration	No potential cumulative effects are considered likely due to the scale, nature and location of this proposal.

Planning reference	Location	Proposals	Distance from the Project (km)	Decision	Potential cumulative effects
		existing substation) to the village of Caerau			
P/21/901/OBS	Land at Pen Y Bryn Croeserw / Cymmer, Port Talbot	Outline application for adventure resort with 600x lodges / apartments, hotel, restaurants with car parking, landscaping, drainage, diversion of public rights of way and associated works	1.7 km NE	Decided	No potential cumulative effects are considered likely due to the scale, nature and location of this proposal.
P2022/0517	Foel Trawsnant Wind Farm	Amendment to the plans referred to in Condition 3 of the approved planning permission, including: increases in rotor diameter of 8x turbines with no increase in overall turbine height and reduction in number of turbines construction from 11 to 8.	1.8 km S	Approved	No potential cumulative effects are considered likely due to the scale, nature and location of this proposal.
P/20/42/FUL	Pant y Wal Wind Farm Ogmore Vale	Construction of 2x wind turbines, access tracks and all associated development for an	4.45 km SE	Decided	No potential cumulative effects are considered likely due to the location of this development.

Planning reference	Location	Proposals	Distance from the Project (km)	Decision	Potential cumulative effects
		operational period of 25 years			
P/22/436/SOR	Plot 4 Penllwyngwent Industrial Estate, Ogmore Vale	Development of Plot 4 involving the construction of commercial buildings. Not an EIA development.	4.6 km SE	Decided	No potential cumulative effects are considered likely due to the scale, nature and location of this proposal.
P2023/0498	Mynydd Emroch, Penycae, Neath Port Talbot	Solar farm. Consultation request on Screening Opinion for 50 MW solar farm with associated equipment, infrastructure, grid connection and ancillary works.	5 km S	Objections	No potential cumulative effects are considered likely due to the location of this proposal.
23/0611/DIS	Abergorki Wind Farm	Discharge of Conditions 9 (construction method statement) and 27 (abnormal load trial run methodology). Variation of Condition 2 to increase overall tip height of 3x turbines from 146.5 m to 149.9 m	5 km NE	Pending decision	No potential cumulative effects are considered likely due to the scale, nature and location of this proposal.



- 8.13.5. Potential cumulative effects with the Project have been identified as a result of:
- The proposed Foel Trawsnant Wind Farm Grid Connection (reference P2025/0043); and
 - The proposed Y Bryn Wind Farm (planning reference P/23/319/DNS, P2021/0057)
- 8.13.6. In the Foel Trawsnant Wind Farm ES, it does not anticipate any significant effects on any relevant IEFs following the application of mitigation.
- 8.13.7. In the Y Bryn Wind Farm Scoping Report, it has scoped in the following IEFs for assessment:
- Non-statutory designated sites (SINCs);
 - Habitats;
 - GCN;
 - Bats;
 - Dormice;
 - Birds;
 - Otter;
 - Water vole;
 - Pine marten *Martes martes*;
 - Polecat *Mustela putorius*;
 - Badger; and
 - Fish.
- 8.13.8. The Y Bryn Wind Farm ES has concluded that there will be no significant residual effects for ecological or ornithological receptors.
- 8.13.9. Due to the proximity of these developments to the Project, cumulative effects on IEFs cannot be ruled out; however, are considered unlikely to be significant with the implementation of a CEMP for both developments and the likely staggered timescales for works being carried out.
- 8.13.10. The Project includes embedded measures that will moderate these effect pathways. Additional mitigation has been proposed to reduce the significance of any effects likely to result from the anticipated impacts of the Project. The potential for cumulative effects will be assessed in the final ES once the Project specific assessment has been finalised.

8.14 CONCLUSIONS OF SIGNIFICANCE EVALUATION

- 8.14.1. No significant, long-term adverse effects are expected to result from the Project, following the application of embedded measures and additional habitat / species specific mitigation.

SUMMARY OF LIKELY RESIDUAL SIGNIFICANT EFFECTS

- 8.14.2. With the implementation of the ecological mitigation measures described in this draft ES Chapter, it is concluded likely that residual effects will be Not Significant in the long-term for those IEFs which have been assessed. Survey data collected up to September 2025 has been used to inform the assessment, conclusions and recommendations in this draft ES Chapter. It is acknowledged that survey effort for bats (hibernation aerial tree climbing surveys) is ongoing, however a worst-case approach (i.e. assumed presence of bat hibernation roosts) has been applied to this assessment and existing survey data collected taken into consideration. It is not expected that further survey data will significantly change the assessment and conclusions however the results of the further survey effort will be analysed and used to inform the final ES Chapter.
- 8.14.3. The combination of embedded mitigation and additional measures will minimise effects upon IEFs. Short term effects upon SINC, Priority Habitats and those species occupying these habitats including bats, water vole and reptiles cannot be avoided, as permanent and temporary habitat loss is necessary within the construction footprint. Permanent habitat loss, if any, will be kept to the absolute minimum required and will only occur within the footprint of the OHL poles. Temporary habitat loss will be confined to the ground clearance requirements around each OHL pole to facilitate their installation and the areas will be allowed to naturally regenerate following construction. In the longer term, habitat enhancement will improve the condition and provision of habitats within the Caerau West SINC and Priority Habitat across the Site. The benefits will be realised during the operational phase and offset the short-term adverse effects.

OUTLINE HABITAT MANAGEMENT PLAN

- 8.14.4. An OHMP will be prepared in consultation with the LPAs (BCBC, NPTC, RCTCBC) which will include details of habitat creation, enhancement and monitoring requirements across the Site. The plan will prescribe mitigation and management measures of the habitats impacted and associated species, to safeguard a net gain in nature conservation across the Site.

NET BENEFIT FOR BIODIVERSITY

- 8.14.5. To achieve a NBB, removed trees will be replaced at a 3:1 ratio. Enhancement of existing habitats will be undertaken to increase their conservation value. Wildflower seeding will take place in habitats with low species-diversity. Long-term habitat monitoring of reinstated habitats will ensure that the Project achieves a NBB in the long-term and when the Project is in its operational phase. All mitigation and enhancement measures will be agreed with the LPAs (BCBC, NPTC and RCTCBC).

8.15 FURTHER WORK TO BE UNDERTAKEN

- 8.15.1. The final assessment of potentially significant effects will be reported in the final ES. This section describes the further work to be undertaken to support the biodiversity assessment presented in the final ES.

BASELINE

- 8.15.2. Aerial tree climbing surveys of trees are ongoing to determine the likely absence or presence of bat roosts. T5 has been identified as exhibiting 'PRF-M'; potential roosting features suitable for



supporting multiple bats. In accordance with best practice guidelines, further surveys are scheduled for November 2025 (to establish hibernation use).

9 ORNITHOLOGY

9.1 INTRODUCTION

- 9.1.1. This Chapter reports the outcome of the assessment to determine whether there are significant effects arising from the Project with respect to ornithology including breeding birds.
- 9.1.2. This Chapter (and its associated figures and appendices) is intended to be read as part of the wider ES. The preliminary assessment is based on information obtained to date. It should be read in conjunction with the Project description provided in **Chapter 4: Description of the Project** and with respect to relevant parts of the following chapters:
- **Chapter 6:** Landscape and Visual Impact Assessment (due to the association between removing, replacing and creating habitats and the Project's ability to achieve a Net Benefit for Biodiversity (NBB) (Welsh Government, 2024); and
 - **Chapter 8:** Terrestrial Ecology.
- 9.1.3. Supporting documents are provided as Appendices to this chapter and include the following document:
- **Appendix 9A:** Ornithology Survey Report.
- 9.1.4. Within this Chapter, the 'Project' refers to construction of an overhead line (OHL) and underground cables (UGC), proposed to connect the Upper Ogmore Wind Farm to the wider national grid. The area to be covered by the OHL and UGC is hereafter referred to as the 'Site' and is shown in red on **Figure 8.1**.

9.2 POLICY, LEGISLATION AND GUIDANCE

LEGISLATIVE FRAMEWORK

- 9.2.1. The applicable legislative framework is summarised in Table 9-1.

Table 9-1 - Summary of Relevant Legislation

Legislation	Legislative Context
The Conservation of Habitats and Species Regulations 2017⁹⁴	The Habitats Regulations transpose the Habitats Directive¹ into English and Welsh law. The regulations provide for the designation and protection of European sites, the protection of certain species (referred to as European Protected Species or

⁹⁴ Conservation of Habitats and Species Regulations 2017 ("the Habitats Regulations") has been amended by (inter alia) the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 [online]. Available at: <https://www.legislation.gov.uk/ukdsi/2019/9780111179512/contents?sort=year> [Accessed July 2025].

Legislation	Legislative Context
	EPS) and the adaptation of planning and other controls for the protection of European sites
Wild Birds Directive (Council Directive 79/409/ EEC on the conservation of wild birds)⁹⁵	The Wild Birds Directive provides wide ranging protection for Europe's wild birds. It identifies 194 species and sub-species of wild birds that are endangered or at risk and therefore requiring additional conservation measures and consideration. The provisions of the Wild Birds Directive are transposed into UK law by means of Part I of the Wildlife and Countryside Act 1981⁴ (as amended) and also under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019¹.
The Environment (Wales) Act 2016⁹⁶	The Act makes provisions within Wales for the planning and managing of natural resources at national and local level. Section 6 of the Act introduces the biodiversity and resilience of ecosystems duty whereby public authorities are required to seek to maintain and enhance biodiversity so far as it is consistent with the proper exercise of those functions. Section 7 of the Act introduces a list of living organisms and types of habitat in Wales, known as Species or Habitats of Principal Importance, which in Wales are considered of key significance to sustain and improve biodiversity.
The Wildlife and Countryside Act 1981 (as amended) (WACA)⁹⁷	This act consolidates and amends existing national legislation to implement the Bern Convention. This piece of legislation remains the primary UK mechanism for statutory site designations (e.g. Sites of Special Scientific Interest, SSSI) and the protection of individual species listed under Schedules 1, 5 and 8 of the Act, each subject to varying levels of protection.
Countryside & Rights of Way Act 2000⁹⁸	This act details further measures for the management and protection of SSSIs and strengthens wildlife enforcement legislation

POLICY

9.2.2. A summary of the relevant national and local planning policy is given in Table 9-2.

⁹⁵ European Commission (1992). Council Directive 92/43/EEC on the Conservation of natural habitats and wild flora and fauna. (Online) Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:31992L0043&from=EN> [Accessed July 2025].

⁹⁶ The Environment (Wales) Act 2016. Available at: <https://www.legislation.gov.uk/anaw/2016/3/contents> [Accessed 8 July 2025].

⁹⁷ The Wildlife And Countryside Act 1981 (as amended). Available at: <https://www.legislation.gov.uk/ukpga/1981/69> [Accessed July 2025].

⁹⁸ Countryside and Rights of Way Act 2000. Available at: <https://www.gov.uk/guidance/open-access-land-management-rights-and-responsibilities> [Accessed July 2025].

Table 9-2 - Summary of Relevant National and Local Planning Policy

Policy	Policy Context
National planning policy	
Future Wales; National Development Framework 2021⁹⁹	The Welsh national development framework sets the direction for development in Wales to 2040 and includes a Habitats Regulations Assessment. Policy 9 – Resilient Ecological Networks and Green Infrastructure outlines measures to ensure the enhancement of biodiversity, the resilience of ecosystems and the provision of green infrastructure. The enhancement of biodiversity will be considered through embedded environmental measures and mitigation measures.
Planning Policy Wales (PPW) – Chapter 6 Distinctive and Natural Places (12th Ed.; 2024)¹⁰⁰	NRW have developed a framework for evaluating ecosystem resilience based on five attributes and properties specified in the Environment (Wales) Act 2016. This is referred to as DECCA and comprises the objectives listed: ■ Diversity – maintaining and enhancing diversity at every scale, including genetic, structural, habitat and between-habitat levels. This supports the complexity of ecosystem functions and interactions that deliver services and benefits. ■ Extent – incorporating measures which maintain and increase the area of semi-natural habitat/features and linkages between habitats. In general, smaller ecosystems have reduced capacity to adapt, recover or resist disturbance. ■ Condition – the condition of an ecosystem is affected by multiple and complex pressures acting both as short term and longer-term types of disturbance. Both direct and wider impacts should be considered, for example avoiding or mitigating pressures such as climate change, pollution, invasive species, land management neglect etc. ■ Connectivity – this refers to the links between and within habitats, which may take the form of physical corridors, stepping stones in the landscape, or patches of the same or related vegetation types that together create a network that enables the flow or movement of genes, species and natural resources. Developments should take opportunities to develop functional habitat and ecological networks within and between ecosystems, building on existing connectivity. ■ Adaptability to change – ecosystem resilience is a product of the above four attributes. Adaptability, recovery and resistance to/from a disturbance are defining features of ecosystem resilience. NRW define ecosystem resilience as “An environment that can respond to pressures by resisting, recovering or adapting to change, and is able to continue to provide natural resources and benefits to people”.

⁹⁹ Welsh Government (2021) Future Wales: The National Plan 2040, February 2021. [online]. Available at: <https://gov.wales/future-wales-national-plan-2040>. [Accessed July 2025].

¹⁰⁰ Welsh Government (2024) Planning Policy Wales, Edition 12, February 2024. [online]. Available at: Planning Policy Wales - Edition 12 (Gov.Wales). [Accessed 8 August 2024].

Policy	Policy Context
Technical Advice Note 5 (TAN5) Nature Conservation and Planning (2009) ¹⁰¹	Welsh Government's (WG) policy on positive planning for nature conservation and developments affecting designated sites and habitats, along with protected priority habitats and species. The ES will consider the effects of the Project on designated sites and habitats, priority habitats and priority species. This Chapter will identify any designated sites of ornithological importance and assess the potential impact of the Project.
Local planning policy	
Replacement Bridgend Local Development Plan 2018 to 2033 (adopted 2024)	The LDP acts as a framework for the control of development and land use within the Bridgend County Borough Council administrative boundary. It constitutes the development plan for Bridgend County Borough and will be the basis for decisions on land-use planning in the area. It sets out key policies and land use allocations that will shape the future of Bridgend County Borough and guide development up to 2033. Policy SP17 of the LDP specifies that development proposals will not be permitted where they will have an adverse impact upon the integrity of the County Borough's countryside, the character of its landscape, its biodiversity and habitats and the quality of its natural resources including water, air and soil. DNP6 states that all development proposals must contribute to biodiversity net gain and improved ecosystem resilience, as demonstrated through planning application submissions.
Bridgend Biodiversity Duty Plan 2022-2025	The measures set out in this Plan are part of broader ambitions by the Council to deliver a healthy natural environment, supporting communities and livelihoods.

GUIDANCE

9.2.3. A summary of the technical guidance for ornithology is given in Table 9-3.

Table 9-3 - Summary of Technical Guidance used to Inform the Ornithology Assessment

Technical Guidance Document	Context
Ecological Impact Assessment guidance Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial,	This guidance sets out recommended methodologies for the assessment of impacts on ecological features (including ornithological features).

¹⁰¹ Welsh Government, (2009). Planning Policy Wales Technical Advice Note 5: Nature Conservation and Planning.

Technical Guidance Document	Context
Freshwater, Coastal and Marine Version 1.3 ¹⁰²	
Bird Survey Guidelines ¹⁰³	These guidelines are intended for the purpose of assessing ecological impacts including Ecological Impact Assessments (EclA) and Environmental Impact Assessments (EIA).
Bird monitoring methods <i>Bird Monitoring Methods: A manual of techniques for key UK species</i> ¹⁰⁴	This guidance sets out the standard methodologies for bird monitoring, including breeding bird surveys and species-specific surveys, such as nightjar <i>Caprimulgus europaeus</i> surveys. These methods form the basis of the approach to the ornithology assessment with any deviations discussed within the baseline report.
Breeding wader surveys <i>A method for censusing upland breeding waders</i> ¹⁰⁵	This guidance outlines the survey techniques used to survey breeding waders in upland habitats. This is a recommended approach included in the Scottish National Heritage onshore windfarm guidance.
Raptor Guidance Methods <i>Raptors: a field guide to survey and monitoring (3rd Edition)</i> ¹⁰⁶	This guidance outlines the survey techniques that should be employed to successfully survey each of the raptor species regularly occurring in Britain. These methods form the basis of the approach to the breeding raptor assessment and wider ornithology assessment, with any deviations discussed within the baseline report.
Scottish National Heritage March 2025 Guidance. Assessment and mitigation of impacts of power lines and guyed meteorological masts on birds ¹⁰⁷	This guidance document provides advice on how to assess the potential impacts on birds of proposed overhead power lines. It includes advice on mitigating risk of collisions both with power lines and with guyed meteorological masts. This document replaces the previous 2016 version with minor text and reference updates.
Scottish National Heritage Onshore windfarm guidance.	The principles and methods of surveys required for assessing a power line development are broadly similar to those set out in this guidance. This guidance is then used to plan an appropriate suite of surveys. Sets out the

¹⁰² CIEEM (2024) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine Version 1.3 Updated September 2024. Chartered Institute of Ecology and Environmental Management; Winchester, UK.

¹⁰³ Bird Survey & Assessment Steering Group. (2025). Bird Survey Guidelines for assessing ecological impacts, <https://birdsurveyguidelines.org> [date accessed 15/07/2025]

¹⁰⁴ Gilbert, G, Gibbons, D.W. & Evans, J. (1998). Bird Monitoring Methods: A manual of techniques for key UK species. RSPB, Bedfordshire

¹⁰⁵ Brown, A. F. and Shepherd, K. B. (1993) A method for censusing upland breeding waders. Bird Study, 40, pp. 189-195.

¹⁰⁶ Hardey, J., Crick, H., Wernham, C., Riley, H., Etheridge, B. & Thompson, D. (2013). Raptors: a field guide to survey and monitoring (3rd Edition). The Stationery Office, Edinburgh

¹⁰⁷ Haw, J (2016) Assessment and mitigation of impacts of power lines and guyed meteorological masts on birds. Nature Scot. Available at: <https://www.nature.scot/doc/guidance-assessment-and-mitigation-impacts-power-lines-and-guyed-meteorological-masts-birds>

Technical Guidance Document	Context
<i>NatureScot (2025). Recommended bird survey methods to inform impact assessment of onshore wind farms¹⁰⁸</i>	industry standard for vantage point survey methodology including standardised size of survey area, frequency of visits and timing of surveys. Following this technical guidance provides robust data which can be widely interpreted and enables collision risk modelling analysis. This document also provides recommendations for approaches to distribution and density surveys, species specific surveys, mitigation and assessment considerations.
<i>The status of our bird populations: the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain.¹⁰⁹</i>	Provides guidance for assessing the national conservation status of bird species which breed or overwinter in the United Kingdom. Birds are assessed using a set of different objectives and attributed to either Red, Amber or Green lists subject to their current status. This has been used to inform survey and desk study approaches (i.e. to identify target species) and to inform assessment approaches.
<i>Birds of Conservation Concern Wales 4: The population status of birds in Wales (BoCC Wales 4)¹¹⁰</i>	This provides specific guidance with respect to the conservation status of breeding, migratory and overwintering bird populations in Wales. It follows the approach described for the UK in BoCC 5. This has been used to inform survey and desk study approaches (i.e. to identify target species) and to inform assessment approaches.

9.3 CONSULTATION

9.3.1. The assessment has been informed by consultation responses and ongoing stakeholder engagement. This Chapter has taken account of:

- A Scoping Report (**Appendix 2A**) which set out the overall approach that would be taken in an EclA for the Project. This assessed the potentially significant effects of the Project with respect to Ecology and the potential Zone of Influence (ZoI) for these effects;
- An EclA Scoping Opinion request submitted to Planning and Environment Decisions Wales (PEDW) in April 2025;

¹⁰⁸ NatureScot (2025). Recommended bird survey methods to inform impact assessment of onshore wind farms.

¹⁰⁹ Stanbury, A., Eaton, M., Aebischer, N., Balmer, D., Brown, A., Douse, A., Lindley, P., McCulloch, N., Noble, D., and Win I. 2021. The status of our bird populations: the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain. British Birds 114: 723-747

¹¹⁰ Johnstone, I.G., Hughes, J., Balmer, D.E., Brenchley, A., Facey, R.J., Lindley, P.J., Noble, D.G. and Taylor, R.C. Online First. Birds of Conservation Concern Wales 4: the population status of birds in Wales. Milvus: the Journal of the Welsh Ornithological Society. Available at: <https://tinyurl.com/BoCCW4>

- Response from Natural Resources Wales (NRW) in the form of a Scoping Response on 9th May 2025 (**Appendix 2B**); and
- Response from PEDW in the form of a Scoping Direction on 19th June 2025 (**Appendix 2C**).

9.3.2. A summary of the relevant responses received in the Scoping Direction from PEDW (which incorporated consultation responses from NRW, NPCTBC, BCBC and Rhondda Cynon Taf County Borough Council (RCTCBC)¹¹¹ in relation to Ornithology and confirmation of how these have been addressed within the assessment to date is presented in Table 9.4 – Summary of PEDW’s Scoping Direction consultation responses (which incorporates NRW’s Scoping Response) relevant to Ornithology

Table 9-4 - Summary of PEDW’s Scoping Direction consultation responses (which incorporates NRW’s Scoping Response) relevant to Ornithology

ID	Consideration	How this has been addressed in the Draft ES
ID.35	<u>Assessment of impacts</u> BCBC confirms they agree with the assessment, and the recommendations and mitigations as set out in section 5.6 of the Scoping Report (SR). PEDW notes the SR states that further data searches and surveys are due to be completed, and that upon receipt, the assessment of impacts on ornithology will be refined. The SR also states further assessments are anticipated to be needed for statutory designated sites of national importance (Mynydd-Ty-Isaf SSSI and Eglwys Nunydd Reservoir SSSI) alongside a review of detailed / final project design. NPT welcomes that the SR recommends consultation with the LPA is undertaken following further assessment, in relation to developing suitable mitigation strategies for specific ornithological species where required. PEDW recommends BCBC and NRW are also consulted.	Further assessment and targeted species surveys have been undertaken for species scoped in. Consultation with BCBC, RCTCBC will be undertaken in relation to the assessment of designated statutory sites, and any mitigation measures shall be incorporated into the final ES chapter (in the form of a Method Statement to minimise impacts during construction).
ID.36	NRW notes the proposed surveys and states these should be in line with industry best practice - Bird Survey Guidelines¹¹ NRW states that species-specific surveys should also be considered and should be informed by the habitat on site as well as the results of any desktop survey conducted to date. They add that surveys for birds during the non-breeding season may also be required, which will be informed by more robust desktop surveys.	Surveys are being undertaken as per industry best practice. Species-specific and species group surveys are being undertaken which was informed by the habitat on site as well as the results of desktop surveys. This includes breeding and winter raptor surveys, and nightjar surveys. Consideration is given to the significant effects on these species and that appropriate

111 Whilst the Project does not cross the boundary of RCTCBC, the local planning authority was included within the consultation request due to the wider Study Area and the relevance of the Mynydd Ty-Isaf SSSI (which falls under RCTCBC boundary) to the Project.

ID	Consideration	How this has been addressed in the Draft ES
	NRW advises that surveys during both the breeding and non-breeding season should take into account the need to determine impacts on protected sites with bird features within the zone of influence of the proposal. NRW advises the surveys are included within the ES. NRW also advises consideration is given to the likely significant effects on these species and that appropriate avoidance, minimisation, mitigation and / or compensation is proposed following the stepwise approach within PPW.	avoidance, minimisation, mitigation and / or compensation is proposed following the stepwise approach within PPW
ID.37	<u>Cumulative effects</u> 'PEDW recommends the applicant liaises with both LPAs on development proposals that should be included in the cumulative assessment, as they will be aware of developments in their area which will need to be considered. PEDW advises that further to paragraph 1.1.5 of the Scoping Report, Upper Ogmere Wind Farm and Foel Trawsnant Grid Connection should also be included in the cumulative assessment'.	Cumulative effects are discussed in Section 9.12.

9.4 DATA GATHERING METHODOLOGY

STUDY AREA

- 9.4.1. The Study Area for the ornithology assessment can be broadly split into two categories: desk-based assessment, and survey work.
- 9.4.2. The Study Area for the desk-based assessment includes the Project plus a 20km search area for internationally designated nature conservation sites with ornithological interest features or supporting habitat, including Special Protection Areas (SPA) and Ramsar sites (as shown on **Figure 9.1**). Full details of the desk-based assessment are found within the Baseline Ornithology Report (**Appendix 9A**).
- 9.4.3. The Study Area for survey work consists of the Project with an additional survey buffer based on appropriate guidance, as specified below. All surveys fall within this Study Area with defined survey areas for specific survey types. Survey areas include:
 - MBS – Project plus 500m buffer (as shown on **Figure 9.2**);
 - Breeding raptor survey area - Project plus 2km buffer (as shown on **Figure 9.3**);
 - Nightjar Survey - Project plus 500m buffer (as shown on **Figure 9.2**); and
 - Vantage Point survey area - Vantage point location including 2km viewshed that provides coverage of the Project and an additional 500m buffer (as shown on **Figure 9.4**).
- 9.4.4. Non-breeding surveys have not yet been undertaken and are programmed for between November 2025 and February 2026 and will take the form of winter. The Study Area will be the Project plus 2km buffer.

DESK STUDY

- 9.4.5. Data was obtained via desk study in May 2024¹¹², and as part of the Scoping Report in February 2025 (Appendix A), for the following:
- Internationally designated statutory sites of ornithological importance (Special Protected Areas (SPA) and Ramsar Sites) within 20km of the Project Site;
 - Nationally designated statutory sites of ornithological importance (Site of Special Scientific Interest (SSSI), National Nature Reserves (NNR) within 10km of the Project;
 - Non-statutory sites of ornithological interest (Local Nature Reserves (LNR), Sites of Importance for Nature Conservation (SINCs)) within 2km of the Project; and
 - Target Species listed as Priority Species in Section 7 of The Environment (Wales) Act 2016 and species included on the Red List for Birds of Conservation Concern 5 (Stanbury et al 2021)¹¹³ or Red-listed Birds of Conservation Concern 4 Wales (Johnstone et al 2023¹¹⁴) within 2km of the Project.
- 9.4.6. A summary of the organisations that have supplied data, together with the nature of that data is outlined in Table 9-5.

Table 9-5 - Summary of Desk Study Data Sources

Organisation	Data Source	Data Provided
Natural Resources Wales (NRW) ¹¹⁵	Designated Site Search	Information on statutory site designations with ornithological interest features (i.e. specified bird species listed as qualifying features or supporting habitats for target bird species

¹¹² CSA (2024) Preliminary Ecological Appraisal. Upper Ogmere Wind Farm. CSA/6891/01. CSA Environmental. August 2024.

¹¹³ Stanbury, A., Eaton, M., Aebischer, N., Balmer, D., Brown, A., Douse, A., Lindley, P., McCulloch, N., Noble, D., and Win I. 2021. The status of our bird populations: the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain. British Birds 114: 723-747.

¹¹⁴ Johnstone, I.G., Hughes, J., Balmer, D.E., Brenchley, A., Facey, R.J., Lindley, P.J., Noble, D.G. and Taylor, R.C. Online First. Birds of Conservation Concern Wales 4: the population status of birds in Wales. Milvus: the Journal of the Welsh Ornithological Society.

¹¹⁵ Natural Resources Wales (2022). Find protected areas of land and sea. (Online) Available at: <https://naturalresources.wales/guidance-and-advice/environmental-topics/wildlife-and-biodiversity/protected-areas-of-land-and-seas/find-protected-areas-of-land-and-sea/?lang=en> (Accessed 28 April 2020)

Organisation	Data Source	Data Provided
Joint Nature Conservation Committee (JNCC) ¹¹⁶	Interactive website	Details of statutory site designations including reasons for designation, condition of designated areas and 'features' of designations.
Multi-Agency Geographic Information for the Countryside (MAGIC) ¹¹⁷	Interactive website	Spatial information of statutory designated sites within the Study Area
South East Wales Biodiversity Records Centre (SEWBRc)	Biological record centre request	Non-statutory site descriptions and designations, and ornithological species data.

SURVEY METHODOLOGY

BREEDING BIRD SURVEYS

9.4.7. Survey effort during the breeding season for birds comprised of the following methodologies;

- Vantage Point Flight Activity Surveys – completed April-August 2025;
- MBS – completed April-July 2025;
- Breeding Raptor Surveys completed April-July 2025; and
- Species specific surveys for nightjar (completed June and July 2025).

9.4.8. A summary of the approaches is provided below. Full details of the survey methodologies are provided in Appendix 9A.

Vantage Point Surveys

9.4.9. VP surveys were completed following NatureScot guidance¹⁶ as detailed in Table 9-3. Surveys comprised of two, 2km viewsheds which provide full coverage of the Project and 500m buffer. The VP locations and bearings are provided in **Table 9-6** and presented in Appendix 9A.

Table 9-6 – VP Locations and Orientation

VP	Grid Reference	Bearing
1	SS 84708 94123	180°
2	SS 87969 93317	0°

¹¹⁶ Joint Nature Conservation Committee (2022). Homepage. (Online) Available at: <https://jncc.gov.uk/> (Accessed April 2022).

¹¹⁷ Defra. Magic (Online). Available at: <https://magic.defra.gov.uk/> (Accessed 7 April 2020)

- 9.4.10. VP surveys were completed during the breeding season between April and August 2025, extended to include the late breeding for honey buzzard *Pernis apivorus*, with monitoring targeting a minimum of 36 hours of monitoring during that period. This typically comprised of 6 hours of monitoring per month with bird flight activity collected during three-hour watches.
- 9.4.11. Target species were identified as those that are provided specific protection through legislation or those that represent qualifying interest in designated sites in the wider area. The target species for the surveys are:
- Protected raptors and owls including red kite *Milvus milvus*, peregrine *Falco peregrinus*, goshawk *Accipiter gentilis*, merlin *Falco columbarius*, kestrel *Falco tinnunculus*¹¹⁸, hobby *Falco subbuteo*, osprey *Pandion haliaetus*, barn owl *Tyto alba*, short-eared owl *Asio flammeus*; and
 - Waterbirds including: all wildfowl species (except feral species, mute swan *Cygnus olor*, Canada goose *Branta canadensis*, greylag goose *Anser anser*, and mallard *Anas platyrhynchos*) and all wader species, primarily targeting wintering golden plover *Pluvialis apricaria* and species that have potential to breed on site (notably curlew *Numenius arquata* and lapwing *Vanellus vanellus*).
- 9.4.12. As collision risk cannot be assessed quantitatively for overhead lines, a qualitative approach was undertaken by identifying hotspot areas (for potential marking of the wires to reduce risk of collision) where there are high levels of flight activity recorded and/or where vulnerable species are noted. For target species, the height band (HB) was recorded every 15 seconds at the following height thresholds:
- HB1 <25m;
 - HB2 25m -100;
 - HB3 100m - 200m; and
 - HB4 ≥ 200m.
- 9.4.13. Secondary species were also recorded to provide contextual information and an indication of flight activity of other species. This included:
- All non-Annex I/Schedule 1 raptor species (e.g., common buzzard *Buteo buteo*, sparrowhawk *Accipiter nisus*, long-eared owl *Asio otus*, tawny owl *Strix aluco*) and raven *Corvus corax*;
 - All Schedule 1 species not considered within target species criteria (e.g., crossbill *Loxia curvirostra*, kingfisher *Alcedo atthis*);
 - Priority species listed on Section 7 of the Environment (Wales) Act 2016³;
 - BoCC 5 UK Red List species¹⁶; and
 - BoCC 4 Wales Red List species¹⁷.

¹¹⁸ Kestrel are included as a target species as studies across Europe have demonstrated that kestrel are more susceptible to collision risk than other species, and they are a Priority Species that has undergone considerable decline in Wales (De Lucas et al., 2008; Duriez et al., 2023; Heywood et al., 2024).

Moorland Bird Survey

- 9.4.14. Breeding bird surveys were undertaken between April and July 2025 inclusive, following an adapted Moorland Bird Survey (Brown and Shepherd 1993)¹¹⁹ methodology. Full details of the methods used are provided in Appendix 9A. Surveys covered the survey area shown in Appendix 9A.
- 9.4.15. Four visits were undertaken between April and July in 2025 with surveyors completing a walkover of the Site and recording registrations (i.e. observations or aural records of birds singing/calling) for target species.
- 9.4.16. Target species and secondary species were identified from information within the desk study and those species considered likely to occur on the Site. This included:
- All waterfowl and waders (except feral species, mute swan, Canada goose, greylag goose and mallard);
 - All Schedule 1 species;
 - Priority species listed on Section 7 of the Environment (Wales) Act 2016³;
 - BoCC 5 UK Red List species¹⁶; and
 - BoCC 4 Wales Red List species¹⁷.
- 9.4.17. Registrations were analysed using a territory mapping approach to identify species likely to be breeding on site. This was used to identify habitats and parts of the Site where notable and protected species occur or where birds occur at a higher density.

Breeding Raptors

- 9.4.18. Breeding raptor surveys were undertaken between April and July 2025 inclusive, following an adapted method based on Hardey et al. (2013)¹³ survey methodology. Full details of the methods used are provided in of Appendix 9A.
- 9.4.19. The survey comprised a combination of informal vantage points watches (to identify potentially displaying/territorial pairs or individual birds), searches of suitable habitat to identify nesting locations and monitoring of any recorded nests to record the presence and fledging of young. The survey areas comprised the site boundary and all suitable habitat within a 2km buffer as shown in Appendix 9A.
- 9.4.20. Target species were identified through the desk study and other initial surveys (such as VP surveys) and included protected or notable raptor species including goshawk, red kite, peregrine, merlin, hobby and kestrel.

Nightjar Surveys

- 9.4.21. Breeding nightjar surveys were undertaken between June and July 2025 inclusive following methods based on Gilbert et al. (1998)¹¹. Full details of the methods used are provided in Appendix 9A.

¹¹⁹ Brown, A. F. and Shepherd, K. B. (1993) A method for censusing upland breeding waders. Bird Study, 40, pp. 189-195.

- 9.4.22. Surveys comprised two survey visits during the breeding season (June and July) in 2025 and covered all suitable habitat within the Site boundary and a 500m buffer.

NON-BREEDING BIRD SURVEYS

- 9.4.23. Winter walkover surveys will be undertaken in November 2025 to February 2026. These will consist of one survey (walked transect) per month following best practice survey methodology. The surveys would be targeted towards golden plover *Pluvialis apricaria*, but would also record incidental records of wintering raptors and waders. These results will be included in the Final ES.

9.5 LIMITATIONS OF THIS ASSESSMENT

- 9.5.1. The following limitations and assumptions relating to the collection of the ornithological baseline data are relevant to the assessment:
- No non-breeding bird surveys have been undertaken to date. These are programmed for winter 2025/2026. However, a precautionary approach has been applied to this assessment. All VP surveys, Moorland Bird Surveys (MBS), nightjar *Caprimulgus europaeus* and breeding raptor surveys have been completed. The results of the remaining winter survey visits will be presented within the final ES chapter, for Development of National Significance (DNS) submission.
 - Poor weather during the data collection programme resulted in occasions where Vantage Point (VP) surveys were cancelled or not undertaken during May 2025. However, these were able to be rescheduled for near the start of the following month, and therefore, there was no loss in the quantity of survey data collected, and therefore no specific limitations with the survey programme and results were recorded.
 - During the MBS undertaken on 28 May 2025, two 500m squares were abandoned. These were both at the eastern end of the Site, adjacent to the A4107. A flock of sheep had been herded for treatment activities into the area next to the gate required for access to the track, and therefore it was not possible to continue the survey into this area. These areas have been subject to multiple MBS surveys where access was not a factor. In addition, due to the high level of sheep grazing in this area, the areas are considered to be of low suitability to support breeding waders and waterfowl, and therefore this is not considered to be a significant limitation.

9.6 OVERALL BASELINE

- 9.6.1. The description of the ornithological features below provides a summary of the baseline as determined through the desk study and surveys undertaken to date. Full details, as well as figures showing detailed survey results, are included within the baseline ornithology survey report (**Appendix 9A**)

Internationally Designated Statutory Sites of Ornithological Importance

- 9.6.2. There are no internationally designated sites within 20km which include birds as designated features.

Nationally Designated Statutory Sites with features of Ornithological Importance

- 9.6.3. There are two national designated sites within 10km with ornithological interest features (i.e. specified bird species listed as qualifying features or supporting habitats for target bird species as designated features). This includes Mynydd-Ty-isaf SSSI, and Eglwys Nunydd Reservoir SSSI.
- 9.6.4. Mynydd-Ty-isaf SSSI is the nearest to the Project (0.5km northeast). Mynydd-Ty-isaf SSSI is characterised by the cliffs and crags of glacial corries which support a mosaic of vegetation types. The high crags provide nesting sites for Schedule 1 raptors. Eglwys Nunydd Reservoir SSSI is the largest freshwater body in the county. The reservoir attracts large numbers of wintering waterfowl and passage migrants. Notable species including great crested grebe *Podiceps cristatus*, little grebe *Tachybaptus ruficollis*, mallard *Anas platyrhynchos*, gadwall *Mareca strepera* and coot *Fulica atra*.

Non-statutory Sites of Ornithological Importance

- 9.6.5. There are no non-statutory sites which include ornithological interest features (i.e. specified bird species listed as qualifying features or supporting habitats for target bird species within 2km of the Project).

Notable and Protected Bird Species – Desk Study

- 9.6.6. Using a search radius of 2km, the desk study¹⁸ returned 2873 records of 123 bird species, dating from 1974 to 2023. These records are summarised highlighting species which are likely to occur as breeding or overwintering species within the ornithological baseline survey report (**Appendix 9A**).

Target Bird Species – Breeding Bird Surveys

- 9.6.7. Two target species were recorded during the VP surveys in 2025: red kite and kestrel.
- 9.6.8. The following target species were recorded and confirmed or assumed to be breeding within the Study Area through the breeding raptor surveys:
- One species listed on Schedule 1 of the Wildlife & Countryside Act (1981) were recorded as breeding or holding territory: peregrine;
 - Other breeding non-Schedule 1 raptor species: kestrel.
- 9.6.9. One pair of peregrine were identified breeding within the Study Area, approximately 370m from the Project.
- 9.6.10. One pair of kestrels were identified breeding within the Study Area, approximately 1.3km south-southeast of the easternmost extent of the Project.
- 9.6.11. Red kite was observed regularly throughout the breeding periods during breeding raptor and VP surveys, though none of the observations were indicative of breeding or holding a territory. It is assumed that red kite occurs as a non-breeding resident.
- 9.6.12. Two nightjar males were recorded churring in the Study area during the nightjar surveys. Nightjar are listed on Section 7 of the Environment (Wales) Act (2016).
- 9.6.13. No target species were recorded and confirmed or assumed to be breeding within the Study Area during the MBS.
- 9.6.14. The following secondary species were recorded during the VP surveys:

- Six species are listed on Section 7 of the Environment (Wales) Act (2016): common cuckoo *Cuculus canorus*, common linnet *Linaria cannabina*, common starling *Sturnus vulgaris*, skylark *Alauda arvensis*, herring gull *Larus argentatus*, and song thrush *Turdus philomelos*.
- Eight species are listed on the BoCC Wales 4¹⁷ Red list: common cuckoo, common linnet, starling, swift *Apus apus*, herring gull, lesser black-backed gull *Larus fuscus*, meadow pipit *Anthus pratensis*, and willow warbler *Phylloscopus trochilus*; and
- Six species are listed on the BoCC 5 UK¹⁶ Red list: common cuckoo, common linnet, swift, herring gull, house sparrow *Passer domesticus*, and mistle thrush *Turdus viscivorus*.

9.6.15. The following protected or notable species were recorded during the MBS:

- Nine species are listed on Section 7 of the Environment (Wales) Act (2016): common cuckoo, common linnet, common starling, skylark, herring gull, house sparrow, reed bunting *Emberiza schoeniclus*, tree pipit *Anthus trivialis* and song thrush.
- Nine species are listed on the BoCC Wales 4¹⁷ Red list: common cuckoo, common linnet, common starling, swift, herring gull, lesser black-backed gull, meadow pipit, tree pipit and willow warbler; and
- Eight species are listed on the BoCC 5 UK¹⁶ Red list: common linnet, common starling, swift, skylark, herring gull, house sparrow, tree pipit, and mistle thrush.

Target Species – Non-breeding Bird Surveys

9.6.16. Non-breeding bird surveys have not been completed yet.

FUTURE BASELINE

9.6.17. The current baseline outlines species presence and abundance typical of the location and the habitats present within the Project. It is considered that changes to the baseline condition in the absence of the Project by the time it is operational (anticipated to be June 2029) would be minimal.

9.6.18. If current baseline habitat conditions remain, an increase in the number of red kite and kestrel utilising the Site for foraging and / or nesting could occur in the surrounding area by the time the Project is operational. This is in accordance with the regional and national expansions of these species²⁰. Conversely, other species may reduce in number due to a national and regional decline in populations.

9.7 EMBEDDED MEASURES

9.7.1. A range of environmental measures have been embedded into the Project as outlined in Chapter 12. Table 9-7 outlines how these embedded measures will influence the ornithology assessment.

9.7.2. Embedded measures are measures that will be implemented as part of the Project regardless of the requirement for ecological mitigation / assessment outcomes, for example as a result of legislative requirements and / or standard best practice and, as such, the subsequent EclA assumes they are in place. Table 9-7 outlines how these embedded measures during the construction and operational phase influence the assessment.

Table 9-7 - Summary of the Embedded Environmental Measures

Receptor	Potential Changes and Effects	Embedded Measures	Compliance Mechanism
Construction and Operational			
Noise, vibration and visual disturbance	Production of aural or visual disturbance that has the potential to disturb or displace birds resulting in breeding failure and impacts on the local population.	Nightjar Pre-works surveys would be completed to confirm the presence/absence of Nightjar up to 500m of construction areas to inform requirements for measures to avoid impacts on active nest sites. Where works cannot be scheduled to avoid the main breeding season, additional measures such as the employment of “no-disturbance buffers” around nest sites or the use of sound buffers would be considered. Construction works would be undertaken using all necessary and practical measures to minimise the noise, vibration and visual disturbance. Construction works will take place between 07:00 to 19:00 hours on weekdays and 07:00 to 13:00 on Saturdays. In exceptions, there may be a requirement for a 7-day work week. This would be agreed with the local council as appropriate	CEMP. Secured via DNS condition
Light	Changes in artificial light levels leading to direct impact to nocturnal / diurnal protected species such as nightjar.	Construction works are currently programmed to start September 2028 for a total of 9 months. There will be no nighttime working with works taking place between 07:00 and 19:00 hours on weekdays and 07:00 to 13:00 on Saturdays. In exceptions, there may be a requirement for a 7-day work week. This would be agreed with the LPA as appropriate During the winter months when day length is shorter some site lighting will be required. Site lighting will be controlled to prevent incidental spillage on to features that may be used by nocturnal / diurnal species.	CEMP, secured via DNS condition
Physical changes to the spatial environment that could result in collision, injury, or fatality of individual nightjar.	Permanent or temporary land-take/changes to habitats to facilitate construction could displace birds from existing habitat and result in direct injury or damage to nest sites.	Measures to prevent impacts on nightjar (and general breeding birds) will be included in final construction methodologies. This will include steps such as: ■ Clearance of construction and other working areas outside of the breeding bird season ■ The use of dedicated working areas and construction access routes ■ Where works cannot be completed outside of the breeding bird season the construction methodology will include employment of Ecological Clerk of Works to carry out pre-works checks and monitoring of construction areas to identify potential bird nests	CEMP, secured via DNS condition

Receptor	Potential Changes and Effects	Embedded Measures	Compliance Mechanism
		Any active bird nests in or immediately adjacent to working areas would be identified and suitable “no working” buffers established around nest sites.	
Operation			
Bird species	Potential killing or injury to birds in flight through direct collision with OHL. .	Micro siting of the OHL route from the nearest point of linear/foraging features considered likely to be well-used by birds such as treelines, woodland, and some waterbodies. There is an allowance of 10m built into the Project design.	N/A - risk of collision to be minimised through design.

9.8 COMPLIANCE WITH POLICY

- 9.8.1. In order to comply with PPW 2024⁸, it is necessary to demonstrate that both the step-wise approach and the DECCA framework have been followed.

THE STEP-WISE APPROACH

- 9.8.2. The step-wise approach, as mentioned in the PPW⁸ entails firstly avoiding, then minimising, mitigating and, as a last resort, compensating for adverse impacts on the environment, including ornithological features, that occur as part of a development. Therefore, compensation should only be considered as a last resort, where it has been demonstrated clearly that adverse effects cannot be avoided or fully mitigated. If compensation is necessary, this must be delivered on-site where possible but off-site compensation can be sought if demonstrated that this is not possible.
- 9.8.3. This approach will encourage the consideration of features that may not necessarily be protected, but are crucial for ecosystem functioning, leading to more joined up spaces for nature.

The DECCA Framework

- 9.8.4. PPW⁸ (2024) instructs planning authorities to take account of and promote the resilience of ecosystems when assessing planning applications.
- 9.8.5. Natural Resources Wales (NRW) have developed a framework for evaluating ecosystem resilience based on five attributes and properties specified in the Environment (Wales) Act 2016⁴. This is referred to as DECCA and comprises the objectives listed:
- Diversity – maintaining and enhancing diversity at every scale, including genetic, structural, habitat and between-habitat levels. This supports the complexity of ecosystem functions and interactions that deliver services and benefits;
 - Extent – incorporating measures which maintain and increase the area of semi-natural habitat/features and linkages between habitats. In general, smaller ecosystems have reduced capacity to adapt, recover or resist disturbance;
 - Condition – the condition of an ecosystem is affected by multiple and complex pressures acting both as short term and longer-term types of disturbance. Both direct and wider impacts should be

considered, for example avoiding or mitigating pressures such as climate change, pollution, invasive species, land management neglect etc;

- Connectivity – this refers to the links between and within habitats, which may take the form of physical corridors, stepping stones in the landscape, or patches of the same or related vegetation types that together create a network that enables the flow or movement of genes, species and natural resources. Developments should take opportunities to develop functional habitat and ecological networks within and between ecosystems, building on existing connectivity; and

- 9.8.6. Aspects of ecosystem resilience (adaptability, recovery and resistance) – ecosystem resilience is a product of the above four attributes. Adaptability, recovery and resistance to/from a disturbance are defining features of ecosystem resilience.
- 9.8.7. NRW defines ecosystem resilience as “An environment that can respond to pressures by resisting, recovering or adapting to change, and is able to continue to provide natural resources and benefits to people”.
- 9.8.8. NRW has a duty to ensure that the environment and natural resources of Wales are sustainably maintained, sustainably enhanced and sustainably used. Article 4 of the Natural Resource Body for Wales (Establishment) Order 2012 (Welsh Government, 2012) sets a general purpose for NRW to pursue the Sustainable Management of Natural Resources (SMNR) in the exercise of its functions. In order to achieve this, NRW applies a set of 9 principles: adaptive management, scale, collaboration and engagement, public participation, evidence, multiple benefits, long term (consequences of actions), preventative action, and building resilience.
- 9.8.9. Importantly, the objective of the SMNR is to maintain and enhance the resilience of ecosystems and the benefits they provide and, in doing so, meet the needs of present generations of people without compromising the ability of future generations to meet their need, and contribute to the achievement of the well-being goals of the Well-being of Future Generations Act 2015.
- 9.8.10. Some retained habitats will be enhanced for biodiversity. These measures will be outlined and discussed within the future Net Benefit for Biodiversity Report for the Project, which will accompany the PAC submission. The measures will be incorporated into an outline Habitat Management Plan, which will include providing enhanced habitat for ground nesting species that currently have limited habitat on Site and the provision of additional features considered to improve habitat for breeding wader populations. The creation of additional heathland habitat would also provide additional suitable nesting habitat for nightjar.

OUTLINE HABITAT MANAGEMENT PLAN (OHMP)

- 9.8.11. An OHMP will be prepared in consultation with the LPAs (BCBC, NPTC, RCTCBC) which will include details of habitat creation, enhancement and monitoring requirements across the Site. The plan will prescribe mitigation and management measures of the habitats impacted and associated species, to safeguard a net gain in nature conservation across the Site.

9.9 SCOPE OF THE ASSESSMENT

OVERVIEW

- 9.9.1. The CIEEM guidelines¹⁰ recognise that an appropriate EclA cannot consider in detail every individual species or habitat that may potentially be present at a Site or affected by a development. The EclA process therefore aims to focus the assessment on those ecological (or ornithological) features that could be 'significantly' affected by the Project (i.e. where the effects on the ornithological features are of sufficient concern that they could influence the decision about whether or not planning permission should be granted), or for which the development could result in the contravention of relevant legislation. The EclA process therefore includes a 'scoping' stage (which excludes those ecological features that cannot be 'significantly' affected), and a 'detailed assessment' stage, which examines more closely the potential effects of the scheme on those features that could be subject to 'significant' effects. Detailed assessments may also be undertaken where it is considered appropriate to examine the predicted effects on a feature in more detail, for example due to consultee comments. This section summarises the approach to and outcomes of the EclA scoping stage.

THE PROJECT

- 9.9.2. The Project will comprise of both underground cables (UGC) and 66kV (kilovolt) overhead lines (OHL) which will provide a connection between Upper Ogmores wind farm and the wider national grid. The connection will consist of approximately 4.1km of underground cabling and approximately 4.9km of OHL
- 9.9.3. A full description of the Project is provided in Chapter 4: Description of the Project.

SPATIAL SCOPE

- 9.9.4. The spatial scope of the assessment of ornithology effects covers the area of the Project contained within the Site, together with the Study Area as described in Section 9.4.
- 9.9.5. Through an understanding of the activities associated with the Project and the resulting predicted environmental change, it is possible to identify ornithological features that would not be subject to potentially significant effects due to either an absence of effect pathways, or through certainty that incorporated measures will be entirely successful in preventing a significant effect occurring. In order to identify such ornithological features, all the activities and consequent environmental changes associated with the construction, operation and decommissioning of the Project have therefore been considered.
- 9.9.6. The construction and operation of the Project may result in the following environmental changes, which have the potential to cause significant effects on ornithological features at or near the Site. Many of these aspects will operate additively or synergistically to affect ornithological features:
- Construction:
 - Permanent or temporary land-take / changes to habitats; and
 - Production of aural and visual stimuli and vibration.
 - Operation:

- Physical changes to the spatial environment resulting in collision; and
- Physical changes to the spatial environment resulting in displacement.

- 9.9.7. Following the operational phase, the connection (OHL and UGC) will be left in situ as it has the potential to become integrated into the wider distribution network. Therefore, the decommissioning stage has been scoped out of this assessment.
- 9.9.8. Given these environmental changes, the spatial scope of the ornithological assessment covers the area of the Project, together with the Zols that have formed the basis of the study area described in Section 9.4. However, Zols differ depending on the type of environmental change (i.e. the change from the existing baseline) as a result of the Project and the ecological or ornithological features being considered.
- 9.9.9. The most straightforward Zol to define is the area affected by land-take and direct land-cover changes associated with the Project. This Zol is the same for all affected ecological or ornithological features.
- 9.9.10. By contrast, for each environmental change that can extend beyond the area affected by land-take and land-cover change (e.g. increased noise associated with construction activities within the land-take area), the Zol may vary between ecological features, dependent upon their sensitivity to the change and the precise nature of the change. For example, nesting goshawk might be disturbed by noise generated at a much greater distance than non-breeding individuals or other species. In view of these complexities, the Study Area for survey methods was based upon professional judgement informed as far as possible by a review of published evidence (e.g. disturbance criteria for various species) and discussions with the technical specialists who have worked on other chapters of the ES.
- 9.9.11. The spatial extent of the assessment therefore reflects the area occupied by the ecological feature that is being assessed and the Zol of the changes that are likely to affect it. Where part of a designated site which is considered as an ecological feature for the purposes of this assessment is located within the ecological Zol relating to a particular biophysical change as a result of the Project, an assessment would be made of the effects on the designated site as a whole. A similar approach has been taken for areas of notable habitat. For species that occur within the Zol, the assessment has considered the total area that is used by the affected individuals or the local population of the species (e.g. for foraging or as breeding territories).
- 9.9.12. It should be noted that the avoidance of potential effects through design are implicitly taken into account through the consideration of each Zol.

TEMPORAL SCOPE

- 9.9.13. The temporal scope of the assessment of effects on ornithological features is consistent with the period over which the Project would be carried out, as defined in Chapter 4, and therefore covers the construction and operational periods.

POTENTIAL RECEPTORS

- 9.9.14. The starting point for defining which ornithological features were to be taken forward to the detailed assessment stage was to use the baseline data collected through the desk study and field surveys to determine which of the identified features are 'important' at the level of the Project. Following

CIEEM (2018) guidance¹⁰, the importance of ecological features was determined using a geographic scale and described in relation to UK legislation and policy, and with regard to the extent of habitat or size of population that may be affected by the Project.

- 9.9.15. The importance of ecological features can therefore differ from that which would be conferred solely by legislative protection or identification as a conservation notable species. For example, house sparrow, on account of its classification as both a Section 7 species and listed on the red list under both the UK and Wales Birds of Conservation Concern lists would be identified as being of “National” importance based on legislation. However, whilst the population of this species has reduced significantly, recent estimates show that the national population is still in excess of five million individuals. Therefore, if a project has potential to have an impact on a small number of house sparrows (<20) then it would be unlikely to be considered to have greater than ‘local’ importance on the project scale when taking into consideration regional or county estimates.
- 9.9.16. Wherever possible, information regarding the extent and population size, population trends and distribution of the ornithological features have been used to inform the categorisation informed by the different levels described in Table 9-8 and determine importance at the project level. Where detailed criteria or contextual data are not available, professional judgement has been used to determine importance. Table 9-8 provides a high-level description of features assigned to respective geographic scale of importance and displays the corresponding level of sensitivity as set out in Table 2-1 in Chapter 2: EIA Approach.

Table 9-8 - Criteria for Determining Importance for Ornithological Features with Respect to the Project

Geographic Context of Importance	Corresponding Sensitivity as per Table 2.1	Description
International or European	Very high	European sites including SPAs, SACs, candidate SACs and potential SPAs (pSPA), and Ramsar sites (designated under international convention). Populations of bird species which meet the published selection criteria based on discussions with Natural Resources Wales and field data collected to inform the EcIA for designation as a European site, but which are not themselves currently designated at this level.
National (UK context)	High	Section 7 bird species, Red listed and legally protected species that are not addressed directly in Part 2 of the “Guidelines for Selection of Biological SSSIs” but can be determined to be of national importance using the principles described in Part 1 of the guidance.
Wales National / UK Regional	Medium	Regularly occurring Section 7 bird species, Red listed, and legally protected bird species may be of regional (Wales) importance in the context of published information on population size and distribution.

Geographic Context of Importance	Corresponding Sensitivity as per Table 2.1	Description
County (Bridgend) ¹²⁰	Low	LNRS and Non-Statutory Designated sites including: SINCs of County Importance. Areas which based on field data collected to inform the EcIA meet the published selection criteria for those sites listed above (for habitats or species, including those listed in relevant Local Biodiversity Action Plans) but which are not themselves designated.
Local	Very low	Section 7 bird species, Red listed and legally protected bird species that based on their extent, population size, quality etc are determined to be at a lesser level of importance than the geographic contexts above.
Site	Very low	Common and widespread bird species occurring within the study area in numbers greater than may be expected in the local context.
Negligible	Very low	Common and widespread species that do not occur in levels elevated above those of the surrounding area

9.9.17. Full details are included within Appendix 2A however Table 9.9 provides a summary of the ornithological features scoped out, and those scoped in, of further assessment.

¹²¹ Pendlebury, C., Zisman, S., Walls, R., Sweeney, J., McLoughlin, E., Robinson, C., et al. (2011) Literature Review to Assess Bird Species Connectivity to Special Protection Areas. Scottish Natural Heritage Commissioned Report No. 390.

Table 9-9 - Summary of Ornithological Features scoped in and out of the assessment and their “Importance”

Ornithological Features	Importance	Justification and Baseline for Assessment (for Scoped In Features)	Scoped in/out
Mynydd-Ty-isaf SSSI – qualifying interest features include that the SSSI provides nesting sites for an unspecified Schedule 1 raptor, but considered likely peregrine falcon.	National	Mynydd-Ty-isaf SSSI is approximately 0.5km from the Project. Breeding core range of 2km, with maximum range of 18km for key raptor species¹²¹. Peregrine were recorded during the breeding surveys, and one active nest was identified within 370m of the Project. Whilst this nesting site was outside the SSSI, it is considered that the population could overlap within the SSSI as it is within the accepted core range of peregrines which could nest within the SSSI. It is therefore assumed that there is functional link to the SSSI.	Scoped in
Eglwys Nynydd Reservoir SSSI - The reservoir attracts large numbers of wintering waterfowl and passage migrants.	National	Eglwys Nynydd Reservoir SSSI is 9.46km from the Project. Notable species of the SSSI were great crested grebe, little grebe, mallard, gadwall and coot. No waterbody habitats are present within the Site, and none of these species were recorded during any of the surveys that have been undertaken.	Scoped out

¹²¹ Pendlebury, C., Zisman, S., Walls, R., Sweeney, J., McLoughlin, E., Robinson, C., et al. (2011) Literature Review to Assess Bird Species Connectivity to Special Protection Areas. Scottish Natural Heritage Commissioned Report No. 390.

Ornithological Features	Importance	Justification and Baseline for Assessment (for Scoped In Features)	Scoped in/out
Peregrine (breeding)	County	One peregrine nest site was identified within the Study Area. Peregrine are classed as a declining breeding species in Wales. One breeding pair could represent up to 0.8% of the Welsh breeding population with up to 141 pairs in Wales recorded in most current estimates¹²². Population estimates for the Neath Port Talbot or Bridgend region are not directly available, however the Gower Bird Report 2023¹²³ which covers West Glamorgan lists it as an uncommon breeding resident, and references 16 probable breeding sites within the counties. Glamorgan Bird Report¹²⁴, which covers East Glamorgan lists it as a locally common resident breeder that continues to suffer persecution. It states that the South Wales Peregrine monitoring Group gathered information on 25 breeding territories within the East Glamorgan recording area. Peregrine have been considered to be of county importance on a precautionary basis	Scoped In
Nightjar (breeding)	Local	Two nightjar males were recorded churring in the Study area. Two breeding pairs could represent up to 0.4-0.7% of the Welsh breeding population with up to 280 males recorded in 2004 pairs in Wales with more recent estimates (2023) of >500²⁸.	Scoped In

¹²² Welsh Ornithological Society. 2024. Welsh Bird Report 2023. Milvus, Vol 3 Issue 3.

¹²³ GOS (2023) Gower Birds for the recording year 2022. An annual report on the birds of the City and County of Swansea & Neath Port Talbot. Gower Ornithological Society. Volume 12 Number 1 2023.

¹²⁴ GBC –(2023) Glamorgan Bird Club – East Glamorgan Bird Report. No. 62 - 2023

Ornithological Features	Importance	Justification and Baseline for Assessment (for Scoped In Features)	Scoped in/out
Kestrel (breeding)	Local	Kestrel is listed as a Section 7 species under the Environment (Wales) Act 2016 and are also a red listed species in the updated BoCC Wales 4. A more widespread reduction in kestrel numbers in the UK has seen their population reduce by 40% in the UK between 1995 and 2022¹²⁵. Estimated population numbers for Wales specifically range between 2,500-3,500 pairs¹²⁶ though this is likely to be a significant overestimate with continued population decline resulting in kestrel being red listed in the two most recent BoCC Wales lists. One pair of kestrel were recorded breeding with the Study Area. An individual was recorded through the Study Area during the April and June 2025 VP surveys from VP1. Population estimates for the Neath Port Talbot or Bridgend region are not directly available, however the Gower Bird Report 2023²⁹ lists it as a fairly common resident which breeds in the area. The Glamorgan Bird Report³⁰ lists it as a common resident breeder. These have been considered to be of county importance on a precautionary basis	Scoped In
Goshawk (resident species)	Local	Goshawks are a Schedule 1 breeding species with a population in Wales estimated at more than 50% ¹¹⁰ of the overall UK	Scoped In

¹²⁵ <https://www.bto.org/understanding-birds/birdfacts/kestrel>

¹²⁶ Clements, R. (2008). The Common Kestrel population in Britain. British Birds 101, May 2008 pg 228-234.

Ornithological Features	Importance	Justification and Baseline for Assessment (for Scoped In Features)	Scoped in/out
		population (712 – 1200 breeding pairs). The Welsh population is therefore estimated between 356 and 600 pairs¹²⁷. Baseline surveys found no evidence of goshawk breeding within the Study Area although suitable habitat was recorded. No goshawk were recorded during the VP surveys; however, one individual was observed flying through the Study Area during the MBS survey on 28 May 2025. With suitable habitat for goshawks present within the Study Area, and non-breeding surveys not yet undertaken, goshawks have been considered of county importance on a precautionary basis	
Red Kite (resident species)	Local	Red kite is a Schedule 1 breeding species with a population in Wales estimated at 2,500 pairs¹²⁸. Red kite observations were frequent throughout the baseline survey period with regular flights during the vantage point surveys. There have been no red kite breeding attempts recorded within 2km of the Project, and it is not anticipated that there is available habitat that will be directly impacted as a result of the Project. The peak count of red kite utilising the Site was 4 birds. The peak count represents <0.1% of the Welsh population of red kite, estimated at 5,000 birds during the breeding season¹²⁸.	Scoped In

¹²⁷ <https://www.bto.org/understanding-birds/birdfacts/goshawk> accessed 24 October 2024

¹²⁸ The Welsh Kite Trust (2020) - <http://welshkitetrust.wales/how-many-kites-are-there-in-wales> accessed 24th October 2024

Ornithological Features	Importance	Justification and Baseline for Assessment (for Scoped In Features)	Scoped in/out
		Given the increasing population trend shown by red kite within Wales over the last decade, it is precautionary to assess the impact of the Project at a local level. Red kite within the wider area is described as being a “breeding resident and now more common and widespread”.	
Notable Breeding Bird Assemblage (Upland habitats)	Negligible	The breeding bird assemblage within the open moorland habitats inside the Project are typical of the upland habitats than within the wider area or considered to generally to be in worse condition for breeding birds than surrounding habitats. They are therefore unlikely to occur or impacted by the Project on a significant basis	Scoped out
Breeding Bird Assemblage – Other notable Species	Local	The breeding bird surveys identified small numbers of other notable breeding birds with the habitats present within the Site. These species whilst notable, occurred only in small numbers and around the periphery of the Study Area. They are therefore unlikely to occur or impacted by the Project on a significant basis.	Scoped out
Non-breeding bird assemblage	Local	Non-breeding bird surveys have not been undertaken yet (though will be for Final ES), so non-breeding bird assemblages have been considered of county importance on a precautionary basis for the draft ES.	Scoped in
Notable migratory and non-breeding birds	Local	Non-breeding bird surveys have not been undertaken yet (but are scheduled for winter 2025/2026). Non-breeding bird assemblages have therefore been considered of county importance on a precautionary basis within this assessment.	Scoped in

SIGNIFICANT EFFECTS

- 9.9.18. The following section draws on industry experience and expertise to identify those effect-receptor pathways that may potentially lead to a significant effect.
- 9.9.19. For each ornithological feature presented in **Table 9-9** and scoped in for further assessment the potential environmental changes and effects resulting from the Project are considered and further scoped in or out from detailed assessment.
- 9.9.20. **Table 9-10** provides a summary of those effects scoped in for further assessment.

Table 9-10 - Important ornithological features scoped in of the assessment

Ornithological Feature	Environmental change and likely significant effects	Zone of Influence	Justification
Mynydd-Ty-isaf SSSI	Direct mortality due to collision impact	Within the footprint of the OHL	Breeding peregrine, which are considered likely to be part of the SSSI designation, have been identified within the Study Area.
Breeding species - Peregrine, nightjar and kestrel	Direct mortality due to collision impact	Within the footprint of the OHL	Breeding kestrel, nightjar and peregrine have been identified within the Study Area.
Nightjar (breeding)	Physical changes to the spatial environment that could result in collision, injury, or fatality of individual nightjar during construction and operational phase.	Within the footprint of the OHL and UGC	Nightjar have been recorded breeding close to the footprint of the OHL and UGC.
Nightjar (breeding)	General disturbance from noise, vibration,	Within the footprint and within 300m of	Nightjar have been recorded breeding close to the footprint of the OHL and UGC.

Ornithological Feature	Environmental change and likely significant effects	Zone of Influence	Justification
	lighting, during construction	the OHL and UGC.	
Non-breeding resident species (red kite and goshawk)	Direct mortality due to collision impact	Within the footprint of the OHL	Red kite and goshawk have been identified within the Study Area.
Non-breeding bird assemblage	Direct mortality due to collision impact	Within the footprint of the OHL	Non-breeding surveys have yet to be undertaken, so non-breeding bird assemblages have been scoped in on a precautionary basis.
Notable migratory and non-breeding birds	Direct mortality due to collision impact	Within the footprint of the OHL	Non-breeding surveys have yet to be undertaken, therefore notable migratory and non-breeding bird assemblages have been scoped in on a precautionary basis.

9.10 ASSESSMENT METHODOLOGY

Overview

- 9.10.1. The generic project-wide approach to the assessment methodology is set out in Chapter 2: Approach to Environmental Impact Assessment. However, to address the specific needs of this ornithology assessment the assessment has been adapted to align with standard industry guidance provided by CIEEM (2018)¹⁰.
- 9.10.2. The assessment is based upon not only the results of the desk study and field surveys, but also relevant published information (for example on the status, distribution, sensitivity to environmental changes and ecology of the features scoped-in to the assessment, where this information is available), and professional knowledge of ecological processes and functions.
- 9.10.3. For each scoped-in ornithological feature, effects will be assessed against the predicted future baseline conditions for that feature during construction and operational period.
- 9.10.4. Throughout the assessment process, the initial results of the assessment regarding potentially significant effects are used to inform whether additional baseline data collection is required, together with the identification of environmental measures that should be embedded into the development proposals to avoid or reduce adverse effects or to deliver enhancements.
- 9.10.5. Where part of a non-designated site is located within the ornithological ZoI relating to a particular biophysical change as a result of the Project, an assessment is made of the effects on the site as a whole.
- 9.10.6. For species that occur within the ZoI, the assessment will consider the total area that is used by the affected individuals or the local population of the species (e.g. for foraging or as breeding territories).

SIGNIFICANT EVALUATION METHODOLOGY

Characterising effects

- 9.10.7. CIEEM (2018)¹⁰ defines a significant effect as one “that either supports or undermines biodiversity conservation objectives for ‘important ecological features’ or for biodiversity in general”.
- 9.10.8. When considering potentially significant effects on ecological features, whether these be adverse or beneficial, the following characteristics of environmental change are taken into account:
 - Extent – the spatial or geographical area over which the environmental change may occur;
 - Magnitude – the size, amount, intensity or volume of the environmental change;
 - Duration – the length of time over which the environmental change may occur;
 - Frequency – the number of times the environmental change may occur;
 - Timing – the periods of the day/year etc. during which an environmental change may occur; and
 - Reversibility – whether the environmental change can be reversed through restoration actions.

Magnitude of Change

- 9.10.9. Although the characteristics described above are all important in assessing effects by using information about the way in which habitats and species are likely to be affected, a scale for the magnitude of the environmental change, as a result of the Project, has been described in Table 9-11

to provide an understanding of the relative change from the baseline position, be that adverse or beneficial changes.

Table 9-11 - Guidelines for the Assessment of the Scale of Magnitude

Scale of Change	Criteria and Resultant Effect
High	The change permanently (or over the long-term) affects the conservation status of a bird species, reducing or increasing the ability to sustain the population level of the species within a given geographic area. Relative to the wider species population, a large proportion of the wider species population is affected. For designated sites with ornithological features, integrity is compromised. There may be a change in the level of importance of the receptor in the context of the project.
Medium	The change permanently (or over the long term) affects the conservation status of a bird species reducing or increasing the ability to sustain the population level of the species within a given geographic area. Relative to the wider species population, a small-medium proportion of the wider species population is affected. There may be a change in the level of importance of this receptor in the context of the project.
Low	The quality or the sizes of a bird species' populations, experience some small-scale reduction or increase. These changes are likely to be within the range of natural variability and they are not expected to result in any permanent change in the conservation status of the species or integrity of the designated site with ornithological features. The change is unlikely to modify the evaluation of the receptor in terms of its importance.
Very Low	Although there may be some effects on individuals, or the size of species populations, means that they would experience little or no change. Any changes are also likely to be within the range of natural variability and there would be no short-term or long-term change to conservation status of species receptors or the integrity of designated sites.
Negligible	A change, the level of which is so low, that it is not discernible on designated sites or the size of species' populations, or changes that balance each other out over the lifespan of a project and result in a neutral position.

DETERMINING SIGNIFICANCE - ADVERSE AND BENEFICIAL EFFECTS

- 9.10.10. Adverse effects are assessed as being significant if the favourable conservation status of an ecological feature would be lost as a result of the Project. Beneficial effects are assessed as those where a resulting change from baseline improves the quality of the environment (e.g. increases species diversity, increases the extent of a particular habitat etc., or halts or slows down an existing decline). For a beneficial effect to be considered significant, the conservation status would need to positively increase in line with a magnitude of change of "high" as described in Table 9-11.
- 9.10.11. Conservation status is defined as follows (as per CIEEM 2018)¹⁰:
- 9.10.12. *"For habitats, conservation status is determined by the sum of the influences acting on the habitat that may affect its extent, structure and functions as well as its distribution and typical species within a given geographical area;*

9.10.13. *For species, conservation status is determined by the sum of influences acting on the species concerned that may affect its abundance and distribution within a given geographical area”.*

9.10.14. The decision as to whether the conservation status of an ornithological feature would alter has been made using professional judgement, drawing upon the information produced through the desk study, field survey and assessment of how each feature is likely to be affected by the Project.

9.11 ASSESSMENT OF ECOLOGICAL EFFECTS

9.11.1. The effects of the Project on ornithological features that are scoped into this assessment, along with mitigations in place specific to these effects and any residual effects are detailed in **Table 9.12** relevant to the construction and operational phases of the Project). Although it is expected that embedded mitigation will be successful with regard to prevention of dust deposition and hydrological pollution, for completion, here the original features have been retained. An Outline CEMP will incorporate dynamic measures pertaining to mitigation measures relevant to the Project

Table 9-12 - Assessment of Potential Effects, Mitigation, Effects and Monitoring during Construction and Operation

Sensitive Receptor	Potential Effects/ Mitigation/ Effects and Monitoring	
Mynydd-Ty-isaf SSSI	Potential Effects	Physical changes to the spatial environment that could result in collision, injury and fatality of individual peregrine which are linked to the SSSI.
	Mitigation	The following mitigation measures will avoid / minimise collision impacts to peregrine: ■ Use of bird flight diverters on sections of the OHL to improve visibility for birds and reduce collision events. These measures will be provided in a Conservation Plan will be devised in consultation with the LPA. Appropriate mitigation will ensure legal compliance with respect to effects upon Schedule 1 WCA birds.
	Effects and Monitoring	The magnitude of change in the short-term is predicted to be low as mitigation measures will avoid direct mortality or injury to peregrine. Effects are therefore concluded to be Not Significant .
Breeding species - Peregrine, nightjar and kestrel	Potential Effects	Physical changes to the spatial environment that could result in collision, injury and fatality of individual peregrine, nightjar and kestrel.
	Mitigation	The following mitigation measures will avoid / minimise collision impacts to peregrine, kestrel, and nightjar: ■ Use of bird flight diverters on sections of the OHL to improve visibility for birds and reduce collision events. ■ Habitat management under OHL route to discourage prey species for kestrel and nesting habitat for nightjar. These measures will be provided in a Conservation Plan will be devised in consultation with the LPA. Appropriate mitigation will ensure legal compliance with respect to effects upon Schedule 1 WCA birds.

	Effects and Monitoring	The magnitude of change in the short-term is predicted to be low as mitigation measures will avoid direct mortality or injury to peregrine, nightjar and kestrel. Effects are therefore concluded to be Not Significant .
Nightjar	Potential Effects	Physical changes to the spatial environment that could result in injury, or fatality of individual nightjar during construction phase has the potential to disturb, injure, kill or displace birds resulting in breeding failure and impacts on the local population.
	Mitigation	Timing of works would be prioritised to avoid works in suitable habitat during the nightjar breeding season. If any is required, pre-works surveys would be completed to confirm the presence/absence of nightjar up to 500m of construction areas to inform requirements for measures to avoid impacts on nightjar during the construction phase. Where works cannot be scheduled to avoid the main breeding season, additional measures such as the employment of “no-disturbance buffers” around nest sites or the use of sound buffers would be considered.
	Effects and Monitoring	The magnitude of change in the short-term is predicted to be low as mitigation measures will avoid direct mortality or injury to nightjar. Effects are therefore concluded to be Not Significant.
Red kite and Goshawk (Non-breeding resident)	Potential Effects	Physical changes to the spatial environment that could result in collision, injury and fatality of individual red kite and goshawk.
	Mitigation	The following mitigation measures will avoid / minimise collision impacts to red kite and goshawk: ■ Use of bird flight diverters on sections of the OHL to improve visibility for birds and reduce collision events. ■ Habitat management under OHL route to discourage prey species. ■ 5m stand-off exclusion buffers from sensitive habitats (e.g. woodlands and trees lines) to reduce collision risk.

		These measures will be provided in a Conservation Plan will be devised in consultation with the LPA. Appropriate mitigation will ensure legal compliance with respect to effects upon Schedule 1 WCA birds.
	Effects and Monitoring	The magnitude of change in the short-term is predicted to be low as mitigation measures will avoid direct mortality or injury to red kite and goshawk. Effects are therefore concluded to be Not Significant .
Non-breeding bird assemblage	Potential Effects	Surveys have not been undertaken yet to quantify the potential effects. However, non-breeding bird assemblages have been scoped in on a precautionary basis. It is considered likely that the effects will be similar to the potential effects of breeding birds within the Study Areas, with relatively low levels of predicted collision that could result in injury and fatality of non-breeding birds on Site.
	Mitigation	The following mitigation measures will avoid / minimise collision impacts to birds: ■ Use of bird flight diverters on sections of the OHL to improve visibility for birds and reduce collision events. ■ Habitat management under OHL route to discourage sensitive species. ■ 5m stand-off exclusion buffers from sensitive habitats (e.g. woodlands and trees lines) to reduce collision risk.
	Effects and Monitoring	Based on the current design and predicted flight activity levels, the predicted effect of collision non-breeding birds, an ornithological feature of county importance, is temporary and of low magnitude and therefore not significant. Although this is precautionary as surveys have not yet been undertaken.

9.12 ASSESSMENT OF CUMULATIVE EFFECTS

- 9.12.1. Consideration has been given as to whether any of the ornithological features that have been taken forward in this chapter are likely to be subject to cumulative effects as a result of the Project and by other developments.
- 9.12.2. Cumulative effects would generally be either:
- Cumulative 'Zol' effects whereby two or more developments affect the same specific receptor (e.g. two developments in the same river catchment); and
 - Cumulative effects on the total resource (or population) of an ornithological feature in a region due to two or more developments (e.g. two developments affect the same habitat type in a region, reducing its overall area).
- 9.12.3. Assessment of these is complex and relies on the definition of a reasonable scope for cumulative effects, and the availability of a reasonable baseline for other developments. However, the same principles of assessment apply, i.e. an effect would have to be significant at the 'county' level to be significant in EclA terms. In addition, the assessment focuses on those occasions where two 'not significant' effects might operate cumulatively to result in a significant effect (rather than where the effects of one development on an ecological feature are already, on their own, considered significant):
- 9.12.4. The developments within 5km of the Site which are considered as part of the cumulative assessment are detailed within Table 9.13. Developments are omitted from the assessment where they are considered small scale and residential such as a garage extension or tree removal within a residential property.

Table 9-13 - Summary of Proposed and Consented Windfarms/OHL Schemes within 5km of the Project

Planning Reference	Name of Scheme	Summary of Development	Distance Site (km)	Decision	Potential cumulative effects
P2025/0043	Foel Trawsnant Windfarm Grid Connection	66kV electricity network infrastructure comprising overhead lines and underground cables which will start at Foel Trawsnant Wind Farm (grid ref: 283941, 194161) in the north, heading south through the western edge of Maesteg (grid ref: 284482, 191458) to a connection point with the existing overhead line approximately 2km south west of the settlement of Llangynwyd (grid ref: 284175, 187428).	Intersects	Under examination	Due to the nature and location of this development, there could be cumulative effects when considered alongside the Project.
P/23/319/DNS	Y Bryn Wind Farm	Proposed Wind farm of up to 26 turbines (6.6 MW per turbine) with a maximum height of 250m in height and 170m in rotor diameter, transformer housing, battery storage, permanent anemometry masts, access tracks, crane pads and borrow pits.	0.08km south	Under examination	Due to the nature and location of this development, there could be cumulative effects when considered alongside the Project.
P/23/473/RLX	Upper Ogmore Wind Farm	Vary condition 2 of PEDW Ref DNS/3213662 (P/20/893/DNS) to increase the rotor diameter of the proposed wind turbines from 105m to 117m - the overall tip height of	0.15km south	Under consideration	Due to the nature and location of this development, there could be cumulative effects

		the wind turbines will remain as consented			when considered alongside the Project.
P2021/0057	Y Bryn Wind Farm	Consultation request for a Scoping Direction (EIA Development) for a proposed wind farm of up to 26 turbines (6.6 MW per turbine) with a maximum height of 250 m and 170m in rotor diameter, transformer housing, battery storage, permanent anemometry masts, access tracks, crane pads and borrow pits.	0.3 km south-west	Objections	Due to the nature and location of this development, there could be cumulative effects when considered alongside the Project.
P/21/1047/SOR	Llynfi Afan Wind Farm	The Project comprises the installation of a 33kV private wire. The private wire will carry renewable electricity generated at the Llynfi Afan Wind Farm, towards the village of Caerau. It will connect to the existing substation at the windfarm. The main purpose of the 33kV private wire is to power the proposed District Heat Network (DHN) for Ysgol Gynradd Caerau Primary School which will provide a renewable and cost-efficient source of heating.	1km south	Under consideration	Due to the nature and location of this development, there could be cumulative effects when considered alongside the Project.
P2022/0517	Foel Trawsant Wind Farm	The revised plans include increases in rotor diameter of five turbines (T5, T6, T9, T10 and T11) up to 133m and increase in rotor diameter up to 117m of three turbines (T1, T2 and T8) with no increase in overall	1.8km south	Approved	Due to the nature and location of this development, there could be cumulative effects when considered alongside the Project .

		turbine height. The number of turbines to be constructed will be reduced from 11 to 8 (turbines T3, T4, and T7 removed).			
P/20/42/FUL	Pant y Wal Wind Farm	Construction of 2 wind turbines, access tracks and all associated development for an operational period of 25 years	4.45km southeast	Decided	No potential cumulative effects are considered likely due to the location of this development.
P2023/0498	Solar Farm	Proposed 50MW ground mounted photovoltaic solar farm with associated equipment, infrastructure, grid connection and ancillary works.	5km southwest	Objections	Potential cumulative effects are not considered likely due to the location of this proposal.
23/0611/DIS	Abergorki Wind Farm	Discharge of conditions 9 (construction method statement) and 27 (abnormal load trial run methodology) of previously approved 18/0523 (Variation of conditions 2 of previously approved planning application 13/0663/10 to increase the overall tip height of the 3 turbines from 146.5m to 149.9m	5km northeast	Pending Decision	Potential cumulative effects are not considered likely due to the scale, nature and location of this proposal.

9.12.5. Potential cumulative effects of the Project have been concluded for the following projects:

- Foel Trawsnant Windfarm Grid Connection;
- Y Bryn Wind Farm;
- Upper Ogmore Wind Farm;
- Llynfi Afan Wind Farm; and
- Foel Trawsnant Wind Farm.

9.12.6. Additional mitigation has been proposed to reduce the significance of any effects likely to result from the anticipated impacts of the Project. The potential for cumulative effects will be re-assessed in the final ES once the non-breeding ornithology surveys have been completed and results are available.

9.13 CONCLUSIONS OF SIGNIFICANCE EVALUATION

- 9.13.1. No significant, long-term adverse effects are expected to result from the Project, following the application of embedded measures and secondary mitigation.

SUMMARY OF LIKELY RESIDUAL SIGNIFICANT EFFECTS

- 9.13.2. With the implementation of the mitigation measures described in this draft ES Chapter, it is concluded likely that residual effects will be **Not Significant** in the long-term for those ornithological features which have been assessed. Survey data collected up to July 2025 has been used to inform the assessment, conclusions and recommendations in this draft ES Chapter. It is acknowledged that survey effort is ongoing, however a precautionary approach has been applied to this assessment and existing survey data collected taken into consideration. It is not expected that further survey data including winter/non-breeding surveys will significantly change the assessment and conclusions however the results of the further survey effort will be analysed and used to inform the final ES Chapter.
- 9.13.3. The combination of embedded mitigation and additional measures will minimise effects upon ornithological features. Short term effects to species occupying these habitats including nightjar cannot be avoided, as permanent and temporary habitat loss is necessary within the construction footprint. Permanent habitat loss, if any, will be kept to the absolute minimum required and will only occur within the footprint of the OHL poles. Temporary habitat loss will be confined to the ground clearance requirements around each OHL pole to facilitate their installation and the areas will be allowed to naturally regenerate following construction. In the longer term, habitat enhancement will improve the condition and provision of habitats for multiple bird species across the Site. The benefits will be realised during the operational phase and offset the short-term adverse effects.

OUTLINE HABITAT MANAGEMENT PLAN

- 9.13.4. An OHMP will be prepared in consultation with the LPAs (BCBC, NPTC, RCTCBC) which will include details of habitat creation, enhancement and monitoring requirements across the Site. The plan will prescribe mitigation and management measures of the habitats impacted and associated species, to safeguard a net gain in nature conservation across the Site.

NET BENEFIT FOR BIODIVERSITY

- 9.13.5. Enhancement of existing habitats will be undertaken to increase their conservation value. Wildflower seeding will take place in habitats with low species-diversity. Long-term habitat monitoring of reinstated habitats will ensure that the Project achieves a NBB in the long-term and when the Project is in its operational phase. All mitigation and enhancement measures will be agreed with the LPAs (BCBC, NPTC and RCTCBC). This will provide enhanced feeding opportunities and nesting opportunities for breeding birds on Site.

9.14 FURTHER WORK TO BE UNDERTAKEN

- 9.14.1. The final assessment of potentially significant effects will be reported in the final ES, which will accompany DNS submission. This section describes the further work to be undertaken to support the ornithological assessment presented in the final ES.

BASELINE

- 9.14.2. Winter walkover surveys will be undertaken in November 2025 to February 2026. These will consist of one survey (walked transect) per month following industry best practice methodology. The surveys would be targeted towards golden plover, but would also record incidental records of wintering raptors and waders.

10 HISTORIC ENVIRONMENT

10.1 INTRODUCTION

- 10.1.1. This Chapter presents an assessment of the likely significant effects of the Project on the Historic Environment. The Historic Environment is defined in Conservation Principles as the following:
- “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”.*¹²⁹
- 10.1.2. This is represented by features, or assets, including buildings, archaeological remains and artefact scatters. Some historic assets have been designated as Scheduled Monuments, Listed Buildings or Conservation Areas, Registered Park and Gardens, and Registered Historic Landscapes. These and non-designated assets are managed in the planning process in accordance with national and local planning policies and guidance.
- 10.1.3. This Chapter describes the following:
- the limitations of this assessment (Section 10.2);
 - relevant legislation, policies and historic environment guidance that has informed the assessment (Section 10.3);
 - the consultation and engagement that has been undertaken and consultee comments regarding the historic environment have been addressed (Section 10.4);
 - the methodology used for gathering the baseline information (Section 10.5);
 - baseline conditions over baseline (Section 10.6);
 - the scope of this assessment (Section 10.7);
 - the embedded measures relevant to the historic environment (Section 10.8)
 - the methodology used for the assessment (Section 10.9);
 - the assessment of the historic environment effects on cultural heritage (Section 10.10);
 - the assessment of the cumulative effects (Section 10.11);
 - consideration of mitigation measures and the residual effects (Section 10.12); and,
 - a summary of the conclusions and significance evaluation of significance effects (Section 10.13).
- 10.1.4. In addition, this Chapter is supported by the following appendices and figures:
- **Figure 10.1:** Designated Historic Assets within 2km
 - **Figure 10.2:** Designated Historic Assets and ZTV within 2km
 - **Figure 10.3:** Non-designated Historic Assets within 300m

¹²⁹ Welsh Assembly Government (2011). *Conservation Principles for the sustainable management of the historic environment in Wales*. Available online at: <https://cadw.gov.wales/advice-support/historic-assets/conservation-principles> [Accessed 30/05/2025]

- **Figure 10.4:** Royal Commission on the Ancient and Historical Monuments of Wales (RCAHMW) Non-Designated Assets
- **Appendix 10A:** Upper Ogmore Section, Bridgend & Neath Port Talbot, Archaeological Desk-based Assessment (Heneb, 2024).
- **Appendix 10B:** Setting Scoping Exercise

10.2 LIMITATIONS OF THIS ASSESSMENT

- 10.2.1. This Environmental Chapter has been informed by an Archaeological Desk-based Assessment (ADBA) prepared by Heneb: the Welsh Trust for Archaeology (2024; **Appendix 10A**), which provides a historic environment baseline for the Project and was supported by a site visit carried out by Heneb. An extract of the relevant baseline from the ADBA is provided in **Appendix 10A**.

10.3 POLICY, LEGISLATION AND GUIDANCE

- 10.3.1. This section identifies the legislation, planning policy and technical guidance that has informed the assessment of effects with respect to the historic environment.

LEGISLATION

- 10.3.2. **Table 10-1** lists the relevant legislation for assessing effects in the historic environment.

Table 10-1 - Legislation relevant to the Historic Environment assessment

Policy	Policy Context
The Historic Environment (Wales) Act 2023 ¹³⁰	The Historic Environment (Wales) Act 2023, enacted on the 04/11/2024, replaces The Ancient Monuments and Archaeological Areas Act 1979; The Historic Environment (Wales) Act 2016 and The Planning (Listed Building and Conservation Areas) Act 1990. The Act is a Consolidation Act and should not alter legislation. The most important change is that Section 66 (1) of the Listed Building and Conservation Act 1990 will become Section 314A of the Town and Country Planning Act 1990. The 2023 Act and its substantive supporting regulations all expressly state that they are 'part of a code of law relating to the historic environment of Wales'. Owners of scheduled monuments and listed buildings, legal advisors, heritage consultants, conservation officers and anyone else interested in Wales's rich archaeological and built heritage can turn to the 2023 Act and its supporting regulations for historic environment law that is logically structured, consistent and expressed, as far as possible, in plain, everyday language.

¹³⁰ Welsh Government, (2023), *Historic Environment (Wales) Act 2023*. Available online at: <https://www.legislation.gov.uk/asc/2023/3/contents> [Accessed 30/05/2025]

	While the new legislation makes it much easier for everyone to find, understand and apply the law, it makes no changes to the operation of the current management and protection regimes for the Welsh historic environment The 2023 Act and its supporting regulations — the historic environment code — establish a secure foundation for the future development of accessible and effective law for Wales’s unique and precious historic environment.

PLANNING POLICY

10.3.3. **Table 10-2** lists the relevant national and local planning policies relevant to assessing the effects in the historic environment.

Table 10-2 - Planning policies relevant to the Historic Environment assessment

Policy	Policy context
Planning Policy Wales (Edition 12, February 2024) ¹³¹	National planning policy for Wales is set out in Planning Policy Wales (Edition 12, 2024). Chapter 6, ‘Distinctive and Natural Places’, explains how the planning system must take into explains how planning system must consider the Welsh Government’s objectives to protect, conserve, promote and enhance historic environment as a resource for the general well-being of present and future generations. It also sets out the planning policies for the sustainable management of specific categories of historic assets. PPW sets out the role of local authorities in the protection of the historic environment, working with other agencies such as Cadw and the Welsh Archaeological Trusts. PPW states that development plans should reflect national policies for the protection of the historic environment. It also notes the various historic environment designations which exist for the protection of monuments, historic buildings, and areas, as well as historic landscapes. PPW also sets out the treatment of the historic environment in the development management process. It states that the desirability of preserving an ancient monument and its setting is a material consideration in determining a planning application, and that there should be a presumption in favour of the physical preservation of monuments of national importance. For archaeological remains of lesser importance, it will be necessary to weigh the importance of the archaeology against other factors, such as the need for the development. Where a local authority decides that physical preservation of archaeology is not justified then it will be appropriate for provision to be made for the recording of archaeology in advance of its loss, and this can be secured through a planning condition. PPW notes the statutory requirement to have regard to the desirability of preserving listed buildings and their settings. The protection of World Heritage Sites and their settings should also be a material consideration in the determination of planning applications. Similarly, parks, garden and landscapes included in the ‘Register of Parks and Gardens of Special Historic Interest in Wales’s should be considered.

¹³¹ Welsh Government, (2024). *Planning Policy Wale (Edition 12; February 2024)*. Available online at: <https://www.gov.wales/planning-policy-wales> [Accessed 30/05/2025]

Policy	Policy context
Future Wales: The National Plan 2024 (2021) ¹³²	The National Development Framework Future Wales – the National Plan 2040, sets out the Welsh Government's land use priorities and provides a national land use framework. The development plan for Wales influences all levels of the planning system in Wales and helps to shape Strategic and Local Development Plans prepared by councils and national park authorities.
Bridgend County Borough Local Development Plan 2018 to 2033 ¹³³	The current Local Development Plan was adopted on 13/04/2024 by Bridgend County Borough Council. The Local Development Plan identifies where new developments such as infrastructure, housing, employment, community facilities and roads, will go. The historic environment is considered in policy SP18: 'Conservation of the Historic Environment' of the Local Development Plan, which states that 'development proposals must protect, conserve, and, where appropriate, preserve and enhance the significance of historic assets, including their settings.'
Neath Port Talbot County Borough Council Local Development Plan (2011-2026) ¹³⁴	The current Local Development Plan was adopted on 27/01/2016 by the Neath Port Talbot County Borough Council. The Local Development Plan identifies where new development as where new developments such as infrastructure, housing, employment, community facilities and roads, will go. The historic environment is considered in policy SP 21: 'Built Environment and Historic Heritage'. This policy states the following: 'The built environment and historic heritage will, where appropriate, be conserved and enhanced through the following measures: 1. Encouraging high quality design standards in all development proposals; 2. Protecting arterial gateways from intrusive and inappropriate development; 3. Safeguarding features of historic and cultural importance; 4. The identification of the following designated sites to enable their protection and where appropriate enhancement: (a) Landscapes of Historic Interest; (b) Historic Parks and Gardens; (c) Conservation Areas; (d) Scheduled Ancient Monuments; and (e) Listed Buildings and their curtilage.

¹³² Welsh Government, (2021). *Future Wales: The National Plan 2040*. Available online at: <https://www.gov.wales/future-wales-national-plan-2040> [Accessed 30/05/2025]

¹³³ Bridgend County Borough Council, (2024). *Bridgend Local Development Plan 2018 to 2033*. Available online at: <https://www.bridgend.gov.uk/residents/planning-and-building-control/replacement-local-development-plan/replacement-bridgend-local-development-plan-2018-to-2033/> [Accessed 30/05/2025]

¹³⁴ Neath Port Talbot County Borough Council, (2016), *Neath Port Talbot County Borough Council Adopted Local Development Plan (2011-2026)*. Available online at: <https://www.npt.gov.uk/planning-and-building-control/planning-policy/adopted-ldp-2011-2026/> [Accessed 30/05/2025]

CULTURAL HERITAGE GUIDANCE

10.3.4. **Table 10-3** lists the relevant historic environment guidance used for assessing effects from the Project.

Table 10-3 - Cultural Heritage (Historic Environment) guidance relevant to the assessment

Technical guidance document	Context
Technical Advice Note 24 (TAN24): The Historic Environment (2017) ¹³⁵	TAN 24 was adopted in May 2017 to provide guidance on how the planning system should consider the historic environment during development plan preparation and decision making on planning applications.
Heritage Impact Assessment in Wales (2017a) ¹³⁶	Sets out the general principles to consider when planning changes to historic assets and applying for listed building, conservation area and scheduled monument consent.
Setting of Historic Assets in Wales (2017b) ¹³⁷	Sets out the principles used to assess the potential impact of development or land management proposals within the settings of World Heritage Sites, ancient monuments (scheduled and unscheduled), listed buildings, registered historic parks and gardens, and conservation areas.
Managing Historic Character in Wales (2017c) ¹²⁹	Explains why it is important to recognise historic character and use it as an evidence base for conservation, regeneration, and planning work. It shows how policies and programmes to manage change can take inspiration from the past to help create and sustain distinctive places for the future.
Conservation Principles for the sustainable management of the historic environment in Wales (2011) ¹³⁸	Sets out principles used when looking to sustainably conserve, manage and enhance the historic environment in Wales, ensuring that all impacts or changes are balanced and measured in their approach and transparent and consistent in their delivery.

¹³⁵ Welsh Government, (2017). *Technical Advice Note 24: The Historic Environment*. Available online at: <https://www.gov.wales/sites/default/files/publications/2018-09/tan24-historic-environment.pdf> [Accessed 30/05/2025]

¹³⁶ Cadw, (2017a). *Heritage Impact Assessment in Wales*. Available online at: <https://cadw.gov.wales/advice-support/placemaking/heritage-impact-assessment/heritage-impact-assessment> [Accessed 30/05/2025]

¹³⁷ Cadw, (2017b). *Settings of Historic Assets in Wales*. Available online at: <https://cadw.gov.wales/advice-support/placemaking/heritage-impact-assessment/setting-historic-assets> [Accessed 30/05/2025]

¹³⁸ Welsh Assembly Government (2011). *Conservation Principles for the sustainable management of the historic environment in Wales*. Available online at: <https://cadw.gov.wales/advice-support/historic-assets/conservation-principles> [Accessed 30/05/2025]

Technical guidance document	Context
ClfA Code of Conduct: professional ethics in archaeology (2022) ¹³⁹	Sets out the guiding principles for professional conduct when working with the management of the historic environment and ensuring that all professionals are responsible for the proper dissemination and handling of knowledge, and for the conservation of the historic environment.
ClfA Code of Conduct: professional conduct (2024) ¹⁴⁰	The professional code of conduct, by which all historic environment professionals involved in development should abide.
ClfA Standard and Guidance for historic environment desk-based assessment (2020a) ¹⁴¹	Sets out standards to produce historic environment desk-based assessments.
ClfA Standard and Guidance for commissioning work or providing consultancy advice on archaeology and the historic environment (2020b) ¹⁴²	Provides the professional guidelines for providing consultancy services in regard to the historic environment.

10.4 CONSULTATION

- 10.4.1. The ADBA (Heneb, 2024; **Appendix 10A**) states that the 300m Study Area used to establish the baseline was agreed with the LPA Archaeological Advisors to the relevant councils, supported by an associated Written Scheme of Investigation (WSI) (Heneb, 2024).
- 10.4.2. An EIA Scoping Opinion was received from PEDW, which includes responses from Cadw (Ref: CAS-03678-M4Y0G7, dated 01/05/2025), BCBC (Ref: P/25/218/DNS, dated 13/05/2025) and NPTCBC (Ref: N3T6M4, dated 29/04/2025), detailed in **Table 10-4**.

Table 10-4 – Scoping opinion responses for Historic Environment

¹³⁹ Chartered Institute for Archaeologists (ClfA), (2022). *Code of Conduct: professional ethics in archaeology*. Available online at: <https://www.archaeologists.net/sites/default/files/Code%20of%20conduct%20revOct2022.pdf> [Accessed 30/05/2025]

¹⁴⁰ Chartered Institute for Archaeologists (ClfA), (2024). *Regulations for professional conduct*. Available online at: https://www.archaeologists.net/sites/default/files/Regulations%20for%20professional%20conduct_0.pdf [Accessed 30/05/2025]

¹⁴¹ Chartered Institute for Archaeologists (ClfA), (2020a). *Standard and guidance for historic environment desk-based assessments*. Available online at: https://www.archaeologists.net/sites/default/files/ClfAS%26GDBA_4.pdf [Accessed 30/05/2025]

¹⁴² Chartered Institute for Archaeologists (ClfA), (2024b). *Standard and guidance for commissioning work or providing consultancy advice on archaeology and the historic environment*. Available online at: https://www.archaeologists.net/sites/default/files/ClfAS%26GCommissioning_2.pdf [Accessed 30/05/2025]

Comment reference	Stakeholder Comment	WSP Response
Cadw (Ref: CAS-03678-M4Y0G7, dated 01/05/2025)		
N/A	We have concerns about the form of the proposed further assessments that are required to determine the full impact of the proposed development. We note that a draft HEDBA has been prepared but without viewing this document we cannot determine the likelihood that previously unrecorded archaeological sites are located on the cable route and if there is a need for additional surveys such as geophysical survey or archaeological evaluation to be carried out prior to the submission of the application. The requirements of section 6.1.26 of Planning Policy Wales should be noted and sufficient time included in the preparation of the environmental statement to allow the required surveys to be completed before it is submitted.	This ES chapter is supported by a desk-based assessment, with an associated WSI, which was produced by Heneb (2024) (Appendix 10A), as detailed in Section 10.6 The ES chapter was also supported by further site visits and updated baseline data, as presented in Section 10.6 and 10.7, which was undertaken to reflect the updated cable route design. Mitigation for the project takes a staged approach, starting with avoidance by design, followed by mitigation by record, where appropriate. The assessment takes into account the embedded measurements set out in Section 10.8, which includes provision for appropriate and proportionate programme of archaeological investigation and recording.
N/A	We have significant concerns about the proposal to over sail scheduled monument GM231 Clawdd Mawr, Mynydd Caerau with the cables. This proposal is likely to have an impact that will constitute an unacceptably damaging effect upon the setting of scheduled monument, which would be contrary to section 6.1.24 of Planning Policy Wales. It is therefore strongly recommended that the applicant should seek an alternative route for the cable in this area.	Subsequent engagement was undertaken with Cadw to discuss their concerns regarding scheduled monument GM231 Clawdd Mawr, Mynydd Caerau. Following this, design changes were implemented to avoid oversailing the scheduled monument and to route an underground section of the cable through the existing road which crosses the monument (see Figure 4.1). The designs changes were agreed as acceptable by Cadw on the 13/10/2025.
BCBC (Ref: P/25/218/DNS, dated 13/05/2025)		
Historic Environment	Policy SP18 states that development proposals must protect, conserve, and, where appropriate, preserve and enhance the significance of historic assets, including their settings.	Acknowledgement of BCBC's agreement that the scheme will not be detrimental to the Historic Landscape.³⁰⁷

Comment reference	Stakeholder Comment	WSP Response
	Development proposals will only be permitted if it preserves or enhances the character the character of the area. The LPA is generally satisfied that the scheme as highlighted in section 6.3 of the report will not be detrimental to the Historic Landscape in line with the proposed methodology.	
NPTCBC (Ref: P2025/0244, dated 29/04/2025)		
Chapter 6 – Historic Environment	As stated in section 6.6 of the EIA scoping report, further assessments are necessary. We recommend a full desk-based assessment following Chartered Institute for Archaeologists Standards and Guidance, with a scope and methodology outlined in an agreed Written Scheme of Investigation (WSI). This aligns with Planning Policy Wales (PPW) ed. 12 (February 2024), Paragraph 6.1.26, and Technical Advice Note 24, Paragraphs 4.7-4.8. The desk-based assessment is the first stage of archaeological work, and further mitigation may be required based on its findings, either pre- or post-determination	This ES chapter is supported by a desk-based assessment, with an associated WSI, which was produced by Heneb (2024) (Appendix 10A), as detailed in Section 10.6 The ES chapter was also supported by further site visits and updated baseline data, as presented in Section 10.6 and 10.7, which was undertaken to reflect the updated cable route design. Mitigation for the project takes a stage approach, starting with avoidance by design, followed by mitigation by record, where appropriate.

10.5 DATA GATHERING METHODOLOGY

- 10.5.1. As set out in **Chapter 4**, the site comprises a 12.5m buffer applied to the centre line of the project. All construction and operational activities would be undertaken within the Site boundary.

STUDY AREA

- 10.5.2. Following the ADDBA (Heneb, 2024; **Appendix 10A**), a 300m study area was applied for establishing a historic environment baseline to support an assessment of potential and significance of historic assets which may be impacted by the Project.
- 10.5.3. For the purposes of this assessment, a 2km extended study area was applied to assess the impacts to designated historic assets, such as Scheduled Monuments, Listed Buildings, Registered Parks and Gardens, Registered Historic Landscapes and Conservation Areas.
- 10.5.4. These study areas were set out at Scoping stage and were agreed by Cadw Scoping Opinion (Ref: CAS-03678-M4Y0G7, dated 01/05/2025; see **Table 10-4**).

ARCHAEOLOGICAL DESK-BASED ASSESSMENT

- 10.5.5. **Appendix 10A (Heneb, 2024)** provides an archaeological desk-based study and includes a review of available information to determine the baseline conditions within the route of the Project and surrounding 300m radius. This ADBA assessment consists of an analysis of existing written, graphic, photographic and electronic information, and a site walkover, in order to identify the likely historic assets and determine their significance. The data sources reviewed are contained within **Table 10-5**.

Table 10-5 – Summaries of the data sources consulted

Sources	Data	Comment
Cadw	Inventory of Historic Assets with information on statutorily designated historic assets.	Statutory designations (scheduled monuments, statutorily listed buildings, registered parks and gardens, historic battlefields) can provide a significant constraint to development.
Glamorgan-Gwent Archaeological Trust (GGAT)	GGAT Historic Environment Record (HER)	Primary repository of archaeological information. Includes information from past investigations, local knowledge, find spots, and documentary and cartographic sources.
British Geological Survey	Superficial and bedrock geology digital mapping; online BGS geological borehole record data.	Subsurface deposition, including buried geology and topography, can provide an indication of potential for early human settlement, and potential depth of archaeological remains.
Royal Commission on Ancient and Historical Monument of Wales (RCAHMW).	Inventory of non-designated historic assets; National Monuments Record of Wales (NMRW)	Welsh Government funded organisation which manages the National Monument Record of Wales, a repository of information on archaeological and built heritage remains in Wales.
Central Register of Air Photography for Wales (CRAPW)	Vertical and specialist (oblique) aerial photographs	Cropmarks formed by moisture variations due to subsurface features can indicate the presence of archaeological remains. Aerial photographs can also sometimes provide information on ground disturbance.
Glamorgan Archives	Historic maps and documentation	Provides an indication of past land use and impacts which may

Sources	Data	Comment
		have compromised archaeological survival.
National Resources Wales (NRW)	LiDAR information.	Topographic information obtained from LiDAR scanning can be utilised to identify areas of historical human impact upon the landscape, as well as giving an overarching view of the Site environs and land formation processes.
The internet	General online search.	General online research conducted on historic assets of Wales.
The client	Proposed cable route plans for underground and overground sections.	Assists in the assessment of the extent of the proposed impact upon known or possible archaeological remains.

ADDITIONAL BASELINE SURVEY

- 10.5.6. Additional baseline in the form of a Stage 2 and 3 Settings Assessment was undertaken by WSP on 05-06/06/2025. In line with Cadw guidance¹³⁷, this comprised both a visual inspection of designated assets scoped-in during Stage 1 (see Appendix C of the Scoping Report, WSP, 2025;), as well as analysis of significance and an evaluation of the impact of the Project on the overall setting of the designated assets scoping in within the 2km extended study area and the impact on all scoped-in non-designated assets (see **Table 10-9**). The site visit confirmed the outcome of the Stage 1 Settings Assessment, verifying the locations of designated assets and assessing their rationale for inclusion or exclusion in the following ES (as presented in Section 10.6) and also verified the presence, characteristics and absences of the non-designated assets. In particular, it was observed that the assets Bwlch Yr Afan, Boundary Stone (523233) and the Blaengarw, Barrow II (307437 / GGAT00718w) were not present despite their records, but the similar Bwlch Garw, Boundary Stone (516547) had remained extant.

10.6 OVERALL BASELINE

- 10.6.1. The baseline conditions of the archaeological and historical background of the Site are described in the ADBA (Heneb, 2024; **Appendix 10A**), supported by additional baseline data and survey undertaken by WSP for this ES. This is summarised below.

NON-DESIGNATED HISTORIC ASSETS

- 10.6.2. The land within the 300m study area is historically a rural mountainous landscape, with evidence of occupation stretching back into the prehistoric period. In total, 130 non-designated assets have been identified within the study area, which are predominately related to post-medieval industrial and agricultural activities. Amongst these are rare examples of prehistoric occupation and associated mortuary monuments (discussed further under designated historic assets), early medieval

settlement and fortification features, which are primarily located in more isolated, elevated and less developed areas of the study area (Heneb, 2024).

- 10.6.3. Known prehistoric remains, including several funerary mounds (GM232 & 516436) and a prehistoric track way (01007.0w) which passes through the western end of the Site boundary, have been identified and are primarily dateable to the Bronze Age and Neolithic period. The presence of further unknown remains related to prehistory is judged to be low to medium due to their isolated nature. In contrast, no evidence of Roman occupation has been identified with the study area or site, so the likelihood of similar remains be present is deemed low.
- 10.6.4. Activity within and around the site during the early and later medieval periods increases to a low to medium potential level generally, and to a high potential for the areas surrounding the known medieval remains which are within the Site boundary. These include the early-medieval Clawdd Mawr dyke (GM231) which falls within the underground section of the Project, and the non-designated Cross Ridge Dyke, Foel Y Dyffryn (01862.0m) in the western extent of site, whose provenance is unknown but likely medieval in origin.
- 10.6.5. The majority of other archaeological features within the study area are post-medieval or modern in origins, being related primarily to the agricultural and industrial exploitation of the landscape from late 18th to early 19th century onwards, particularly for the iron and coal industries. These include two quarries (516895 & 516590), air shafts (00435w), coal levels (04433w), tramways and railways (UO-02 & UO-02), public houses (GGAT12043m & GGAT12074m) and boundary stones (516547). Many of these no longer contain extant standing remains but may partially survive as buried remains within their general location.
- 10.6.6. Any palaeoenvironmental remains would likely be associated with peat deposits, of which there are isolated pockets across the Site. The updated Peatlands of Wales Maps¹⁴³ identifies one small area of peat, which very narrowly overlaps with the western OHL section of the Site boundary, northwest of Blaencaerau Farm. However, the OHL pole foundations and 10m micro-siting areas avoid this area of peat. The BGS mapped superficial geology shows one other area of peat that is crossed by the Project (OHL section), around (E) 288216 (N) 194826. The peat depth survey completed for the Upper Ogmores Wind Farm planning application confirms peat of >0.4m depth at the eastern end of the study area, but not within the Site boundary.¹⁴⁴ The available evidence suggests there is potential for localised peat deposits within the Site. Palaeoenvironmental remains have the potential to contribute to our understanding of past environments.
- 10.6.7. There are 15 non-designated historic assets located within the Site, which are summarised in **Table 10-6** and shown in **Figures 10.3** and **10.4**.

¹⁴³ DataMapWales (2022). Peatlands of Wales Map. Available: <https://datamap.gov.wales>. [online] Accessed October 2025

¹⁴⁴ Peat depth map for the Upper Ogmores Wind Farm proposed development. [online] Available at: <https://upperogmore-windfarm.co.uk/media/2638422/figure-0801-peat-depth-map.pdf>. [online] Accessed October 2025

Table 10-6 – Non-designated historic assets located within the Site

Ref	Name	Period	Value (significance)
01077.0w	Heol Y Moch (the Pigs' Way)	Prehistoric, medieval	Low
516895	Foel y Dyffryn, Quarry VIII	Post-medieval	Low
523233	Bwlch Yr Afan, Boundary Stone	Post-medieval	Low
516590	Foel y Dyffryn, Quarry IV	Post-medieval	Low
307437 / GGAT00718w	Blaengarw, Barrow II	Unknown, Prehistoric	High
516547	Bwlch Garw, Boundary Stone	Post-medieval	Low
516899 / GGAT12074m	Llynfi Inn	Post-medieval	Low
GGAT12043m	Navigation Inn, Caerau	Post-medieval	Low
08463m	Caerau War Memorial	Post-medieval	Low
00435w	Caernau Air Shaft	Post-medieval, Modern	Low
04433w	Caernau Coal Level	Post-medieval	Low
01862.0m	Cross Ridge Dyke, Foel Y Dyffryn	Unknown, Medieval	Medium
UO-01	Tramway	Post-medieval	Low
UO-02	Llynfi 'G.W.R Llynfi Branch' Railway	Post-medieval	Low

DESIGNATED HISTORIC ASSETS

10.6.8. There are a total of 37 designated historic assets present within the 2km extended study area, comprising:

- 9 Scheduled Monuments
- 27 Listed Buildings
- 1 Registered Historic Landscape

10.6.9. There is one designated historic asset within the Site. This is the Clawdd Mawr, Mynydd Caerau scheduled monument (GM231), within the underground section of the Project (**Figure 10.1 & 10.2**).

10.6.10. A Stage 1 Assessment has been carried out for all the designated historic assets within the 2km extended study area, in accordance with The Setting of Historic Assets in Wales (Cadw, 2017). The assessment was initially undertaken at Scoping (WSP, 2025) and reviewed following subsequent design changes for the ES (**Appendix 10B**). The selection of historic assets to be included in the ES

has been completed with reference to the Zones of Theoretical Visibility (ZTV) that has been calculated to show the area of maximum theoretical visibility of the proposed overhead powerlines and H-pole pylons (**Figure 10.2**; see also **Chapter 6**). All designated assets, mapped against the ZTV are presented in **Figure 10.2**.

10.6.11. From the results of the Stage 1 Settings Assessment (**Appendix 10B**), three scheduled monuments have been scoped in for further assessment within this ES. These assets are listed in **Table 10-7**, with a rationale for their inclusion. The following sections then present baseline information for those assets scoped in.

Table 10-7 – Designated historic assets scoped into the assessment of effects

Reference	Name	Rationale	Value (significance)
Scheduled Monuments			
GM231	Clawdd Mawr, Mynydd Caerau	Within Site boundary, crossed by underground section of cable route.	High
GM232	Mynydd Caerau Round Cairns	Proximity to and visibility of proposed operational OHL.	High
GM246	Bwlch yr Avan Dyke	Proximity to the Project.	High

Clawdd Mawr, Mynydd Caerau (GM231)

10.6.12. Clawdd Mawr, Mynydd Caerau is a scheduled monument comprising an earthen dyke situated on the western slope of a saddle between the Mynydd Caerau and Mynydd-y-Gelli hill, positioned at about 490m above OD and overlooking the Afan Valley to the north. The scheduled monument is located within the Site boundary, specifically within the eastern UGC section of the Project, where it is crossed by an existing surfaced track. The scheduled monument is of **high** heritage significance for evidential and historic value.

10.6.13. According to Cadw, the monument '*consists of a linear earthwork bank, a substantial bank and ditch, extending approximately 220m in length in a northsouth orientation and is believed to have a medieval origin, possibly as a boundary marker between two adjacent landholdings.*'¹⁴⁵ Its function as a boundary marker, or barrier, is supported by its position within the landscape, occupying a narrow saddle between the Mynydd Caerau and Wefra mountains. The land drops very steeply to the north and south, with the saddle providing an accessible route across this land, marked by the dyke. The earthwork bank, which is formed only to the eastern side of the ditch, is formed of the earth thrown down during the ditch's construction. Although structural in character, the monument

¹⁴⁵ Cadw, (2025), 'Scheduled Monument – Full Report - Clawdd Mawr, Mynydd Caerau', Cadw [online], <https://cadwpublic-api.azurewebsites.net/reports/sam/FullReport?lang=en&id=2906> [Accessed 26/06/2025]

currently contains no stone or wooden elements or reinforcements, although the latter may originally have been present and has since degraded.

- 10.6.14. At present, the dyke is formed of two sections which gradually decline to the north, divided by a modern gravel roadway which passes through a gap in the centre of the monument. Cadw's description of the monument indicates that a track was already present, presumably as a farm track, prior to the construction of the existing Llynff Afan Wind Farm, which is evidenced through satellite imagery. During construction of the Llynff Afan Wind Farm, the track was widened and levelled. Utilities data indicate there are also existing buried cables along the track, which crosses the scheduled area.
- 10.6.15. The affected area of the dyke's earthen bank to the west of the existing track was excavated and recorded by Wessex Archaeology in 2017, who were able to date the buried soils found sealed beneath the embankments through Optical Stimulated Luminescence (OSL) dating to around the late Neolithic to early Bronze Age and silting deposits within the ditch to before 800 AD.¹⁴⁶ Near the north end of the southern section of dyke, the monument has seemingly survived mostly intact, with the ditch measuring at maximum about 7.5m deep and the bank measuring 1m high. In contrast, possibly due to erosion, the southern end of this southern section has degraded, with the ditch reaching only 1.5m deep and the bank being levelled to a shelf. The northern section also survives north of the modern trackway at a similar depth of approximately 1-1.5m, with the eastern earthen bank still in place.
- 10.6.16. The monument's setting, characterised by the upland landscape and occupying an elevated position across the saddle between two mountains, contributes to its significance allowing some understanding as to its likely function. Its function and location being primarily influenced by the local topography and historic landholdings. There is a functional relationship with other cross-dykes in the wider landscape, which are thought to have controlled movements along natural upland route ways, though there doesn't appear to be a visual relationship between these features due to intervening distance and topography.
- 10.6.17. The Clawdd Mawr dyke is not immediately apparent or prominent within views from the surrounding landscape, as it is relatively low-lying and occupies the lower part of a slope of the mountain saddle. The surrounding landscape is characterised as open upland, with pockets of woodland plantation. Views toward the monument include existing wind turbines and access road. Views from the monument alter as you move across it, due to the changing topography. Views to the north and south are relatively limited due to the steep drops. Views west are also limited due to the rising ground level. Longer views are possible eastwards, characterised by open upland and include the existing wind turbines and access road.

¹⁴⁶ Wessex Archaeology, (2021), *Llynfi Afan Renewable Energy Park Mynydd Caerau, Glamorgan: Investigations of the Clawdd Mawr dyke Scheduled Monument GM231 Post-excavation Assessment and Updated Project Design*, (unpublished Wessex Archaeology PXA report) [Accessed 26/06/2025]

10.6.18. The asset derives its significance primarily from its evidential value, retaining archaeological potential to enhance our knowledge of medieval defensive organisation and settlement.

Mynydd Caerau, Round Cairns (GM232)

10.6.19. The Mynydd Caerau, Round Cairns is a scheduled monument comprising a group of burial cairns situated on the western slopes of the Garw Valley in open upland moorland terrain, located at approximately 540–550m above OD (aOD). The nearest is located 70m to the south of the Site boundary. According the Cadw, the monument is comprised of “*a number of burial cairns, probably dating to the Bronze Age (c. 2300 – 800BC)*”, which the site visit has confirmed to be nine in total, arranged in two linear formations and each measuring between 20 to 30 meters in diameter.¹⁴⁷ Each consist of turf-covered mounds, which is potentially concealing intact burial deposits within. Six of these cairns are positioned in a northeast-southwest orientation at 550m aOD, whilst the remaining three are positioned 200m to the south at a marginally lower position of 540m aOD and orientated on a northwest-southeast orientation. The dispersion of two groups of mounds, their elevated position and their arrangement would suggest that there was a ritual and long-term ceremonial significance or use to their placement, which may have been enhanced by the contemporary historic landscape which has since been lost. The scheduled monument is of **high** heritage significance for evidential and historic value.

10.6.20. The central mound in the former group of six is surmounted in its centre by an Ordnance Survey (OS) triangulation pillar, dateable to the late 19th or early 20th century, which has potentially truncated any surviving remains within. The other surrounding mounds to the east and west appear mostly intact and feature no surmounting structural elements, however, are now all largely obscured by low-lying vegetation and are insubstantial in height (between 0.5-1.5m high). It is likely that these mounds were historically taller and more visible but have been gradually worn and reduced in size through weathering and agricultural activities. The latter group of three mounds are also similarly small (between 0.5–1m high) and have likely also been affected through natural weathering but are, at present, more visible due to the lack of surrounding ground vegetation. The central mound of the latter group also features a loose organisation of stones, concentrated at the end and around the edge of a rectangular depression, which may have formed some type of internal chamber. The stones appear to have been disturbed, indicating that the stones have either collapsed or be moved during a subsequent robbery, from which the depression may also have originated.

10.6.21. The monument’s setting contributes to significance, as they are largely defined and experienced by their elevated position within the dramatic, mountainous Garw and Ogmere valleys region. Historically, these mounds would have been purposefully built here as to maintain wide ranging outwards views across the surrounding landscape, particularly to the south, east and west down the valleys below. At present, these mounds are now largely obscured from view by the surrounding terrain or tree plantations to the west and south, although they are still somewhat visible within their

¹⁴⁷ Cadw, (2025), ‘Scheduled Monuments – Full Report – Mynydd Caerau Round Cairns’, Cadw [online], <https://cadwpublic-api.azurewebsites.net/reports/sam/FullReport?lang=en&id=625> [Accessed 26/06/2025]

immediate environment. Also visible within their setting are existing wind turbines, including those of the Llynff Afan Wind Farm and others located across the wider landscape on opposing mountain and hillsides. Although these wind turbines are alien to the historic landscape in which they are located, they now form an important, recognisable and sympathetic elements of the mountainous region which is characterised by dramatic views, tall trees and widely visible forms.

- 10.6.22. These mounds derive their significance primarily from their evidential value, both individually and as a cemetery, with archaeological potential to enhance our knowledge of prehistoric burial and ritual practices. Remains might comprise burial or ritual deposits, together with environmental and structural evidence.

Bwlch yr Avan Dyke (GM246)

- 10.6.23. The Bwlch yr Avan Dyke is a scheduled monument comprising a dyke situated on a narrow crest of Ogmere Valley in open moorland, between the summits of four mountains; the Wefra (southwest), Twyn Crugyrafan (northeast), Briach-Y-Hydd (southeast) and Craig Ogwr (east), at approximately 520m above Ordnance Datum (OD). It is located 60m to the north-east of the eastern terminus of the Site, within a high open area. The scheduled monument is of **high** heritage significance for evidential and historic value.
- 10.6.24. According to Cadw, it consists of *'the remains of a dyke, a defensive boundary or earthwork, dating to the later prehistoric or medieval period'*, it measures approximately 155m in length, on and east to west orientation.¹⁴⁸ The dyke itself is comprised of *'a ditch with turf-covered banks on both sides'*¹⁴⁸, the northern of which is smaller at 1.2m high and the southern slightly taller at 1.5m high. At present, the dyke no longer serves as a boundary between two areas and is within the middle of a field approximately 25m south of the A4107 roadway. However, its position on a thinning ridge between two mountains is perhaps significant, as it may have formerly divided two estates positioned on the mountain top. Its position on the eastern side of the Wefra mountain is likely significant, as the hill also features another similar possibly contemporary dyke (Clawdd Mawr, Mynydd Caerau; see paragraphs 10.6.12 to 10.6.18) on its western extent, which suggests they could have formed the exterior extents of an internal settlement on the mountain-top plateau between them. This could also have been a barrier for known prehistoric and medieval settlements and features situated to the north-east within The Rhondda registered historic landscape (HLW (MGI) 5; see **Figure 10.1** and **10.2**) and the plateaus of the adjacent mountains.
- 10.6.25. The setting of the scheduled monument contributes to its significance. The elevated position of the monument along the thin ridge line between two mountains defines its purpose as a man-made boundary, made to enhance on the natural ridge between four mountains. Due to its position centrally within the plateau of the ridge, it maintains views outwards in all directions. The scheduled monument's most important are those towards the Wefra mountain which rises the west and the

¹⁴⁸ Cadw, (2025), 'Scheduled Monument – Full Report – Bwlch yr Avan Dyke', Cadw [online], <https://cadwpublic-api.azurewebsites.net/reports/sam/FullReport?lang=en&id=399> [Accessed 26/06/2025]

Twyn Crugyrafan mountain which rises to the northeast, which the dykes orientation suggests it most likely used to intentionally create a man-made divide between. Its views towards the north and south looking down into the Garw valley and Ogmores Vale are also crucial to its setting, although its views towards both is somewhat limited due to the northwestern decline of the topography.

- 10.6.26. The evidential value of the monument contributes to its significance, retaining archaeological potential to enhance our knowledge of medieval defensive organisation and settlement. Due to its isolated position on the mountain-top, it is likely to have been less disturbed by intensive occupation and therefore retains a higher probability of containing archaeological features and artefacts of similar date and value within and around it.

10.7 SCOPE OF THE ASSESSMENT

SPATIAL SCOPE

- 10.7.1. The Site boundary encompasses a 12.5m buffer applied to the corridor route of the Project, to facilitate the micro-siting of H-Pole foundation supports and the finalised UGC 66kV (kilovolt) overhead line route. For the purposes of this ES, it is considered that any land within the site may be disturbed, except where avoidance of heritage assets is specifically identified.
- 10.7.2. Two study areas have been applied for the purposes of this assessment:
- A 300m study area for non-designated historic assets to assess archaeological potential and identify direct effects; and,
 - A 2km extended study area for designated historic assets to assess changes to setting;

Temporal scope

- 10.7.3. The temporal scope of the assessment of Historic Environment is consistent with the period over which the Project would be carried out (see **Chapter 4**), and therefore covers the construction, operational and decommissioning phases as defined below.
- **Construction Phase** – the construction of the proposed OHL and UGC will take a total of nine months to complete, starting in September 2028. This will include five months for installing the underground ducting pipes, one month for the cable installation and joint work and three months for erecting wooden H-pole supports and OHL. These works will take place between 07:00 to 19:00 on weekdays, and between 07:00 and 13:00 on Saturdays. In exceptions, there may be a requirement for a 7-day work week. This would be agreed with the local council as appropriate.
 - **Operation Phase** – following construction, the Project will integrate the consented Llynff Afan Wind Farm with the current DNO via a 66kV connection and remain in usage for the duration of the wind farm, assumed to be up to 30 years, although this may be extended dependent upon potential future uses. During this phase, the UGC section will only be regularly tested at joint bays, which will not require any further ground intrusion.
 - **Decommissioning Phase** – Following the operational phase, the connection (underground and overground) will be left in situ as it has the potential to become integrated into the wider distribution network. Decommissioning activities would not be expected to result in additional ground disturbance and therefore effects arising through direct disturbance during this phase were scoped out in the Scoping stage.

EFFECTS SCOPED OUT OF THE ASSESSMENT

10.7.4. The effects scoped out from further assessment are:

- **Direct disturbance to historic assets within the section of the underground cable route proposed within existing road network** – areas of works within the road footprint will not impact upon any unknown historic assets, as these have likely already been directly disturbed by modern development to a depth of between 1m to 2m. As such, excavation of the cable trenches to a depth of up to 1.5m and the joint boxes at 1 to 2m deep and 5m x 3m wide will have a negligible adverse effect and can be scoped out of further assessment.
- **Direct disturbance to historic assets during the operation phase of the underground cable and overhead powerline** – whilst in the operation phase, these cables will be static and will not require any direct impacts upon the ground. As such, they will have no adverse effect on unknown historic assets.
- **Direct disturbance to historic assets outside of the Site boundary** – no ground excavation works are anticipated to take place beyond the Site boundary and therefore there will be no adverse effect upon unknown historic assets.
- **Adverse effect through change to their settings on historic assets not listed in Table 10-7** – due to a combination of location, distance, intervening topography and the nature of the assets, together with the proposed OHL scheme design (see **Chapter 4: Project Description**), there are no further assets whose setting and physical character would be significantly affected during the operational and maintenance phases of the Project.
- **Direct disturbance to historic assets arising during decommissioning** – the operational elements of the Project will be left in situ, therefore there will be no further direct impacts to the ground.

10.8 EMBEDDED MEASURES

10.8.1. A range of environment measures have been embedded into the Project as detailed in **Chapter 12: Summary of Mitigation**. **Table 10-8** outlines how embedded measures will influence the Historic Environment assessment.

Table 10-8 - Summary of the embedded environmental measures related to the Historic Environment

Receptor	Potential changes and effects	Embedded measures	Suggested Compliance Mechanism
Construction Phase			
Designated historic assets listed in Table 10-7	Effects to the significance of the historic asset through changes to its setting.	The construction phase will be temporary, totalling nine months, with three months planned for OHL installation.	Development design and CEMP.

Receptor	Potential changes and effects	Embedded measures	Suggested Compliance Mechanism
Non-designated archaeological remains within the Site	Direct disturbance to archaeological remains.	Micro-siting of wooden H-pole pylon foundations and underground cable to avoid known historic assets, where possible. Avoidance maps of known non-designated historic assets within the CEMP.	Planning condition. CEMP.
		Where avoidance of physical impacts to archaeological remains is not possible, a proportionate programme of archaeological investigation and mitigation may be required, in advance of construction. The scope of any archaeological works will be agreed in advance with Heneb and set out in Written Scheme of Investigation.	Planning condition.
Non-designated Bwlch Garw, Boundary Stone (516547)	Direct disturbance to non-designated historic asset	Construction activities associated with the installation of the underground cable will avoid disturbance of the historic asset through design and fencing off the asset during the construction works. Location should be marked on construction phase plans and avoidance measures included in toolbox talk.	Development design and CEMP.
Potential palaeoenvironmental remains associated with peat deposits	Direct disturbance of palaeoenvironmental remains contained within peat deposits	Micro-siting pylon foundations or underground cable routes to avoid disturbing known peat	Development design and CEMP.

Receptor	Potential changes and effects	Embedded measures	Suggested Compliance Mechanism
		deposits where possible.	
Clawdd Mawr, Mynydd Caerau scheduled monument (GM231)	Direct disturbance of the scheduled monument	Avoidance of the direct impacts to Clawdd Mawr, Mynydd Caerau scheduled monument (GM231) through appropriate design. Intrusive construction activities associated with the underground cable where it crosses the scheduled area, will be contained entirely within the footprint of the existing trackway. Protection measures during the construction phase will include: - erection of temporary fencing demarcating the scheduled monument where it is crossed by the proposed underground cable within the existing trackway - inclusion of the scheduled monument on construction phase site plans - provision of a toolbox talk or briefing to construction site team to identify working methods to ensure avoidance of impacts during delivery of the works.	Development design. CEMP.
Operational phase			
Designated assets listed in Table 10-7	Effects to the significance of the historic assets through changes to its setting	Proposed OHL design using wooden H-poles and maximum height (mostly 12m above ground level, with a maximum height not	Development.

Receptor	Potential changes and effects	Embedded measures	Suggested Compliance Mechanism
		exceeding 15m above ground) to minimize effects through change to setting. The underground cable route will be entirely buried with no above ground infrastructure during operational phase.	

10.9 ASSESSMENT METHODOLOGY

IDENTIFICATION OF POTENTIAL RECEPTORS

- 10.9.1. The receptors taken forward for assessment were identified within the Scoping Report (WSP, 2025) and reviewed in **Appendix 10B**. Baseline information on these assets is presented in **Appendix 10A** and this ES Chapter. They are discussed with reference to their designation, value, potential and period below.

Non-designated Historic Assets

- 10.9.2. The following non-designated historic assets listed in **Table 10-9** have been identified for assessment. These include non-designated historic assets within the Site which have the potential to be subject to direct disturbance. As described in Section 10.8, effects arising through direct disturbance to historic assets within the section of the UGC route proposed within existing road network, have been scoped out of the assessment. Any historic environment records that fall within the Site but within the existing road network (UGC section along the A4063) have been scoped out of the assessment.

Table 10-9 – Non-designated Historic Environment Receptors scoped into the ES assessment

Receptors	Ref.	Period	Potential	Value (significance)
Heol Y Moch (the Pig's Way)	01077.0w	Prehistoric, Medieval	High	Low significance
Foel y Dyffryn Quarry VIII	516895	Post-medieval	High	Low significance
Bwlch Yr Afan, Boundary Stone	523233	Post-medieval	High	Low significance
Foel y Dyffryn, Quarry IV	516590	Post-medieval	High	Low significance.
Blaengarwm Barrow II	307437 / GGAT00717w	Prehistoric	High	Medium significance

Receptors	Ref.	Period	Potential	Value (significance)
Bwlch Garw, Boundary Stone	516547	Post-medieval	High	Low significance
Caernau Air Shaft	00435w	Post-medieval	High	Low significance
Caernau Coal Level	04433w	Post-medieval	High	Low significance
Cross Ridge Dyke, Foel Y Dyffryn	01862.0m	Unknown, Medieval	High	Medium significance
Possible unrecorded archaeological remains	N/A	Prehistoric Roman Medieval Post-medieval	Medium Very Low Low to High High	Unknown, likely low or medium (if present) depending on preservation and extent
Possible buried palaeoenvironmental remains associated with peat deposits	N/A	Prehistoric Roman Medieval Post-medieval	Low to High (potential for localised areas across the Site)	Unknown, likely low or medium (if present) depending on preservation and extent

Designated Historic Assets

10.9.3. The designated assets taken forward for assessment are listed in **Table 10-7**.

IDENTIFICATION OF EFFECTS

10.9.4. Historic Environment effects can be defined as changes in the nature, extent, significance, or setting of the historic environment as a result of the proposed scheme, through:

- The direct disturbance of historic assets;
- Changes to the settings of historic assets, affecting their significance; and,
- Changes to the historic landscape.

Direct Disturbance

10.9.5. Any effects arising from direct disturbance of historic assets would only be expected to occur during the Construction Phase. They are considered to be permanent and irreversible but would be restricted to the footprint of the Project, including the footings of the wooden H-pole pylons, the construction of the UGC route and associated joint boxes, maintenance strips and areas of vegetation clearance.

10.9.6. Effects through direct disturbance to historic assets, therefore, will be considered only where these are located within the Site (excluding the footprint of the existing road network, see **Section 10.7.4**).

Change to setting

10.9.7. The setting of historic assets is defined in Cadw (2017) guidance as follows:

- “The setting of a historic asset includes the surroundings in which it is understood, experienced and appreciated, embracing present and past relationships to the surrounding landscape”.

10.9.8. Cadw (2017) guidance identifies a staged approach to the assessment of effects on settings, with the first stage (Stage 1) being the identification of the historic assets which may be affected. In accordance with guidance, this has been undertaken for all designated assets within the 2km extended study area, and are included in Appendix C of the Scoping Chater (WSP, 2025), considering the following:

- The location, size and scale of the Project; and
- The location of the identified historic assets.

10.9.9. The generic project-wide approach to the assessment methodology is set out in Chapter 2 : EIA Approach of the ES. However, whilst this has informed the approach that has been used in this Historic Environment assessment, it is necessary to set out how this methodology has been applied, and adapted as appropriate, to address the specific needs of this Historic Environment assessment.

DETERMINING SIGNIFICANCE OF EFFECTS

10.9.10. The EIA Regulations do not define significance, and it will be necessary to state how this will be defined. The significance of an effect result from a development during construction or operation is most assessed by reference to the sensitivity (or value) of a receptor and the magnitude of the effect, as set out in **Table 10-10**. This approach provides a mechanism for identifying areas where mitigation measures may be required and to identify the most appropriate measures to alleviate the risk presented by the development.

10.9.11. For the purposes of assessing the significance of effects in EIA terms, heritage significance is described with reference to the interests set out in Planning Policy Wales (2024) and TAN24 (2017) (see Section 10.3). These guidelines define the significance of historic assets by the following values: evidential, historic, aesthetic and communal. The determination of the significance is based on statutory designation, professional judgement and through consultation with statutory consultees.

10.9.12. Each historic asset is evaluated against the range of criteria listed above on a case-by-case basis, in accordance with the criteria listed in **Table 10-10**. This also considers regional variations and individual qualities, where applicable.

10.9.13. Unless the nature and exact extent of buried archaeological remains within any given area has been determined through prior investigation, their significance can be uncertain, and a judgement will be made based on existing knowledge.

10.9.14. In relation to designated historic assets, the assessment considers the contribution that historic character and setting makes to the overall significance of the asset.

Table 10-10 – Definition of Heritage Significance

Heritage Significance	Criteria	Example Asset Class
High	Asset has significance for an outstanding level of	Designated historic assets.

Heritage Significance	Criteria	Example Asset Class
	archaeological, architectural, historic and/or artistic interest.	Nationally and international significant non-designated archaeological sites, including burial grounds.
Medium	Asset has significance for a high level of archaeological, architectural, historic and/or artistic interest.	Locally listed buildings and other local / county-based designations. Regionally significant non-designated archaeological sites.
Low	Asset has significance for elements of archaeological, architectural, historic or artistic interest.	Locally significant archaeological sites.
Negligible	Due to its nature of form, condition or survival, it cannot be considered as an asset in its own right.	Non-extent HER records.

MAGNITUDE OF CHANGE

10.9.15. The assessment of the magnitude of change is the identification of the degree of the impact of the Project on the historic assets. There is no standard scale of comparison against which the severity of effects on historic assets may be judged, because of the great variety of resources and assets, but it is based on the deviation from baseline conditions. The assignment of a magnitude of change is a matter of professional judgement and is summarised in **Table 10-11**.

Table 10-11 – Establishing the magnitude of change

Magnitude	Criteria (adverse)	Criteria (Beneficial)
High	Loss of heritage significance of an order of magnitude that would result from total or substantial demolition or disturbance of a historic asset or from the disassociation of an asset from its setting.	Sympathetic restoration of an at-risk or otherwise degraded historic asset and/or its setting. Bringing an at-risk historic asset into sustainable use, with robust long-term management secured.
Medium	Loss of heritage significance arising from partial disturbance or inappropriate alteration of a historic asset which will adversely affect its importance. Change to the key characteristics of the setting of a historic asset, which may harm the significance of the asset, but will still allow its archaeological, architectural or historic interest to be appreciated.	Appropriate stabilisation and/or enhancement of a historic asset and, or its setting that better reveal the significance of the asset or contribute to a long-term sustainable use or management regime.
Low	Minor loss to or alteration of a historic asset which leaves its current significance intact.	Minor enhancements to management of a feature or site that better reveal the

Magnitude	Criteria (adverse)	Criteria (Beneficial)
	Minor or short-term changes to setting which do not affect the key characteristics and in which the historical context remains intact.	significance of the asset or contribute to a short-term management regime.
Negligible	Minor alterations of a historic asset which does not affect its significance. Minor and short-term, or reversible, changes to setting which do not affect the significance of the historic asset.	Very minor alteration to an asset which presents minimal change to heritage significance, including minor and, or short-term or reversible change to setting.

10.9.16. The matrix in **Table 10-12** has been prepared to guide the assessment of whether effects on the historic environment for the purposes of EIA are to be considered significant or not. The classification of the effect is judged on the relationship of the magnitude of change to the assessed heritage significance of the resource. As a general rule, major effects are considered to be significant, moderate effects are considered to be potentially significant, and minor and negligible effects are considered to be not significant. Where effects are assessed, according to **Table 10-12**, as potentially significant in EIA terms, professional judgement will be applied to determine whether they are significant or not significant.

Table 10-12 – Significance evaluation matrix

		Magnitude of change			
		High	Medium	Low	Negligible
Heritage Significance	High	Major	Major	Moderate	Minor
	Medium	Major	Moderate	Minor	Negligible
	Low	Moderate	Minor	Negligible	Negligible
	Negligible	Minor	Negligible	Negligible	Negligible

10.10 ASSESSMENT OF EFFECTS

CONSTRUCTION PHASE EFFECTS

Effects arising through direct disturbance

- 10.10.1. Construction activities associated with the Project will involve intrusive groundworks for both the installation of OHL poles and UGC, with potential to directly disturb any surviving archaeological remains. Full project description is provided in **Chapter 4**, with a brief overview provided below.
- 10.10.2. For the OHL poles, works will include the installation of 104 wooden poles at 52 locations, spanning two sections of the site: a 1.1km stretch on Foel y Dyffryn mountain (western portion) and a 3km stretch on Mynydd Caerau mountain within the Llynff Afan Wind Farm. These works will require:

- Excavations for H-pole foundations to depths of 1.8m–2.4m, with a minimum footprint of 6.3m²;
- Installation of below-ground pre-cast kicking blocks for structural support;
- Removal of trees along access trackways;
- Trimming or lopping of trees within 4m of any conductors.

10.10.3. For the UGC, a total of 4.9km of 66kV cable will be laid across two sections. The western section will consist of a 1.7km long section of cable installed below the A4063 highway through Caerau and Croeserw, while the remaining 3.2km will traverse atop the Mynydd Caerau and Wefra mountains, through the Llynfi Afan Wind Farm, terminating near the A4107. Cable trenches will be excavated using open-cut methods to depths of up to 1.5m, with joint boxes installed every 250m requiring 5m x 3m excavations to depths of 1–2m. Once ducting is laid and trenches backfilled, cabling will be pulled through the route via the joint boxes.

Clawdd Mawr, Mynydd Caerau (GM231)

10.10.4. In line with embedded environmental measures, the project design includes installation of the UGC cable below an existing trackway which crosses the Clawdd Mawr, Mynydd Caerau scheduled monument, a designated asset of **high** heritage significance. Construction activities will be entirely contained within the footprint of the existing track, which was widened and reinforced with aggregate as part of the construction of the Llynfi Afan Wind Farm, and has an existing series of utilities installed beneath it. Embedded measures also make provision for protective fencing during construction to avoid accidental damage to extant remains, as well as a toolbox talk for ground teams. All construction activities controlled through avoidance strategies will be secured within the CEMP. Whilst ground disturbance will occur within the boundary of the scheduled monument, this will be contained within the track and is not considered to impact any archaeological remains which contribute to evidential value of the asset. As such, there would be **no significant effect**.

Cross Ridge Dyke, Foel y Dryffyn (01862.0m)

10.10.5. The Cross Ridge Dyke is, according to the HER, an undated (likely medieval) boundary dyke situated on a summit plateau of the Foel Y Dryffryn mountain. It is comprised of a singular northwest-southeast orientated flat topped 4.5m wide and 0.6m bank with steep sides. It likely formerly provided a barrier between the higher ground to the southwest and the lower ground to the northeast. It is considered a historic asset of low significance.

10.10.6. OHL pole 43b and pole 6 would be located adjacent to the asset, with the supporting tethers extending into the asset. Installation would have a very limited and localised direct impact on surviving archaeological remains on the eastern side of the dyke. This would likely result in a **low** magnitude of change, which result in a **negligible adverse** effect, which would be **not significant**.

Caernau Coal Level (GGAT04433w)

10.10.7. The Caernau Coal Level is comprised of a non-extant 19th century colliery, formerly recorded on the OS 2nd Edition 6" mile map of 1900. It demarcates a plateaued area which would have been populated by industrial buildings, storage areas and the entrance to a former coal mine that would have dug into the sharply rising western face of the Mynydd Caerau mountain. The historic asset is considered to be of **low** heritage significance for evidential and historic value, through potential for surviving archaeological remains which may contribute to post medieval industrial development of the area.

10.10.8. OHL pole 21b would lie within the extent of the HER polygon for this historic asset. Installation will directly impact any surviving archaeological remains within the footprint of the OHL footing. This area of the disturbance would be localised. Following implementation of embedded measures (see **Table 10.8**), there will be a **low** magnitude of change resulting in a **negligible adverse** effect, which would be **not significant**.

Heol Y Moch (the Pig's Way) (01077.0w)

10.10.9. This historic asset is a possible medieval trackway, which may have prehistoric origins. The condition survey in 2014 referred to in the HER record indicates that the course of the trackway appeared to have been machine stripped. The route of Heol Y Moch crosses the western OHL section of the Project and falls outside the footprint of the OHL pole foundations and 10m micro-siting buffer. No impacts to remains of the historic asset are predicted, therefore there would be **no significant effect**.

Bwlch Garw, Barrow II (307436 / GGAT00717w)

10.10.10. This historic asset is the site of a possible Bronze Age cairn, identified on historic OS mapping. The HER record indicates that no mound was observable, nor could its presence be verified during the site visit, suggesting that it may have been subject to erosion or damage likely from escarpment processes and off-road motorcycling. The original identification of this feature also possibly has been the result of subsidence of materials from nearby coal mines which may have created irregular mounds and hollows. The HER point is located within the Site in the eastern section of the UGC section on the edge of the existing track. Installation of the UGC will lie within the track and opposite verge (**Figure 10.4**). Due to the likelihood that archaeological remains of this asset do not survive and that construction works would be contained to the track and southern verge, impact to archaeological remains are not predicted and there would be **no significant effect**.

Foel y Dyffryn, Quarry VIII (516895)

10.10.11. This historic asset is a post-medieval quarry hollow, measuring 2m x 2m. The quarry is one of several features in the area related to the industrial exploitation of the landscape from the late 18th to early 19th century onwards. The asset is of **low** heritage significance and lies within the Site boundary, within the eastern OHL section of the Project (**Figure 10.4**). The asset lies outside the footprint of any OHL pole foundation, and 10m micro-siting area, and no physical disturbance to the asset is predicted. There will be no impact to the assets and therefore there would be **no significant effect**.

Foel y Dyffryn, Quarry IV (516590)

10.10.12. This historic asset is a post-medieval quarry, measuring 3m wide and 1m deep with a small spoil mound. Like Foel y Dyffryn, Quarry VIII (516895), it represents the industrial phase of the local landscape and is considered to have **low** heritage significance. The asset lies within the eastern OHL section of the Project (**Figure 10.4**) but falls outside the footprint of any OHL pole foundation, and 10m micro-siting area. No physical disturbance to the asset is predicted, and therefore, there would be **no significant effect**.

Caernau Air Shaft (GGAT04435w)

- 10.10.13. This historic asset is a possible post-medieval air shaft, recorded on the OS 2nd Edition 1900 Map, although no further details on its physical condition are available. The historic asset falls outside the footprint of the eastern OHL section of the Project and 10m micro-siting buffer, so no impacts to the remains of the air shaft are predicted, and therefore there would be **no significant effect**.

Bwlch Yr Afan, Boundary Stone (523233)

- 10.10.14. The historic asset is a post-medieval boundary stone which formerly marked the boundary of Llangeinor parish and which was recorded on the OS 1st Edition 1877 map. No further details on its physical condition are available, and its location could not be verified during the site visit, which suggests it has been removed or displaced. As such, it is considered that there will be no impact to the asset by construction of the Project and therefore there would be **no significant effect**.

Bwlch Garw, Boundary Stone (516547)

- 10.10.15. The historic asset is an extant post-medieval boundary stone, which was observed as present during the site visit, which is **low** heritage significance. Embedded measures will ensure impacts to asset during construction are avoided and therefore there would be **no significant effect**.

Previously unrecorded archaeological remains

- 10.10.16. Within the Site, outside the existing road network, there is a high potential for possible post-medieval or modern industrial agricultural remains, which would be of low heritage significance. There is a low to medium potential identified for the presence of prehistoric and medieval archaeological remains, which are likely to be of low to medium heritage significance depending on preservation and extent. There is a very low potential for Roman dated archaeological remains.
- 10.10.17. Intrusive groundworks necessary for the installation of the OHL and the UGC would impact on below ground deposits with potential for as yet unrecorded archaeological remains within the Site, if present. This would be limited to the footprint of the OHL pole foundations and the UGC cable trench. Following implementation of embedded measures (see **Table 10.8**), where impacts are not avoidable, there will be a **low to medium** magnitude of change resulting in a **moderate adverse** effect, which would be **not significant**.

Possible buried paleoenvironmental remains associated with peat deposits

- 10.10.18. The available evidence identifies some potential for isolated areas of peat within the Site. Following implementation of embedded measures, it is considered that impacts to peat deposits, with paleoenvironmental potential, will be avoided or minimised to very localised areas, and where required, may be subject to archaeological investigation to mitigate the loss of evidential value. This would lead to a **low** magnitude of change, to a historic asset of **low to medium** heritage significance resulting in a **minor adverse** effect, which would be **not significant**.

Table 10-13 – Summary of construction phase effects arising from direct disturbance

Receptor	Heritage Significance / Value	Magnitude of Change	Significance of Effect
Clawdd Mawr, Mynydd Caerau (GM231)	High	None	No Effect
Caernau Coal Level (GGAT04433w)	Low	Low	Negligible adverse (not significant)
Cross Ride Dyke, Foel y Dryffyn (01862.0m)	Low	Low	Negligible adverse (not significant)
Heol Y Moch (the Pigs' Way) (01077.0w)	Medium	None	No Effect
Blaengarwm, Barrow II (307436 / GGAT00717w)	Medium	None	No Effect
Foel y Dyffryn, Quarry VIII (516895)	Low	None	No Effect
Foel y Dyffryn, Quarry IV (516590)	Low	None	No Effect
Caernau Air Shaft (GGAT04435w)	Low	None	No Effect
Bwlch Yr Afan, Boundary Stone (523233)	Low	None	No Effect
Bwlch Garw, Boundary Stone (516547)	Low	None	No Effect
Possible unrecorded prehistoric archaeological remains	Unknown, likely low or medium (if present) depending on preservation and extent	Low to Medium, (negligible if completely avoided)	Moderate adverse (negligible if completely avoided) (not significant)
Possible buried paleoenvironmental remains associated with peat deposits	Medium, likely low or medium (if present) depending on preservation and extent	Low	Minor adverse (not significant)

Effects arising through changes to setting

Clawdd Mawr, Mynydd Caerau (GM231)

10.10.19. Construction activities required for installing the OHL and UGC (as described in Chapter 4) would be temporary in nature. The OHL itself is not expected to be visible from the asset, though associated construction traffic using the existing access track would be. No haul roads are required, and traffic movements are predicted to be minimal and will be restricted to maximum of 46 heavy and light goods vehicles daily at the peak of construction activities (see **Chapter 7: Traffic and Transport**).

All noise, vibration, or dust resulting from the construction works during this phase will be controlled through the application of a CEMP (**Appendix 4A**), which will set out clear guidelines and standards to mitigate any impacts to the setting of any designated assets within their proximity. Whilst construction activities would be perceptible from the historic asset, this would be temporary and would be experienced within the context of existing use of the access track which crosses the asset, and existing wind turbines in the vicinity. Overall, the magnitude of change would be **negligible**, which would result in a **minor adverse** effect which would be **not significant**.

Mynydd Caerau Round Cairns (GM232)

10.10.20. Construction activities required for installing the OHL and UGC (as described in Chapter 4) would be temporary in nature. No haul roads are required, and traffic movements are predicted to be minimal and will be restricted to maximum of 46 heavy and light goods vehicles daily at the peak of construction activities (see **Chapter 7**). All noise, vibration, or dust resulting from the construction works during this phase will be controlled through the application of a CEMP (**Appendix 4A**), which will set out clear guidelines and standards to mitigate any impacts to the setting of any designated assets within their proximity. Whilst construction activities (primarily installation of OHL and use of access track to the west of the cairns) would be perceptible from the historic asset, this would be temporary and would be experienced within the context of existing use of the access track, and existing wind turbines in the vicinity. Overall, the magnitude of change would be **negligible**, which would result in a **minor adverse** effect which would be **not significant**.

Bwlch yr Avan Dyke (GM246)

10.10.21. Bwlch yr Avan Dyke (GM246) lies approximately 55m east of the Site boundary relating to the UGC section of the route. Construction activities required for installing the UGC (as described in Chapter 4) would be perceptible from asset. No haul roads are required with construction traffic utilising the existing access tracks, one of which crosses the scheduled monument. No alterations or modification are required to this access. Traffic movements are predicted to be minimal and will be restricted to maximum of 46 heavy and light goods vehicles daily at the peak of construction activities (see **Chapter 7**). Installation of the OHL will not be visible from the asset due to intervening topography and planting. Whilst construction activities (primarily installation of UGC and use of access tracks) would be perceptible from the asset, this would be temporary and would be experienced within the context of existing use of the access track, the A4107, and existing wind turbines in the vicinity. Overall, the magnitude of change would be **negligible**, which would result in a **minor adverse** effect which would be **not significant**.

Table 10-14 – Summary of construction phase effects arising through change to setting

Receptor	Significance / Value	Magnitude of change	Effect
Mynydd Caerau Round Cairns (GM232)	High	Negligible	Minor adverse (not significant)
Clawdd Mawr, Mynydd Caerau (GM231)	High	Negligible	Minor adverse (not significant)

Bwlch yr Avan Dyke (GM246)	High	Negligible	Minor adverse (not significant)

OPERATIONAL PHASE EFFECTS

Effects arising through changes to setting

Clawdd Mawr, Mynydd Caerau (GM231)

- 10.10.22. Clawdd Mawr, Mynydd Caerau (GM231) lies within 330m of the terminal OHL pole. **Figure 10.2** shows that the historic asset lies outside of the ZTV. Due to the maximum height of the OHL poles and the dyke being positioned on the slope of the saddle between Mynydd Caerau and Wefra mountain summits, the intervening topography precludes views of the proposed OHL and would not impact setting of the scheduled monument. Operation of the Project will therefore not impact the heritage significance of this asset and there would be **no significant effect**.

Mynydd Caerau Round Cairns (GM232)

- 10.10.23. The Mynydd Caerau Round Cairns (GM232) lies between 75m and 395m south of the OHL section of the cable route. **Figure 10.2** shows that there is a low to medium theoretical visibility of the operational OHL from the cairns. The wooden H-poles will only introduce a relatively small vertical element to the landscape which will be in keeping with, and will be dwarfed in size by, the existing far taller Llynff Afan Wind Farm turbines and surrounding woodland which the cairns are closely situated near. The wooden H-poles will only appear within the view to the north, whilst views southward, eastward and westwards into the Garw Valley will be unchanged. It is considered that the addition of minimally invasive H-poles and associated OHL would not significantly alter the existing setting and would therefore be considered to result in a **negligible** magnitude of change and a **minor** adverse effect, which would be **not significant**.

Bwlch yr Avan Dyke (GM246)

- 10.10.24. The Bwlch yr Avan Dyke (GM246) lies approximately 2.8km east of the proposed OHL. **Figure 10.2** shows that the historic asset lies outside of the ZTV. The Bwlch yr Avan Dyke will not maintain any views of the OHL due to intervening distance and topography, including the summits of the Wefra and Mynydd Caerau mountains. Operation of the Project will not change the setting of the or therefore impact its heritage significance and there would be **no significant effect**.

Table 10-15 – Operational phase effects on historic assets arising through changes to setting

Receptor	Significance / Value	Magnitude of change	Effect
Clawdd Mawr, Mynydd Caerau (GM231)	High	None	No effect
Mynydd Caerau Round Cairns (GM232)	High	Negligible	Minor adverse (not significant)

Bwlch yr Avan Dyke (GM246)	High	None	No effect

DECOMMISSIONING PHASE EFFECTS

- 10.10.25. Once the operational phase has ended, the UGC and OHL will be left in-situ for possible integration into the wider distribution system. Any effects on heritage significance through change to setting, as assessed for the operational phase, will persist.

10.11 ASSESSMENT OF CUMULATIVE EFFECTS

- 10.11.1. Consideration has been given as to whether any of the historic assets that have been taken forward for assessment in this chapter are likely to be subject to cumulative effects generated from other developments.

In the area surrounding the scheme, there are multiple operational or consented projects, most significant of which the consent Foel Trawsant Wind Farm and the associated grid connection (Ref: P2022/0517 & P2025/0043: see **Figure 2.1**), which is situated immediately west and south of the scheme. Due to its positioning, the visually-unintrusive nature of the H-pole OHL pylons and the fact the interface with wind farm and Project will be screened by intervening topography and surrounding vegetation, it is anticipated that there would only be a **low** or **negligible** magnitude of change to the settings of any designated assets. The H-poles will also only have a limited extent of direct disturbance to buried remains within very localised locations and therefore, when combined with the anticipated impacts from the wind scheme, they would not contribute to a significant cumulative effect.

10.12 MITIGATION AND RESIDUAL EFFECTS

- 10.12.1. All appropriate and necessary mitigation strategies for the construction and operation phases of the Project have been included in the embedded measures section (see **Section 10.8**).

10.13 CONCLUSIONS OF SIGNIFICANCE EVALUATION

- 10.13.1. Subject to the implementation of the embedded environmental measures set out in **Section 10.8**, which includes archaeological monitoring and recording of potential non-designated archaeological remains situated within the footprint of the OHL poles and UGC, the micro-siting of OHL H-pole foundations to avoid impacting upon known designated and non-designated assets, and the protection measures implemented for Clawdd Mawr, Mynydd Caerau (GM231), the scheme will avoid significant effects to the historic environment.
- 10.13.2. An assessment of the effects arising through change to the settings of designated historic assets within a 2km study area has been undertaken. The assessment identified that the Project would not introduce any new or significantly visually intrusive built forms which do not already exist within the landscape, nor would it significantly impact or infringe upon the outwards views which are a character of the scoped in designated assets settings. Since the installation works would only take place over 9 months, any impacts to their setting during the construction phase would be temporary and therefore **negligible**. During the operation phase, the new OHL site would be visible within a



landscape in which existing wind farms and settlements are already prominent and visible, and therefore the impact is also considered **negligible**.

11 WATER RESOURCES AND FLOOD RISK

11.1 INTRODUCTION

11.1.1. This chapter presents an assessment of potential impacts that could affect receptors during construction, operation, and decommissioning of the Project, and should be read in conjunction with the following chapters and figures:

- Chapter 1: Introduction;
- Chapter 2: EIA Approach; Chapter 4: Description of the Project
- Chapter 8: Terrestrial Ecology;
- Figure 11.1 - Water Resources;
- Figure 11.2 - Hydrogeology and Superficial Deposits;
- Figure 11.3 - Peat and Groundwater; and
- Figure 11.4 - Flood Risk.

11.1.2. The chapter identifies assumptions and limitations, relevant policy, legislation and guidance, details consultation undertaken, sets out the approach to data gathering, describes the baseline environment, identifies the scope of the assessment, describes embedded mitigation, sets out the assessment methodology, assesses potential impacts, identifies significant residual and cumulative effects, and identifies recommendations and additional mitigation.

11.2 LIMITATIONS OF THE ASSESSMENT

11.2.1. The following assumptions and limitations have been considered for the assessment:

- The assessment relied on data provided by third parties; therefore, it is assumed that this information is accurate and up to date at the time of reporting;
- The assessment was based on the latest design information available at the time of writing this chapter (October 2025); and on review of desk-based information available online and upon request. This approach was considered appropriate and proportionate to the nature of the Project and the potential impacts identified (scoped in) following EIA scoping and consultation.

11.3 POLICY, LEGISLATION AND GUIDANCE

11.3.1. Policy, legislation, and guidance relevant to this water resources and flood risk are outlined below:

- Policy:
 - Planning Policy Wales (Edition 12) (2024)¹⁴⁹;
 - Bridgend County Borough Council (CBC) Local Development Plan (2018 - 2033)¹⁵⁰;
 - Bridgend CBC Flood Risk Management Plan (2016)¹⁵¹;
 - Neath Port Talbot County Borough Council (NPTCBC) Local Development Plan (2011 – 2026)¹⁵²;
 - NPTCBC Flood Risk Management Plan (2015)¹⁵³;
 - NPTCBC Flood Risk Management Strategy Plan (2024)¹⁵⁴;
- Legislation:
 - Flood and Water Management Act (2010)¹⁵⁵;
 - The Water Environment (Water Framework Directive) (England and Wales) Regulations (2017)¹⁵⁶; and
 - The Environmental Permitting (England and Wales) Regulations (2016)¹⁵⁷.
- Guidance:
 - National Highways Design Manual for Roads and Bridges (DMRB) LA 113: Road Drainage and the Water Environment (Revision 1) (2020)¹⁵⁸;
 - Construction Industry Research and Information Association (CIRIA) guidance documents;
 - Planning Guidance Wales¹⁵⁹;

¹⁴⁹ Welsh Government (2024). Planning Policy Wales (Edition 12) (February 2024).

¹⁵⁰ Bridgend County Borough (2024). Local Development Plan 2018 – 2033 (Adopted March 2024). Available at: <https://www.bridgend.gov.uk/media/izcfgp1f/written-statement.pdf>

¹⁵¹ Capita (2016). Bridgend Flood Risk Management Plan: Local Flood Risk Investigation Areas (August 2016). Available at: <https://www.bridgend.gov.uk/media/1yflynyb/bridgend-flood-risk-management-plan.pdf>

¹⁵² Neath Port Talbot County Borough Council (2016). Local Development Plan (2011 – 2026) (Adopted January 2016). Available at: https://media.npt.gov.uk/media/ca2fbumd/ldp_written_statement_jan16.pdf?v=20240823155047

¹⁵³ Neath Port Talbot County Borough Council (2015). Flood Risk Management Plan 2015 (2015). Available at: <https://media.npt.gov.uk/media/xubbj4xn/floodriskmanagementplan15-1.pdf?v=20250117154447>

¹⁵⁴ AtkinsRealis (2024). Neath Port Talbot Flood Risk Management Strategy Plan (October 2024). Available at: <https://democracy.npt.gov.uk/documents/s103486/App%20B%20-%204%20-%20NPTLFRMSP%20SEA%20Report%20v3.0.pdf>

¹⁵⁵ UK Government (2010). Flood and Water Management Act 2010.

¹⁵⁶ UK Government (2017). The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017.

¹⁵⁷ UK Government (2016). The Environmental Permitting (England and Wales) Regulations 2016.

¹⁵⁸ Highways England (2020). Design Manual for Roads and Bridges LA 113: Road Drainage and the Water Environment (Revision 1). Available at: <https://www.standardsforhighways.co.uk/tses/attachments/d6388f5f-2694-4986-ac46-b17b62c21727?inline=true>

¹⁵⁹ Welsh Government (2025). Planning Policy and Guidance for Professionals. Available at: <https://www.gov.wales/planning-policy-and-guidance-for-professionals> [Accessed: March 2025].

- Climate Change Allowances and Flood Consequence Assessments (2021)¹⁶⁰;
- Western Wales River Basin Management Plan 2021 – 2027 Summary (2022)¹⁶¹;
- Technical Advice Note 15: Development and Flood Risk (TAN15) (2004)¹⁶²;
- Water Framework Directive Nationally Significant Infrastructure Project (NSIP) guidance¹⁶³;
- Guidance for Pollution Prevention (GPP)¹⁶⁴;
- Bridgend CBC Strategic Flood Consequence Assessment (2020)¹⁶⁵;
- Bridgend CBC Preliminary Flood Risk Assessment Report (2009 (2017 Addendum))¹⁶⁶;
- South West Wales – Stage 1 Strategic Flood Consequence Assessment (2022)¹⁶⁷;

¹⁶⁰ Welsh Government (2021). Climate Change Allowances and Flood Consequence Assessments (2021). Available at: <https://www.gov.wales/climate-change-allowances-and-flood-consequence-assessments> [Accessed: March 2025].

¹⁶¹ Natural Resources Wales (2022). Western Wales River Basin Management Plan 2021 – 2027 Summary (July 2022). Available at: https://nrwcmv13-a3hwekacajb3frbw.a02.azurefd.net/695227/western-wales-rbmp-2021_2027-summary.pdf

¹⁶² Welsh Government (2004). Technical Advice Note 15: Development and Flood Risk (July 2004). Available at: <https://www.gov.wales/sites/default/files/publications/2018-09/tan15-development-flood-risk.pdf>.

¹⁶³ Planning Inspectorate (2024). Nationally Significant Infrastructure Projects: Advice on the Water Framework Directive (last updated November 2024). Available at: <https://www.gov.uk/guidance/nationally-significant-infrastructure-projects-advice-on-the-water-framework-directive> [Accessed: March 2025].

¹⁶⁴ NetRegs (2025). Guidance for Pollution Prevention (GPP) documents. Available: <https://www.netregs.org.uk/>

¹⁶⁵ JBA Consulting (2020). Strategic Flood Consequence Assessment: Bridgend County Borough Council (October 2020). Available at: <https://www.bridgend.gov.uk/media/xx1n3muo/sd62-bridgend-strategic-flood-consequences-assessment-2020.pdf>

¹⁶⁶ Bridgend County Borough Council (2017). Flood Risk Regulations 2009: Bridgend County Brough Council Preliminary Flood Risk Assessment Report (November 2017). Available at: <https://www.bridgend.gov.uk/media/1thbqatz/preliminary-flood-risk-assessment-report.pdf>.

¹⁶⁷ JBA Consulting (2022). South West Wales – Stage 1 Strategic Flood Consequence Assessment (November 2022). Available at: <https://media.npt.gov.uk/media/xnwlvw0/doc-11-strategic-flood-consequences-assessment.pdf>.

11.4 CONSULTATION AND SCOPING

- 11.4.1. The scope of assessment within this chapter has been informed by the Upper Ogmores Grid Connection Scoping Report (sent to statutory and other stakeholders for consultation), which identified (direct/indirect) potential significant effects (**Table 11.1**) on receptors, associated with the Project.

Table 11-1 - EIA Scoping for Consultation

Impact	Phase	Scoped In	Scoped Out	Justification
Direct/indirect effects from / to surface water, groundwater, private water supplies, or soil, reducing quality and resource value.	Construction, Operation and Decommissioning	✓		Potential for effects from chemical or hydrocarbon pollution through operation of machinery (e.g., spillage of fuels, oils, etc) during OHL/UGC construction.
Direct/indirect effects on surface water quality from sedimentation.	Construction	✓		Potential for effects from suspended sediments on construction sites include excavations, exposed ground and stockpiles, plant and wheel washing, dust, and mud on-site access roads during construction.
Direct/indirect effects that modify surface water drainage patterns, altering hydrological regime, hydromorphology, and private water supply yield.	Construction, Operation and Decommissioning	✓		Potential channel modifications and associated in-channel works may lead to a reduction in hydromorphological diversity.
Direct/indirect effects on flood risk.	Construction, Operation and Decommissioning		✓	All watercourse structures would be designed and constructed following good practice techniques and would be of sufficient capacity to receive storm flows with an allowance for increased flows due to climate change. Therefore, it is considered that the Project would not increase local flood risk.

Impact	Phase	Scoped In	Scoped Out	Justification
Direct/indirect effects on groundwater, including on private water supplies and Groundwater Dependent Terrestrial Ecosystems (GWDTE).	Construction, Operation and Decommissioning	✓		Impacts on groundwater levels or flows to be assessed because of proposed excavations.

11.4.2. Following consultation, scoping opinions were received from consultees. Scoping opinions with relevance to this chapter are summarised in **Table 11.2**, alongside subsequent responses.

Table 11-2 - EIA Scoping Consultation Responses

Consultee	Consultee Scoping Opinion	Response
Natural Resources Wales – 3.1: Water Resources	The western part of the cable route crosses multiple small watercourses close to the Afon Llynfi increasing the possibility for impact caused by the construction works of laying underground cable. Due to Construction, possibility of the risk of silt mobilisation and runoff will be high. Natural Resources Wales (NRW) recommended that a Water Framework Directive (WFD) assessment be undertaken on those waterbodies.	Following further consultation with NRW, it was agreed that the requirement for WFD assessments of watercourses could be avoided as where UGC is proposed in the west it follows the A4063 through an urbanised area before transitioning to OHL; whilst in the east, it follows the watershed between catchments and does not cross any watercourses. Additionally, it is anticipated that micro-siting during final design would remove potential for works to directly affect watercourses within proximity. A minimum buffer distance of 5m from top-of-bank will also be maintained for the duration of construction.
Natural Resources Wales – 3.1: Water Resources	Based on the risk of potential harm to the aquatic environment we would like to see an overarching construction environmental management plan (CEMP) alongside site specific CEMPs where river crossings are used and/or underground cabling is to be installed. The risk of silt mobilisation and run off is high therefore the CEMPs should include detailed information regarding robust mitigation	An overarching CEMP incorporating detailed information regarding robust mitigation measures will be submitted with the EIAR; however, the appointed contractor will be responsible for updating the CEMP / site specific CEMPs for agreement with NRW, prior to the commencement of construction.

Consultee	Consultee Scoping Opinion	Response
	measures to be deployed at each relevant location.	
Natural Resources Wales – 3.2: Groundwater	It is stated that Decommissioning will not include removal of the underground cable (and assumed) underground joint bays but that the potential exists that the cabling would be integrated into the NGED wider distribution network. The nature and upkeep of the buried parts of the network is currently unknown/undefined, that is, whether buried cabling would be routinely replaced because of degradation/loss of efficacy. We therefore advise that information is submitted in the ES on the long-term management of buried cabling and associated buried assets, notably on the potential for degradation and the release of chemicals that comprise the cabling as this would inform upon the need for the following: The provision of a Buried Cabling Risk Assessment (BCRA) as an EIA deliverable if cabling will remain in the ground in perpetuity following decommissioning.	Though maintenance may occasionally be required, it is not considered that cabling (inc. joint bays) would require to be routinely replaced because of degradation/loss of efficacy.
Natural Resources Wales – 3.2: Flood Risk	Majority of the cable route lies outside an area at risk of flooding; however, some sections may cross areas at risk of flooding. NRW recommends that flood risk activity permit (FRAP) may be required from us, for example to construct a structure on the bank of a main river. Any works affecting an ordinary watercourse may require an Ordinary Watercourse Consent from the relevant Lead Local Flood Authority.	Noted. If/where required, responsibility for acquiring FRAPs from NRW / ordinary watercourse consent from the LLFA, will sit with the appointed contractor – prior to commencement of construction.

11.5 RECEPTORS

11.5.1. Following consultation and scoping, receptors (aquatic environment and water resources) have been identified as including:

- **Designated and protected sites** – including Special Areas of Conservation (SAC), Special Protection Areas (SPA), Sites of Special Scientific Interest (SSSI), Geological Conservation Review sites (GCR) and Ramsar sites – designated or protected owing to their hydrological importance;
- **Surface waterbodies** – including main rivers and ordinary watercourses;
- **Groundwater waterbodies** - including aquifers and GWDTE; and
- **Water resources** - including abstractions for public and private water supplies.

11.6 POTENTIAL IMPACTS

11.6.1. Potential impacts could occur as a direct or indirect result of construction, operation or decommissioning of the Project. They may be either short term or long term in their duration and can have an adverse or beneficial effect – described as ‘significant’ or ‘not significant’ - on receptors.

11.6.2. Potential impacts are considered in respect of impacts on **quality**, **quantity** and **hydromorphology**, including:

- Potential impacts affecting water **quality** e.g. pollution from sediment and hydrocarbons:
 - Arising from construction and decommissioning activities, including:
 - Creation of construction compounds;
 - Operation of machinery;
 - Soil stripping;
 - Excavations e.g. for laying UGC;
 - Plant and wheel washing; and
 - degradation of UGC, inc. beyond Project decommissioning.
- Potential impacts affecting water **quantity**:
 - Arising from construction, operation, and decommissioning activities, including:
 - Changes in catchment impermeable and permeable areas;
 - Alterations to drainage patterns e.g. impermeable lining of within UGC trenches;
 - Alterations affecting resource yield, availability or value e.g. reduced flows affecting water resources
 - Disruption of groundwater-surface water linkages e.g. affecting GWDTE.
- Potential impacts affecting **hydromorphology**:
 - Arising from construction activities, including:
 - Alterations to hydromorphology e.g. in-channel works reducing morphological diversity.

11.7 DATA GATHERING METHODOLOGY

11.7.1. Baseline conditions have been determined based on a desk-based assessment of existing available data, supplemented by data requests to local authorities in respect of licensed abstractions and water supplies, summarised **Table 11.3**.

Table 11-3 - Licensed Abstractions and Water Supplies

Body/organisation	Consultation date	Consultation outcome
NRW	N/A	Publicly available information on licensed water abstractions was obtained from: https://datamap.gov.wales
Dŵr Cymru	N/A	All Dŵr Cymru abstractions for public water supplies are licensed by NRW and are included within the NRW dataset.
Bridgend County Borough Council	January, March, and July 2025	Private water supply data has been requested; but had not yet been received at the time of writing this chapter (October 2025).
Neath Port Talbot County Borough Council	January 2025	Private water supply data was requested and received.
Rhondda Cynon Taf County Borough Council	July 2025	Private water supply data has been requested; but had not yet been received at the time of writing this chapter (October 2025).

11.7.2. The primary sources of information used to inform this assessment of potential impacts on water resources and flood risk receptors are:

- British Geological Survey (BGS) Geoindex¹⁶⁸;
- NRW Water Watch Wales Mapping¹⁶⁹;
- NRW Flood Map for Planning (FMfP)¹⁷⁰;

¹⁶⁸ BGS GeoIndex (onshore). Available at: [GeoIndex \(onshore\) - British Geological Survey](#) [Accessed: October 2024]. Contains British Geological Survey materials © UKRI [2024].

¹⁶⁹ Water Watch Wales Map Gallery (Natural Resource Wales). Available at: [Water Watch Wales](#) [Accessed: October 2024]. © Copyright Natural Resources Wales 2022.

¹⁷⁰ Flood Map for Planning (Natural Resource Wales). Available at: [Natural Resources Wales / Flood map for planning / development advice map](#) [Accessed: October 2024]. Contains Natural Resources Wales information © Natural Resources Wales and database right. All rights reserved.

- NRW Geographic Information about the Natural Environment¹⁷¹;
- Data Map Wales¹⁷²;
- Ordnance Survey (OS) Mapping;
- Bridgend CBC Strategic Flood Consequence Assessment (2020)¹⁷³¹⁷⁴;
- Bridgend CBC Preliminary Flood Risk Assessment Report (2009 (2017 Addendum))¹⁷⁵;
- Neath Port Talbot Flood Risk Management Strategy Plan (2024)¹⁷⁶
- Neath Port Talbot County Local Flood Risk Management Strategy Borough Council (2013)¹⁷⁷ and;
- South West Wales – Stage 1 Strategic Flood Consequence Assessment (2022)¹⁷⁸.

¹⁷¹ NRW Geographic Information about the Natural Environment. Available at: [Natural Resources Wales / Browse map of data about the natural environment](#). [Accessed: October 2024]. Additional copyright statements: Soils data © Cranfield University (NSRI) and for the Controller of HMSO, 2023; Geological data © Reproduced with the permission of the British Geological Survey ©NERC. All rights Reserved; Base mapping © Crown copyright and database rights 2023. AC0000849444; and Aerial Photography © Getmapping Plc and Bluesky International Limited.

¹⁷² Data Map Wales. Available at: [Home | DataMapWales](#)

¹⁷³ JBA Consulting (2020). Strategic Flood Consequence Assessment: Bridgend County Borough Council (October 2020). Available at: <https://www.bridgend.gov.uk/media/xx1n3muo/sd62-bridgend-strategic-flood-consequences-assessment-2020.pdf>

¹⁷⁵ Bridgend County Borough Council (2017). Flood Risk Regulations 2009: Bridgend County Brough Council Preliminary Flood Risk Assessment Report (November 2017). Available at: <https://www.bridgend.gov.uk/media/1thbqatz/preliminary-flood-risk-assessment-report.pdf>.

¹⁷⁶ Neath Port Talbot Flood Risk Management Strategy Plan (2024). Available at: [NPTLFRMSPSEARReportv30.pdf](#).

¹⁷⁷ Neath Port Talbot County Local Flood Risk Management Strategy Borough Council (2013): [Microsoft Word - flood risk management strategy James Final](#).

¹⁷⁸ JBA Consulting (2022). South West Wales – Stage 1 Strategic Flood Consequence Assessment (November 2022). Available at: <https://media.npt.gov.uk/media/xnwlvwbo/doc-11-strategic-flood-consequences-assessment.pdf>.

11.8 OVERALL BASELINE

- 11.8.5. To determine the baseline condition of receptors, a discipline specific study area the 'Study Area' was defined. The Study Area consists of a 1 km buffer beyond the Project redline boundary; and up to 5 km downstream in respect of water supplies, where pathways may exist for potential effects.

Designated and Protected Sites

- 11.8.6. The only designated site within the Study Area is the Mynydd Ty-isaf Rhondda SSSI¹⁷⁹ which is within the east of the Study Area and adjacent to the A4107; however, it is designated based on its biological importance and is not considered as being hydrologically important. Furthermore, a review of the NRW Data Map Wales indicates that no other designated or protected sites including, SAC¹⁸⁰, SPA¹⁸¹, Ramsar¹⁸², GCR¹⁸³ sites, are present within the Study Area.

Surface Waterbodies

- 11.8.7. Surface waterbodies including ordinary watercourses and main rivers were identified from NRW mapping and Ordnance Survey (OS) mapping (1:25K and 1:50K scale) within the Study Area and are illustrated in **Figure 11.1: Water Resources**.

Ordinary Watercourses

- 11.8.8. According to OS mapping, there are numerous (named and unnamed) ordinary watercourses and other surface water features (including springs and ponds) within the Study Area. Ordinary watercourses encompass all other open watercourses which are not considered to be main rivers (below) including rivers, streams, field ditches and drains. Seven named ordinary watercourses were identified (west to east) include the following:

- Nant Cynon;
- Nant Gwyn Bach;
- Nant Y Wern;
- Nant Graig-lwyd;
- Nant Y Fedw;
- Afon Garw; and
- Nant Y Moel.

¹⁷⁹ DataMapWales (2025). Sites of Special Scientific Interest. Available: <https://datamap.gov.wales>

¹⁸⁰ DataMapWales (2022). Special Areas of Conservation: Available: <https://datamap.gov.wales>

¹⁸¹ DataMapWales (2022). Special Protection Areas: Available: <https://datamap.gov.wales>

¹⁸² DataMapWales (2022). Ramsar sites. Available: <https://datamap.gov.wales>

¹⁸³ DataMapWales (2021). Geological Conservation Review Site Boundaries. Available: <https://datamap.gov.wales>

Main Rivers

- 11.8.9. A review of NRW Data Map Wales main rivers¹⁸⁴ indicates that the Study Area encompasses the catchments of seven main (WFD) rivers (described west to east) below, including:
- **Afon Afan** (conf with Afon Corrwg, to confluence with Pelenna);
 - **Ffrwd Wyllt** (headwaters to tidal limit);
 - **Llynfi** (headwaters to Lletty Brongu STW);
 - **Garw** (headwaters to confluence with Ogmore);
 - **Afan** (headwaters to confluence with Corrwg);
 - **Ogwr Fawr** (headwaters to confluence with Ogmore); and
 - **Rhondda R** (source to conf Afon Rhondda Fach).
- 11.8.10. **Afon Afan** (conf with Afon Corrwg to confluence with Pelenna): The northern extent of the Study Area is located within the catchment of the Afon Afan. The Blaen Nant, Nant yr Hwyaidd, Nany Cynon and Nant Tryfal are crossed by the OHL and flow to the north, discharging to the Afon Afan approximately 1.5 km north of the Study Area. The Afon Afan (GB110058026130) is a WFD designated waterbody, though not classified as heavily modified, it was assessed as being of '**Moderate**' overall status (2021).
- 11.8.11. **Ffrwd Wyllt** (headwaters to tidal limit): The Nant Cwmfarteg is located outside of the Study area to the west of Maesteg. The Nant Cwmfarteg flows west to its confluence with the Ffrwd Wyllt approximately 3 km west of the Study Area, near the village of Bryn. The Nant Cwmfarteg and Ffrwd Wyllt combined form a WFD designated waterbody (headwaters to tidal limit (GB110058026100). The waterbody is classified as a heavily modified waterbody with '**Moderate**' overall status, (2021).
- 11.8.12. **Llynfi** (headwaters to Lletty Brongu STW): The Llynfi is a WFD designated waterbody (GB: 110058026331) and was classified as being of '**Moderate**' overall WFD status (2021).
- 11.8.13. **Garw** (headwaters to confluence with Ogmore): The Garw flows (north to south) through Pontycymer to its confluence with the Ogmore (Ogwr) at Brynmenyn. The Garw is a WFD designated waterbody (GB: 110058026320) and was classified as being of **Moderate** overall status (2019).
- 11.8.14. **Afan** (headwaters to confluence with Corrwg): The Afan flows (east to west) adjacent to the A4107, 1.3 km northwest of the Project. The Afan is a WFD designated waterbody (GB110058026120) and was classified as being of '**Moderate**' overall status (2021).
- 11.8.15. **Ogwr** (Fawr headwaters to confluence with Ogmore): The Ogwr Fawr is located at approximately 3 km east of the Project. The Ogwr Fawr is a WFD designated waterbody (GB: 110058026340) and was classified as being of '**Moderate**' overall status (2021).

¹⁸⁴ DataMapWales (2022). Main Rivers. Available: <https://datamap.gov.wales>

11.8.16. **Rhondda R source to conf Afon Rhondda Fach** - The Rhondda Fawr flows within the east of the Study Area and is a WFD designated waterbody (GB: 109057027200), classified as being of 'Good' overall status (2021).

Geology and Hydrogeology

Geology and Soils

11.8.17. A review (**Table 11.4**) of peatlands, soils, superficial deposits and bedrock geology within the Study Area, was based on the following sources of information and shown **Figure 11.2 - Hydrogeology and Superficial Deposits** and **Figure 11.3 Peat and Groundwater**:

- Cranfield National Soil Resources Institute (NSRI) Soilscales for England and Wales¹⁸⁵;
- NRW Peatlands of Wales map series¹⁸⁶; and
- British Geological Survey (BGS) Geoindex¹⁸⁷.

Table 11-4 - Soils and Geology

Geology and Soil classification	Location
Peatlands – soils with > 40 cm depth organic material within upper 80 cm of soil profile; or soils with > 30 cm organic material resting directly on bedrock.	Peat may be present on the eastern slopes of Foel y Dyffryn (west of Caerau); south of Blaencaerau; and in proximity to the Crugyrafan monument in the west of the Study Area.
Soils - Very acid loamy upland soils with a wet peaty surface; Freely draining acid loamy soils over rock	Present in the west and the east of the Study Area.
Soils - Slowly permeable wet very acid upland soils with a peaty surface	Present through the centre of the Study Area.
Superficial - Till, Devensian - Diamicton. Sedimentary superficial deposit	Present within the east and west of the Study Area.

¹⁸⁵ Cranfield University (2025). Cranfield National Soil Resources Institute (NSRI) Soilscales for England and Wales. Available at: <https://www.ukso.org>

¹⁸⁶ Natural Resources Wales (2025). Peatlands of Wales Maps. Available: <https://datamap.gov.wales/maps/peatlands-of-wales-maps/>

¹⁸⁷ BGS GeoIndex (onshore). Available at: [GeoIndex \(onshore\) - British Geological Survey](https://www.bgs.gov.uk/geoindex/) [Accessed: October 2024]. Contains British Geological Survey materials © UKRI [2024].

Geology and Soil classification	Location
Superficial - Alluvium - Clay, silt, sand, and gravel. Sedimentary superficial deposit	Present within watercourse floodplains throughout the Study Area.
Superficial - Peat - Peat. Sedimentary superficial deposit	Isolated pockets throughout the Study Area, particularly in the west and adjacent to the A4107.
Bedrock - Llynfi Member - Sandstone. Sedimentary bedrock	Present throughout the Study Area.
Bedrock - South Wales Middle Coal Measures Formation - Mudstone, siltstone, and sandstone. Sedimentary bedrock	Present within the southwest of the Study Area in proximity to Caerau.
Bedrock - Rhondda Member - Sandstone. Sedimentary bedrock	Present within the northeast of the Study Area.

Hydrogeology

11.8.18. According to BGS hydrogeology mapping¹⁶⁸ the Study Area is underlain by three aquifers listed below, described as having moderately productive yields from sandstones. Sub-surface flows are described as being through fractures and other discontinuities, whilst the presence of many springs is noted.

- South Wales Upper Coal Measure Formation;
- Pennine Middle Coal Measures Formation; and
- South Wales Middle Coal Measures Formation (undifferentiated).

11.8.19. Furthermore, the BGS describes groundwater vulnerability as ‘the vulnerability of groundwater to a pollutant discharged at ground level based on the hydrological, geological, hydrogeological and soil properties.’ As regards the groundwater waterbodies (superficial and bedrock) identified within the Study Area, BGS mapping indicates that these waterbodies are at a medium vulnerability, i.e. between high and low vulnerability:

- **High** – areas where pollution can be easily transmitted to groundwater via high-leaching soils with an absence of low-permeability superficial deposits; and
- **Low**: areas where groundwater has greater protection from pollution due to low-leaching soils / the presence of low-permeability superficial deposits.

11.8.20. A review of the Data Map Wales WFD classification mapping¹⁸⁸ identified two WFD classified groundwater bodies beneath the Study Area, both within the Western Wales River Basin District:

¹⁸⁸ DataMapWales (2023). WFD Regulations Cycle 3 Classification. Available: <https://datamap.gov.wales>

- **Swansea Carboniferous Coal Measures (GB41002G201000)**: this waterbody is beneath western and central areas of the Study Area and was classified as being of 'Poor' WFD status (2021); and
- **SE Valleys Carboniferous Coal Measures (GB40902G201900)**: this waterbody is beneath the eastern-most extent of the Study Area and was classified as being of 'Poor' WFD status (2021).

Groundwater Dependent Terrestrial Ecosystems

- 11.8.21. Habitat classifications identified following the UKHab Survey (conducted April and May 2024) have since been re-assessed by WSP (Ecology) and converted to Joint Nature Conservation Committee (JNCC) Phase 1 Habitat classifications in-line with JNCC descriptions. A total of twelve Phase 1 habitats were noted (Chapter 8 - Terrestrial Ecology) as being present within the ecological Survey Area, defined - for the purposes of the Preliminary Ecological Appraisal (PEA) - as being 'the Site' plus a 25 m corridor either side; these are within the Study Area, defined at the start of this section.
- 11.8.22. The twelve JNCC Phase 1 habitats include those types commonly used to infer potential for GWDTE, these included:
- A21 (Dense/continuous scrub) – with Site importance;
 - B5 (Marsh/marshy grassland) – with County importance, priority habitat;
 - B12 (Semi-improved grassland) – with Local importance; and
 - C1 (Bracken) – with Site importance.
- 11.8.23. A review of Phase 1 habitat survey results (**Chapter 8, Figure 8.3**) indicates that each of the habitat types (listed) are present throughout the Study Area and within 250 m of the Project; except for where UGC is proposed within the Llynfi Valley, between Dyffryn and Croeserw. It was also noted that none of the following habitat types were present within 1 km of the Project: blanket bog, raised bog, lowland fens and reed beds, upland flushes, fens, and swamps.

Water Resources

Licensed Abstractions

- 11.8.24. According to the NRW Licensed Water Abstractions Map¹⁸⁹ there are fifteen abstractions within 5 km of the Project, **Table 11.5** below and **Figure 11.1**; however, none are considered as having hydrological connectivity with the Project due to their location - either because they are located within a catchment unlikely to be affected by the Project; or because there is a distinct hydrological barrier between the point of abstraction and the Project.

¹⁸⁹ Natural Resources Wales (2025). Licensed Water Abstraction Maps. Available: [Licenced Water Abstractions | DataMapWales](#)

Table 11-5 - NRW Licensed Abstractions

Permit Number	WFD Waterbody	Source Type	Primary Purpose	Secondary Purpose	Location relative to Study Area
WA/058/0061/0057	GB41002G201000: Swansea Carboniferous Coal Measures	Ground Water	E: Environmental	OTE: Other Environmental Improvement	3.3 km, NW
21/58/61/0036	GB110058026331: Llynfi - headwaters to Lletty Brongu STW	Ground Water	A: Agriculture	AGR: General Agriculture	1.3 km, SW
21/58/61/0036	GB110058026331: Llynfi - headwaters to Lletty Brongu STW	Ground Water	W: Water Supply	PRV: Private Water Supply	1.3 km, SW
21/58/61/0037	GB110058026150: Corrwg - headwaters to confluence with Afan	Surface Water	M: Amenity	PRI: Private non-industrial	2.1 km, NE
21/58/61/0037	GB110058026150: Corrwg - headwaters to confluence with Afan	Surface Water	M: Amenity	PRI: Private non-industrial	2.1 km, NE
21/58/61/0037	GB110058026150: Corrwg - headwaters to confluence with Afan	Surface Water	M: Amenity	PRI: Private non-industrial	2.1 km, NE
WA/058/0041/001	GB110058026331: Llynfi - headwaters to Lletty Brongu STW	Surface Water	P: Production of Energy	ELC: Electricity	3.9 km, SE
WA/058/0061/050	GB110058026150: Corrwg - headwaters to confluence with Afan	Surface Water	P: Production of Energy	ELC: Electricity	3.2 km, N
WA/058/0061/054	GB110058026150: Corrwg - headwaters to confluence with Afan	Surface Water	P: Production of Energy	ELC: Electricity	3.7 km, NW
21/57/24/0004	GB109057027200: Rhondda R - source to conf Afon Rhondda Fach	Surface Water	W: Water Supply	PWS: Public	2.2 km, NW

Permit Number	WFD Waterbody	Source Type	Primary Purpose	Secondary Purpose	Location relative to Study Area
				Water Supply	
21/57/24/0050	GB109057027200: Rhondda R - source to conf Afon Rhondda Fach	Surface Water	I: Industrial, Commercial, Public Services	SPO: Sports Grounds / Facilities	3.5 km, NE
21/57/24/0050	GB109057027200: Rhondda R - source to conf Afon Rhondda Fach	Surface Water	I: Industrial, Commercial, Public Services	SPO: Sports Grounds / Facilities	3.5 km, NE
WA/057/0024/004	GB109057027200: Rhondda R - source to conf Afon Rhondda Fach	Surface Water	P: Production of Energy	ELC: Electricity	2 km, NE
21/57/24/0009	GB109057027200: Rhondda R - source to conf Afon Rhondda Fach	Surface Water	W: Water Supply	PWS: Public Water Supply	0.8 km, NE
21/57/24/0007	GB109057027200: Rhondda R - source to conf Afon Rhondda Fach	Surface Water	W: Water Supply	PWS: Public Water Supply	3.7 km, NE

Non-licensed Abstractions

11.8.25. According to the NPTCBC private water supply data there are nineteen abstractions within 5 km of the Project, **Table 11.6** and **Figure 11.1**; however, none are considered as having direct hydrological connectivity with the Project due to their location - either because they are within catchments unlikely to be affected by the Project or because there is a distinct hydrological barrier between the point of abstraction and the Project.

Table 11-6 - Private Water Supplies

Supply Name	Supply Type	Source Type (unconfirmed)	Activities for which the water is used	Location relative to Study Area
Lwyn Y Fynon Farm (Willow Springs Campsite)	Reg 9	Spring	Commercial / Public	3.9 km, NE
Bryn betws Lodge (Cafe and Bunks)	Reg 9	Spring	Commercial / Public	2.8 km, NW
Bryn Bettws Cabins (Cabins)	Reg 9	Borehole	Commercial / Public	2.6 km, NW
Gyfylchi Farm	Reg 10 (SD - England and Wales)	Unknown	Domestic	2.7 km, NW
Nantewlath Farm	Reg 10 (SD - England and Wales)	Unknown	Domestic	1.9 km, N
Fforchdwm Farm	Reg 10 (SD - England and Wales)	Unknown	Domestic	3.1 km, NW
Cilgarn Farm	Reg 10 (SD - England and Wales)	Unknown	Domestic	3.4 km, SW
Cilgofid Farm	Reg 10 (SD - England and Wales)	Unknown	Domestic	3.5 km, SW
Grayson House	Reg 10 (SD - England and Wales)	Unknown	Domestic	3.5 km, SW
The Barn Gelltewm Farm	Reg 10 (SD - England and Wales)	Unknown	Domestic	3.6 km, SW
Galltcwm Farm	Reg 10 (SD - England and Wales)	Unknown	Domestic	3.7 km, SW
Tonmawr Farm	Reg 10 (SD - England and Wales)	Unknown	Domestic	3.3 km, NW
Galtcwm Farm	Reg 11 (Wales)	Spring	Domestic	3.8 km, SW

Supply Name	Supply Type	Source Type (unconfirmed)	Activities for which the water is used	Location relative to Study Area
Penhyddwaelod Farm	Reg 10 (SD - England and Wales)	Spring	Domestic	3.3 km, SW
Tan Y Coed Farm	Reg 10 (SD - England and Wales)	Unknown	Domestic	2.2 km, SW
Cilgarn Farm	Reg 10 (SD - England and Wales)	Unknown	Domestic	3.4 km, SW
Tyn Ton Farm	Reg 10 (SD - England and Wales)	Unknown	Domestic	3.3 km, NW
Nant Tewlath Farm	Reg 10 (SD - England and Wales)	Unknown	Domestic	1.9 km, N
Penyddwaelod Cottage	Reg 10 (SD - England and Wales)	Spring	Domestic	3.5 km, SW

Flood Risk

11.8.26. Baseline flood risk information was obtained from the FMfP and is shown relative to the Project, **Figure 11.4 - Flood Risk**. The FMfP, which supports Welsh national planning policy (TAN15: development, flooding and coastal erosion¹⁹⁰), is a spatial representation of the most up to date flood risk data for Wales, within which the following flood zones (in respect of the sea, rivers, surface water and small watercourses), are defined:

- **Flood Zone 2:** areas with between 0.1% and 1% (1 in 1000 and 1 in 100) chance of flooding from rivers each year, including the effects of climate change; and
- **Flood Zone 3:** areas with a greater than 1% (1 in 100) chance of flooding from rivers each year, including the effects of climate change.
- **TAN 15 Defended Zones:** areas that benefit from defences with a minimum standard of protection of 1 in 100 years for rivers and 1 in 200 years for the sea – these zones are mapped

¹⁹⁰ Welsh Government (2025): Technical Advice Note (TAN)15: development, flooding and coastal erosion. Available: <https://www.gov.wales>

separately and are used to assess whether development can be considered in areas that might otherwise be restricted.

- There are no TAN15 zones specifically for surface water or small watercourses, risk from these sources is assessed separately by local authorities.

Rivers and Sea

A review of the FMfP indicates that there is limited risk of flooding from rivers adjacent to watercourse channels and floodplains, and no risk of flooding from the sea due to the inland location of the Project.

Surface Water and Small Watercourses

11.8.27. A review of the FMfP identified that the risk of flooding from surface water and small watercourses is confined to watercourse floodplains and urbanised areas where surface runoff may exceed capacity of drainage systems.

Reservoirs

11.8.28. A review of the NRW Large Raised Reservoir layer (as presented within the FMfP) shows that there are no registered reservoirs (holding over 10,000 cubic metres of water) located within 1 km of the Project; furthermore, a review of the Flood Risk and Coastal Erosion Maps¹⁹¹ indicates that there is no risk of flooding from large, raised reservoirs within the Study Area.

Groundwater

11.8.29. Groundwater flooding is caused by the slow emergence of groundwater flow into below ground structures/openings or onto the ground's surface. There can be several causes of groundwater flooding, including but not limited to:

- Emergence of groundwater from high-permeability aquifers with high water tables;
- Extended periods of heavy rainfall surcharging permeable aquifers; and
- Changes in river levels.

11.8.30. Risk associated with groundwater flooding across the Study Area varies with geology. For example, alluvial fan deposits, due to their typically high porosity and permeability, may pose a higher risk of groundwater emergence, particularly in areas with shallow water tables or high recharge; conversely, sandstone formations present a lower to moderate risk, though this varies significantly with lithology, cementation, and structural features. Additionally, a review of OS (1:25,000) mapping identified springs throughout the Study Area, indicating that groundwater is typically present throughout the Study Area within the near-surface weathered zone.

¹⁹¹ Natural Resources Wales (2025). Flood Risk and Coastal Erosion Risk Maps. Available: <https://flood-risk-maps.naturalresources.wales>

11.9 EMBEDDED MEASURES

- 11.9.1. This section summarises measures recommended to be embedded within the construction and detailed design of the Project, which are deemed to be proportionate and necessary to mitigate against potentially significant impacts, identified.

CONSTRUCTION MITIGATION MEASURES

- 11.9.2. A CEMP is to be submitted alongside the environmental statement (ES) and will outline good practice principles to mitigate potentially significant impacts on water resources and flood risk receptors. The CEMP will refer to standard construction good practice guidance documents, including but not restricted to the following:
- GPP 1: Understanding Your Environmental Responsibilities;
 - GPP 5: Works and Maintenance in or Near Water;
 - GPP 21: Pollution Incident Response Planning; and
 - GPP 22: Dealing with Spills.
- 11.9.3. The following is a list of mitigation measures recommended for inclusion in the CEMP:
- The method of works will consider the potential for impacts where works are undertaken within 10 m of a surface water feature;
 - Buffer strips and silt mitigation should be installed where works are within 10 m of a surface water feature;
 - Where possible, topographical gradients should be kept as shallow as possible to minimise the risk of watercourse contamination from silt runoff;
 - Surface water runoff should be captured at source and disposed of in accordance with good practice guidance and regulatory construction runoff permits;
 - The refuelling of construction and maintenance vehicles should be undertaken in a controlled area with measures in place to prevent spillages from contaminating surface water and groundwater receptors, such as drip trays and bunds, if necessary;
 - Regular visual inspection of watercourses in proximity of current works should be undertaken to monitor changes to discolouration and identify increased sediment loading;
 - Those conducting the works should understand the hydraulic connectivity of the site, particularly between surface watercourses and drainage networks, to ensure work can be undertaken in such a way that minimises potential for pollution of receptors; and
 - Any discharge of water should be passed through appropriate treatment for removal of soluble and sediment-bound pollutants prior to discharge; water should not be discharged during periods of high flow in receiving watercourses to reduce the risk of downstream flood risk.
- 11.9.4. Principles recommended within the CEMP should be used by the appointed contractor to inform their own location-specific method statements. At a minimum, it is recommended that the contractor prepares location-specific method statements for scenarios where e.g. underground cable (UGC) crossing of watercourses is required. Method statements should be developed in consultation with the Local Lead Flood Authority (LLFA).

- 11.9.5. Open cut installation of UGC adjacent to waterbodies must ensure tight control of site boundaries to manage the risk of mobilising sediment. Groundworks should also be located a minimum of 10 m from the top-of-bank of watercourses to reduce risks associated with bank instability and allow for continuation of natural geomorphological processes.
- 11.9.6. If deemed necessary by the contractor, open-cut crossings of watercourses must maintain hydraulic connectivity for the duration of construction and effectively manage flows (including measures and capacity to manage flood flow events), that appropriate pollution measures are in place, and that the watercourse is reinstated to its pre-development state immediately following completion of the works. In such a scenario, details of installation should be agreed with the LLFA but are likely to require UGC to be located a minimum of 1.5 m below the bed of the watercourse and for 5 m beyond each bank,
- 11.9.7. The location of OHL poles will be considered at detailed design to achieve a minimum of distance of poles of 10 m from the top-of-bank of all watercourses and to locate poles outside high-risk flood zones; cognisant of engineering and spatial constraint, including design requirements that require to be satisfied. However, it is recognised that micro-siting by the contractor may be necessary
- 11.9.8. Consideration must be given to scour, where discharges, over-pumping or diversion is proposed, in regarding the risk of mobilising sediment and sedimentation within watercourses. Localised silt management measures may be required within channels.
- 11.9.9. Consultation with the LLFA is required to understand consenting requirements for works within 7 m of ordinary watercourses; and recommended to understand potential for issues as regards the condition of existing culverts. Consultation with Welsh Water is recommended to avoid potential clashes with mains water supplies, and sewerage infrastructure during construction.

OPERATION MITIGATION MEASURES

- 11.9.10. Specific mitigation measures beyond those embedded into the design of the Project are not anticipated to be required during operation of the Project. Where routine maintenance and repair activities (listed below) are required to be carried out to during the operation of the Project, mitigation measures outlined in respect of construction of the Project should be adhered to where activities present a risk to the water environment e.g. activities requiring excavation, operation of plant/machinery, or where hazardous substances are involved e.g. fuels/oils, etc.

OHL maintenance and repair activities

- **Maintenance:** visual inspection, thermographic surveys, vegetation management, pole maintenance, conductor and insulator checks, and earthing system testing; and
- **Repair:** conductor replacement or re-tensioning, insulator replacement, pole replacement, and lightning protection repairs.

UGC maintenance and repair activities

- **Maintenance:** cable route inspections, thermal monitoring, joint and termination inspections, partial discharge testing, and sheath testing; and
- **Repair:** fault location and excavation, cable jointing or section replacement, drainage improvement, and reinstatement.

DECOMMISSIONING MITIGATION MEASURES

- 11.9.11. Potential for adverse impacts during decommissioning is expected to be limited as all UGC will be left in-situ. Impacts associated with the removal of above ground infrastructure will reflect those identified during construction, therefore mitigation measures identified for construction of the Project, should be adhered with during the decommissioning process.

11.10 ASSESSMENT METHODOLOGY

- 11.10.1. The assessment of potential impacts has been undertaken in accordance with legislation, policy and guidance summarised in **Section 11.3**; and the over-arching approach as follows:
- Scoping and consultation in respect of potential significant impacts/effects to be assessed;
 - Desktop study to identify receptors and inform baseline conditions;
 - Assessment of receptor importance;
 - Assessment of the magnitude of potential impacts on receptors; and
 - Assessment of the significance of potential effects (inc. cumulative) on receptors;
 - Identification of mitigation to minimise or avoid potentially significant impacts; and
 - Identification of residual impacts.
- 11.10.2. Assessment methods broadly follow the approaches presented in Vol. 11, Section 3 of the Design Manual for Road and Bridges (DMRB), sustainability & environment appraisal document, LA113 – Road Drainage and the Water Environment. Although not directly applicable, as far as the Project is neither a bridge or a highway, the Project is linear and therefore assessment principles as set out within the DMRB provide a basis for assessing potential impacts and significance of effect.
- 11.10.3. Receptor importance, magnitude of potential impact and significance of effect are identified and assessed for construction (**Table 11.10**), operation (**Table 11.11**) and decommissioning phases of the Project, cognisant of scoping outcomes.
- 11.10.4. The assessment is qualitative and is informed by environmental information from a variety of sources including those which are publicly available online and via submission of data requests to local authorities; professional judgement is also used, cognisant of good environmental practice.
- 11.10.5. Residual effects are evaluated based on the assumption that identified mitigation measures (embedded or additional) are fully implemented; and include effects identified as 'Potentially Significant' or 'Significant'.

IMPORTANCE CRITERIA

11.10.6. The **importance** of receptors is determined based on criteria, **Table 11.7**.

Table 11-7 - Criteria for Estimating Receptor Importance

Importance	Criteria	Receptor Type	
High	Feature with a high yield and/or quality and rarity at an international / national scale, with a little / limited potential for substitution	Aquatic environment	Waterbody having a WFD classification of High or Good. Conditions supporting sites with international conservation designations, including: Ramsar sites, Natura 2000 EU network Special Areas of Conservation (SACs) and Special Protection Areas (SPAs), Ramsar sites) - where the designation is based specifically on aquatic / hydrological features. Aquifer providing a nationally important resource (e.g. public water supplies) and/or supporting a site protected under EC and UK Legislation. Confirmed GWDTE.
		Water resources	Licenced abstraction for public water supply. Within Source Protection Zone (SPZ1) - closest to the source. Represents a 50-day travel time for pollutants to reach the source. High risk.
Medium	Feature with a medium yield and/or quality at a regional scale or good quality at a local scale, with some potential for substitution	Aquatic environment	Waterbody having a WFD classification of Moderate. Conditions supporting sites with national conservation designations, including Sites of Special Scientific Interest (SSSIs), SAC, Special Protection Areas (SPA) and National Nature Reserves (NNRs) - where the designation is based specifically on aquatic / hydrological features. Aquifer providing a regionally important resource for agricultural or industrial use with limited connection to surface water. Habitat may support GWDTE.
		Water resources	Licenced abstraction for private water supply. Within Source Protection Zone (SPZ2) - Represents a 400-day travel time. Provides additional protection beyond SPZ1.

Importance	Criteria	Receptor Type	
Low	Feature with a low yield and/or quality at a local scale, with some potential for substitution	Aquatic environment	Waterbody having a WFD classification of Poor. Conditions supporting sites with regional conservation designations, including Nitrate Vulnerable Zones (NVZs) and Bathing Water Protected Areas - where the designation is based specifically on aquatic features. Aquifer providing a locally important resource Habitat unlikely to support GWDTE Located within SPZ3 -
		Water resources	Licensed abstractions – not for public water / potable supply, e.g. industrial process water, spray irrigation.
Negligible	Feature with minimal yield and/or very low quality at a local scale, with a high potential for substitution	Aquatic environment	Waterbody having a Bad WFD classification; or a non-WFD waterbody. Conditions supporting sites with local conservation designations, including Sites of Importance for Nature Conservation (SINCs) and Local Nature Reserves (LNRs) - where the designation is based specifically on aquatic features. Confirmed no GWDTE. Within Source Protection Zone (SPZ3) -
		Water resources	Un-licensed abstractions (non-potable), e.g. livestock supplies. Unproductive strata.

MAGNITUDE OF IMPACT CRITERIA

11.10.7. The **magnitude** of potential impacts is determined based on criteria, **Table 11.8**.

Table 11-8 - Criteria for Estimating Magnitude of Impact

Magnitude	Criteria	Receptor Type	
High	Results in major change to feature, of sufficient magnitude to affect its use/integrity	Aquatic environment	Deterioration in river flow regime, morphology, or water quality, leading to sustained, permanent or long-term breach of relevant Conservation Objectives (COs) or downgrading of WFD status (including downgrading of individual WFD supporting elements). Loss or extensive change to a fishery. Loss or extensive change to a designated nature conservation site.
		Water resources	Complete loss of resource or severely reduced resource availability and/or quality, permanently compromising the ability of water users to exercise licensed rights, i.e.; - Loss of, or extensive change to, an aquifer. - Loss of regionally important water supply. - Potential high risk of pollution to groundwater from routine runoff. - Loss of, or extensive change to GWDTE or baseflow contribution to protected surface water bodies. - Reduction in water body WFD classification. - Loss or significant damage to major structures through subsidence or similar effects.
Medium	Affects the integrity of the attribute, or loss of part of an attribute.	Aquatic environment	Deterioration in river flow regime, morphology, or water quality, leading to periodic, short-term, and reversible breaches of relevant COs, or downgrading of WFD status (including downgrading of individual WFD supporting elements or ability to achieve future WFD objectives). Partial loss in productivity of a fishery.
		Water resources	Moderate reduction in resource availability and/or quality, which may compromise the ability of water users to exercise licensed rights on a temporary basis or for limited periods. i.e.: - Partial loss or change to an aquifer. - Degradation of regionally important public water supply or loss of significant commercial/ industrial/ agricultural supplies.

Magnitude	Criteria	Receptor Type	
			■ Potential medium risk of pollution to groundwater from routine runoff. ■ Partial loss of the integrity of GWDTE. ■ Contribution to reduction in water body WFD classification. ■ Damage to major structures through subsidence or similar effects or loss of minor structures.
Low	Results in minor change to feature, with insufficient magnitude to affect its use/integrity in most circumstances	Aquatic environment	Measurable deterioration in river flow regime, morphology, or water quality, but remaining within COs, and with no change to WFD status (of overall status or supporting element status).
		Water resources	Minor reduction in resource availability and/or quality, but unlikely to affect the ability of water users to exercise licensed rights i.e.: ■ Potential low risk of pollution to groundwater from runoff. ■ Minor effects on an aquifer, GWDTEs, abstractions and structures.
Negligible	Results in little / no change to feature, with insufficient magnitude to affect its use/integrity	Aquatic environment	Limited / no measurable deterioration in river flow regime, morphology or water quality and limited / no probability of consequences in terms of COs or WFD designations.
		Water resources	Limited / no measurable change in resource availability or quality and limited / no probability of changes to the ability of water users to exercise licensed rights.

SIGNIFICANCE OF EFFECT CRITERIA

11.10.8. The **significance** of potential effects has been assessed with reference to both the **importance** of the receptor and the **magnitude** of potential impact; **Table 11.9** provides an indication of how the significance of effect has been determined by multiplying receptor **importance** by the **magnitude** of potential change. Effects are also described as generally either **positive/beneficial** or **negative/adverse**; whilst:

- **Major** and **Moderate** effects are determined as being **significant** in EIA terms; and
- **Minor** or **negligible** effects are determined as **not significant** in EIA terms.

Table 11-9 - Criteria for Assessing Significance of Effect

		Magnitude of Impact			
		High	Medium	Low	Negligible
Receptor Sensitivity	High	Major (Significant)	Major (Significant)	Moderate (Significant)	Negligible (Not Significant)
	Medium	Major (Significant)	Moderate (Significant)	Minor (Not Significant)	Negligible (Not Significant)
	Low	Moderate (Significant)	Minor (Not Significant)	Negligible (Not Significant)	Negligible (Not Significant)
	Negligible	Negligible (Not Significant)	Negligible (Not Significant)	Negligible (Not Significant)	Negligible (Not Significant)

11.11 ASSESSMENT OF EFFECTS

CONSTRUCTION PHASE

11.11.1. **Table 11.10** presents the assessment of potential impacts and associated significant effects during construction cognisant of environmental good construction practice, embedded mitigation, and additional mitigation.

Table 11-10 - Construction Phase Assessment of Potentially Significant Effects

Receptor	Importance of Receptor	Effect	Magnitude of Potential Impact	Significance of Effect
Aquatic Environment - Surface Water Receptors				
Ordinary watercourses	Negligible to Low	Impacts on quality, quantity and hydromorphology associated with construction of the Project.	It is considered likely that there would be limited measurable deterioration in river flow regime, morphology or water quality resulting in limited change to receptors. The assessed magnitude of potential impacts is Negligible .	Negligible (Not Significant)
Afon Afan (conf with Afon Corrwg, to confluence with Pelenna)	Medium	Impacts on quality, quantity and hydromorphology associated with construction of the Project.	There is potential for limited measurable deterioration in river flow regime, morphology or water quality / change in resource availability or quality and limited probability of changes to the ability of water users to exercise licensed rights; as the extent of works associated with the Project within this catchment are limited. The assessed magnitude of potential impacts is Negligible .	Negligible (Not Significant)

Receptor	Importance of Receptor	Effect	Magnitude of Potential Impact	Significance of Effect
Ffrwd Wyllt (headwaters to tidal limit)	Medium	Impacts on quality, quantity and hydromorphology associated with construction of the Project.	There is unlikely to be any measurable change / deterioration in water quality / quantity or hydromorphology as there are no works associated with the Project within this catchment. The assessed magnitude of potential impacts is Negligible .	Negligible (Not Significant)
Llynfi (headwaters to Lletty Brongu STW)	Medium	Impacts on quality, quantity and hydromorphology associated with construction of the Project.	There is potential for measurable deterioration in river flow regime, morphology or water quality / minor reduction is resource availability, as the extent of OHL and UGC proposed within this catchment exceeds 5 km length. The assessed magnitude of potential impacts is Low .	Minor (Not Significant)
Garw (headwaters to confluence with Ogmere)	Medium	Impacts on quality, quantity and hydromorphology associated with construction of the Project.	There is potential for measurable deterioration in river flow regime, morphology or water quality/ minor reduction is resource availability as, although there is fewer than 1 km of OHL and UGC proposed within this catchment, proposed works include a transition between OHL and UGC within c. 250 m of the headwaters. The assessed magnitude of potential impacts is Low .	Minor (Not Significant)

Receptor	Importance of Receptor	Effect	Magnitude of Potential Impact	Significance of Effect
Afan (headwaters to confluence with Corrwg)	Medium	Impacts on quality, quantity and hydromorphology associated with construction of the Project.	There is potential for measurable deterioration in river flow regime, morphology or water quality/ minor reduction in resource availability as c. 2 km of UGC is proposed within this catchment, within c. 250 m of headwaters and c. 1 km of the main channel. The assessed magnitude of potential impacts is Low .	Minor (Not Significant)
Ogwr Fawr (headwaters to confluence with Ogmore)	Medium	Impacts on quality, quantity and hydromorphology associated with construction of the Project.	There is potential for limited measurable deterioration in river flow regime, morphology or water quality / change in resource availability or quality and limited probability of changes to the ability of water users to exercise licensed rights; as the extent of works associated with the Project within this catchment are limited. The assessed magnitude of potential impacts is Negligible .	Negligible (Not Significant)
Rhondda R (source to conf Afon Rhondda Fach)	High	Impacts on quality, quantity and hydromorphology associated with construction of the Project.	There is likely to be no measurable deterioration in river flow regime, morphology or water quality / change in resource availability or quality and limited probability of changes to the ability of water users to exercise licensed rights; as the extent of works associated with the Project within this catchment are limited.	Negligible (Not Significant)

Receptor	Importance of Receptor	Effect	Magnitude of Potential Impact	Significance of Effect
			The assessed magnitude of potential impacts is Negligible .	
Aquatic Environment - Groundwater Receptors				
Swansea Carboniferous Coal Measure	High (owing to its status as a principal aquifer)	Impacts on quality, quantity and hydromorphology associated with construction of the Project.	Groundwater quality / quantity is most likely to be affected where UGC is proposed. Given the extent of urban development through Caerau, the greatest risk is present along the eastern section of UGC. However, given the nature and duration of construction activities, there is likely to be limited measurable change in resource availability or quality and limited probability of changes to the ability of water users to exercise licensed rights. The magnitude of potential impact is therefore assessed as Negligible.	Negligible (Not Significant)
SE Valleys Carboniferous Coal Measure	High (owing to its status as a principal aquifer)	Impacts on quality, quantity and hydromorphology associated with construction of the Project.	Groundwater quality / quantity is most likely to be affected where UGC is proposed. Groundwater quality / quantity is most likely to be affected where UGC is proposed. However, the nearest section of proposed UGC does not fall within the catchment of this waterbody.	Negligible (Not Significant)

Receptor	Importance of Receptor	Effect	Magnitude of Potential Impact	Significance of Effect
			The magnitude of potential impact is therefore assessed as Negligible .	
Phase 1 habitats (Indicative of potential for GWDTE)	Low (cognisant of receptor 'geographic context of importance' - assigned to features with Site, Local or County importance - (Chapter 8 – Terrestrial Ecology))	Impacts on quantity (inc. availability of resource) associated with construction of the Project.	Temporary alteration of flow pathways associated with installation of OHL poles / UGC could have localised effects on water quantity with potential impacts on groundwater dependent receptors i.e. GWDTE. The Project is within 250 m of Phase 1 habitats. As such, there is potential for minor impacts on resource availability with potential for effects on GWDTE. The magnitude of potential impact is therefore assessed as Low.	Negligible (Not Significant)
Water Resources – Water Supplies				
21/58/61/0036 [Agriculture / Spray Irrigation; from groundwater]	Medium	Impacts on quality, quantity (inc. availability of resource) associated with construction of the Project.	Used for agricultural purposes (inc. irrigation), this supply could be affected by temporary changes to water quantity e.g. caused by abstraction for use during construction. However, it is considered that these activities would only result in a minor reduction in resource availability within the catchment and would be unlikely to affect the ability of water users to exercise licensed rights.	Minor (Not Significant)

Receptor	Importance of Receptor	Effect	Magnitude of Potential Impact	Significance of Effect
			The magnitude of potential impact is therefore assessed as Low .	
21/58/61/0036 [Private water supply; from groundwater]	Medium	Impacts on quality, quantity (inc. availability of resource) associated with construction of the Project.	Utilised for private water supply (inc. drinking water) there is potential for this abstraction to be affected by temporary changes to water quality and quantity e.g. from abstraction / pollutants associated with construction activities; however, given the distance from the Project, it is likely that there would be limited measurable change in resource availability or quality and limited probability of changes to the ability of water users to exercise licensed rights. The magnitude of potential impact is therefore assessed as Negligible .	Negligible (Not Significant)
WA/058/0041/001 [Production of Energy, Surface water]	Medium	Impacts on quality, quantity (inc. availability of resource) associated with construction of the Project.	Utilised for generation of electricity, there is potential for this abstraction to be affected by temporary changes to water quantity e.g. from abstraction / pollutants associated with construction activities; however given the distance from the Project, it is likely that there would be limited measurable change in resource availability or quality and limited probability of changes to the ability of water users to exercise licensed rights.	Negligible (Not Significant)

Receptor	Importance of Receptor	Effect	Magnitude of Potential Impact	Significance of Effect
			The magnitude of potential impact is therefore assessed as Negligible .	

OPERATION PHASE

11.11.2. **Table 11.11** summarises the assessment of potential impacts and evaluation of significance of effects associated with the operation of the Project.

Table 11-11 - Operation Phase Assessment of Potentially Significant Effects

Receptor	Importance of Receptor	Effect	Magnitude of Potential Impact	Significance of Effect
Aquatic Environment Receptors				
Surface Water Waterbodies	High to Negligible	Impacts on quality, quantity and hydromorphology associated with operation of the Project, <u>are not anticipated</u> .	Activities associated with operation of the Project are limited to routine maintenance, which is unlikely to affect water quality, quantity or hydromorphology – associated with surface or groundwater waterbodies. Furthermore, The magnitude of potential impact is therefore assessed as, Negligible .	Negligible (Not Significant)
Groundwater Waterbodies	Very High to High			Negligible (Not Significant)
Phase 1 Habitats (Indicative of potential for GWDTE)	Low (cognisant of receptor 'geographic context of importance' - assigned to features with Site, Local or County importance - (Chapter 8 – Terrestrial Ecology)	Impacts on quantity (resource availability) associated with the operation of the Project, <u>are possible</u> .	Permanent changes to the overall impermeable area within catchments will be minimal. Although OHL and UGC excavations will be backfilled with permeable material, these could have localised impacts on flow pathways – which could affect adjacent Phase 1 habitats (indicative of potential groundwater dependent receptors e.g. GWDTE). The magnitude of potential impact is therefore assessed as, Low .	Negligible (Not Significant)
Water Resources Receptors				
Water Supplies	Medium	Impacts on quality, quantity (inc. availability of	Permanent changes to the overall impermeable area within catchments	Negligible (Not Significant)

Receptor	Importance of Receptor	Effect	Magnitude of Potential Impact	Significance of Effect
(Licensed and non-licensed abstractions)		resource) associated with construction of the Project, <u>are not anticipated</u> .	will be minimal and unlikely to affect water quantity; whilst routine maintenance activities associated with OHL poles and UGC would be unlikely to affect water quality. Therefore, no measurable change in resource availability, quality, or ability of water users to exercise licensed rights, is anticipated. The magnitude of potential impact is therefore assessed as, Negligible.	

DECOMMISSIONING PHASE

- 11.11.3. Following completion of the operational phase of the Project, all infrastructure will be left in-situ for potential further use. As such, there is no potential for impacts on the aquatic environment and water resources receptors attributable to activities associated with the removal of above or below ground infrastructure which could otherwise introduce risk of pollution e.g. from machinery working in close proximity to watercourses, erosion of soils, mobilisation of sediment or fuel / chemical spills.
- 11.11.4. There is therefore little to no potential for impacts associated with the decommissioning phase of the Project, resulting in a **Negligible** magnitude of potential impacts, with the significance of potential impacts being **Negligible (Not Significant)**.

11.12 ASSESSMENT OF CUMULATIVE EFFECTS

11.12.1. Cumulative effects can occur when potential impacts on receptors, associated with construction, operation and decommissioning activities (of more than one project), overlap and impacts are compounded. Projects with potential for cumulative effects on water resources and flood risk receptors are identified **Table 11.12** and shown **Figures 11.1 and 11.2**. A statement is provided as to whether it is considered there is potential for cumulative impacts with the projects identified.

Table 11-12 - Summary of potentially significant developments

Planning Authority Area	Ref.	Summary of Development	Planning Decision	Distance from Project	Potential for Cumulative Impacts
Bridgend County Borough Council	P/23/473/RLX	Upper Ogmere Wind Farm	Under consideration	0.2 km south	Yes – development is within wider 5 km Study Area as regards potential for impacts on the aquatic environment and water resources; should construction periods / activities overlap.
Bridgend County Borough Council	P/20/42/FUL	Pant y Wal Wind Farm	Decided	4.5 km southeast	Yes – development is within wider 5 km Study Area as regards potential for impacts on the aquatic environment and water resources; should construction

Planning Authority Area	Ref.	Summary of Development	Planning Decision	Distance from Project	Potential for Cumulative Impacts
					periods / activities overlap.
Bridgend County Borough Council	P/23/319/DNS	Y Bryn Windfarm	Under consideration	0.8 km south	Yes – development is within wider 5 km Study Area as regards potential for impacts on the aquatic environment and water resources; should construction periods / activities overlap.
Bridgend County Borough Council	P/23/555/DOC	Approval of details for conditions 7, 9, 11, 13, 19, 20, 21 and 28 of P/22/34/FUL [Residential development of 20no. affordable dwellings and associated works]	Under consideration	0.2 km east	Yes – development is within wider 5 km Study Area as regards potential for impacts on the aquatic environment and water resources; should construction periods / activities overlap.
Bridgend County Borough Council	P/21/1047/SOR	Request for a Screening Opinion: Installation of a 33kV private wire connection from the Llynfi Afan Wind Farm to Caerau village, Caerau	Under consideration	1.0 km south	Yes – development is within wider 5 km Study Area as regards potential for impacts on the aquatic environment

Planning Authority Area	Ref.	Summary of Development	Planning Decision	Distance from Project	Potential for Cumulative Impacts
					and water resources; should construction periods / activities overlap.
Bridgend County Borough Council	P/21/901/OBS	Outline application for adventure resort with 600 lodges/apartments, hotel, restaurants with car parking, landscaping, drainage, diversion of public rights of way and associated works [amended details received by NPT	Decided	1.7 km northeast	Yes – development is within wider 5 km Study Area as regards potential for impacts on the aquatic environment and water resources; should construction periods / activities overlap.
Bridgend County Borough Council	P/21/547/RLX	Residential development for 35 houses and retain existing house at 62a Picton Street.	Decided	0.8 km south	Yes – development is within wider 5 km Study Area as regards potential for impacts on the aquatic environment and water resources; should construction periods / activities overlap.
Neath and Port Talbot County Borough Council	P2025/0043	Foel Trawsnant Windfarm Grid Connection	No Objections	Intersects with the Project	Yes – development is within wider 5 km Study Area as regards potential for

Planning Authority Area	Ref.	Summary of Development	Planning Decision	Distance from Project	Potential for Cumulative Impacts
					impacts on the aquatic environment and water resources; should construction periods / activities overlap.
Neath and Port Talbot County Borough Council	P2023/0498	Solar Farm	Objections	5.0 km southwest	Yes – development is within wider 5 km Study Area as regards potential for impacts on the aquatic environment and water resources; should construction periods / activities overlap.
Neath and Port Talbot County Borough Council	P2022/0517	Foels Trawsnant Wind Farm - Amendment to the plans referred to in condition 3 of planning permission reference P2014/0825 to allow for approval of revised plans for the development.	Approved	1.8 km south	Yes – development is within wider 5 km Study Area as regards potential for impacts on the aquatic environment and water resources; should construction periods / activities overlap.

Planning Authority Area	Ref.	Summary of Development	Planning Decision	Distance from Project	Potential for Cumulative Impacts
Neath and Port Talbot County Borough Council	P2021/0057	Y Bryn Wind Farm	Objections	0.3 km southwest	Yes – development is within wider 5 km Study Area as regards potential for impacts on the aquatic environment and water resources; should construction periods / activities overlap.
Rhondda Cynon Taf County Borough Council	23/0611/DIS	Abergorki Wind Farm	Pending Decision	5.0 km northeast	Yes – development is within wider 5 km Study Area as regards potential for impacts on the aquatic environment and water resources; should construction periods / activities overlap.

- 11.12.2. As regards cumulative effects and the summary of potentially significant developments (**Table 11.12**), it is considered that there is potential for cumulative effects with other developments should construction periods overlap.
- 11.12.3. Developments within 1 km of the Project have highest potential for significant cumulative effects with the Project, compared with developments between 1 km and 5 km from the Project which have a less potential for significant cumulative effects, owing to their increased distance from the Project; whilst developments that are beyond 5 km from the Project have the least potential for significant cumulative effects. Where there is potential for cumulative effects (with potentially significant impacts) it is considered that, with the implementation construction and environmental good practice, including the adoption of proportionate and effective construction and operational mitigation measures (**Section 11.9**), the magnitude of potential impacts can be reduced to **Negligible**, resulting in a **Negligible (Not Significant)**, significance of effect.

11.13 MITIGATION AND RESIDUAL EFFECTS

MITIGATION MEASURES

- 11.13.1. This section outlines additional mitigation measures beyond those that are required to be embedded from the outset. It should be noted, however, that the identification of additional mitigation measures will be an ongoing process with the recommended measures being proposed in the final EIA Report.
- 11.13.2. The measures proposed in this section are deemed to be proportionate based on the Project design information that has been made available to us at the time of writing this chapter (October 2025). On this basis, the list of mitigation measures will be added to accordingly as the ES progresses.

Construction

- 11.13.3. Suggested additional mitigation measures through the construction phase of the Project are listed below:
- Pre-construction (baseline) and construction water quality monitoring (inc. routine sampling) cognisant of established environmental quality standards (EQS);
 - Pre-construction identification of GWDTE by the contractor; followed by detailed risk assessment of confirmed GWDTE and pre-construction groundwater level and quality monitoring – cognisant of EQS and source-pathway-receptor linkages - between the Project and identified GWDTE; and
 - Use of ground investigation data to locations where shallow groundwater is likely to be encountered; to inform construction monitoring and mitigation plan including e.g. locations where dewatering of excavations may be required.

Operation and Decommissioning

- 11.13.4. At the time of writing this chapter (October 2025), no additional mitigation measures have been identified for the operation and decommissioning phases of the Project. This will be subject to

ongoing consideration as the ES is further developed, and cognisant of any further consultation undertaken with stakeholders and consultees.

RESIDUAL EFFECTS

- 11.13.5. Following the implementation of embedded and additional measures – with a specific focus on avoiding potentially significant effects in relation to Phase 1 habitats (indicative of potential for GWDTE) during construction and operation of the Project, no residual effects are assessed unlikely.

11.14 CONCLUSIONS OF SIGNIFICANCE EVALUATION

- 11.14.1. Following assessment of the Project cognisant of mitigation measures no residual effects of major (significant) or moderate (significant) significance were identified during the construction or operation phases of the Project:

12 SUMMARY OF SIGNIFICANT EFFECTS

- 12.1.1. **Table 12-1** sets out a summary of significant effects and the subsequent mitigation and enhancement measures that the Applicant and NGED have committed to implementing prior to and during the construction, operation and decommissioning phases of the Project. **Table 12-1** provides a list of:
- embedded mitigation;
 - significant effects prior to enhancement measures (additional mitigation);
 - additional mitigation; and
 - residual effects.
- 12.1.2. These have been identified through the EIA process, as explored in more details within **Chapters 6-11**.
- 12.1.3. The definition of significance, particularly in respect of how this relates to “significant effects” in terms of the EIA Regulations, is described within **Chapter 2: EIA Approach**. A definition of how significant effects are derived for each topic is set out in the corresponding technical chapter along with the relevant explanation and descriptions of receptor sensitivity, the magnitude of change, and levels of effect that are considered significant in terms of the EIA Regulations.
- 12.1.4. Most of the pre-construction and construction phase mitigation would be delivered through a CEMP (**Appendix 4A**). The CEMP will provide a general overview of the standard good practice measures to be adopted. These are measures primarily applicable to the construction phase, which is the phase of activities with greatest risk of adverse effects in terms of both probability and magnitude. The principles identified for management of construction are also be anticipated to be applicable for decommissioning.
- 12.1.5. Further details on specific measures to be included in the final CEMP are contained in each of the technical chapters of the EIA report, where relevant. The final CEMP will be prepared as a condition of consent, prior to commencement of construction, in consultation with the local planning authorities - BCBC and NPTCBC - and other relevant stakeholders, which will take account of the approved plans and conditions attached to the consent granted for the Project.

Table 12-1 - Summary of Significant Effects

Issue	Project Stage	Embedded measures	Potentially Significant Effect prior to Mitigation	Outline Mitigation/ Enhancement Measures	Means of Implementation	Significance of Residual Effect Following Implementation
Landscape and Visual						
LVIA - General	Construction and Operation	The Project has been developed through an iterative design process which considered balanced environmental and technical factors. Minimising the number of potential visual receptors and reducing landscape effects by avoiding the requirement to create corridors through forested areas where possible, ensuring the Project is generally backdropped by existing forestry and/ or elevated topography and following the existing topography reflecting the guidance provided in the Holford Rules.	Potential effects on landscape character and designations, and visual amenity.	A pre-works check will be carried out prior to habitat removal by a suitably experienced ecologist acting as an ECoW. Any harvest mice discovered during construction will be moved out of harm into adjacent suitable vegetation by the ECoW. The ECoW will oversee all vegetation clearance works, and will ensure clearance follows a two-stage cut (to be safeguarded by a written Method Statement) to minimise the risk of killing and / or injury of harvest mice.	Condition of Consent CEMP	Landscape Character Significant Effects of the Project: The Project is considered to have a Major and Significant level of effect at construction stage on LCA 1: Llangynwyd Rolling Uplands and LANDMAP Visual and Sensory Aspect Area CYNONVS473 Mynydd Baedan. LCA 15: Mynydd y Gelli and VSAA NPTVS547 Mynydd y Gelli, and CA 13 Foel Trawsnant and VSAA NPTVS358 Foel Trawsnant (which also cover the same geographic area) will experience a Major to Moderate and significant level of effect due to the construction of the eastern UGC section of the Project At operation, the Project is considered to have a Major to Moderate and significant level of effect on LCA 1: Llangynwyd Rolling Uplands and on LANDMAP VSAA CYNONVS473 Mynydd Baedan (which cover the same geographic area) as a result of the western OHL section of the Project. Visual Significant Effects of the Project: The Project is considered to have a Major to Moderate and Significant level of effect at construction phase on views for users of Footpaths MAE/13/4 and MAE/15/2 (represented by Viewpoint 1) and on visitors to the area of Open Access Land on Foel y Dyffryn (represented by Viewpoint 2). Construction on the western UGC section of the Project is assessed as having a Major and Significant level of effect on views experienced by residential receptors along the A4063 (represented by Viewpoint 3). Meanwhile, a Major to Moderate and Significant level of effect

Issue	Project Stage	Embedded measures	Potentially Significant Effect prior to Mitigation	Outline Mitigation/ Enhancement Measures	Means of Implementation	Significance of Residual Effect Following Implementation
						will be experienced by road users at Viewpoint 3 due to the construction of the western UGC and for recreational receptors at Viewpoint 10. At Operation, the Project is considered to have a Major to Moderate and Significant level of effect on views experienced by users of Footpaths MAE/13/4 and MAE/15/2 (represented by Viewpoint 1) and visitors to the area of Open Access Land on Foel y Dyffyn (represented by Viewpoint 2) as a result of the proposed western OHL.
Traffic and Transport						
Traffic and Transport - General	Construction and Operation	Two supporting documents have been prepared which include the key management and mitigation measures which related to traffic and transport. An Outline CTMP (Appendix 7A) - a CTMP sets out details of the impacts of the Project construction traffic on the road network and the mitigation measures and management strategy for the effects. The Outline CTMP will be developed into a full CTMP in consultation and agreement with the relevant local authority officers; and An Outline PROWMP (Appendix 7B) – a PROWMP sets out details of the impacts of the Project on the PROW network and the mitigation measures and management strategy for the effects. The Outline PROWMP will be developed into a full PROWMP in consultation and agreement with the relevant local authority officers. In addition, a Construction Environment Management Plan (CEMP) has been developed as part of the EIA (Appendix 4A).	Potential effects on traffic and transport.	A pre-works check will be carried out prior to habitat removal by a suitably experienced ecologist acting as an ECoW. Any harvest mice discovered during construction will be moved out of harm into adjacent suitable vegetation by the ECoW. The ECoW will oversee all vegetation clearance works, and will ensure clearance follows a two-stage cut (to be safeguarded by a written Method Statement) to minimise the risk of killing and / or injury of harvest mice.	CTMP	With the implementation of the full CTMP and full PROWMP there will be a package of measures in place to minimise the traffic and transport effects of the Project construction traffic. These mitigation measures will need to include specific measures to address the various single-track roads proposed to be used by Project construction traffic. With appropriate mitigation and management in place the impact of the Project on traffic and transport is likely to be Not Significant.

Issue	Project Stage	Embedded measures	Potentially Significant Effect prior to Mitigation	Outline Mitigation/ Enhancement Measures	Means of Implementation	Significance of Residual Effect Following Implementation
Terrestrial Ecology						
Ecology – General (habitat degradation)	Construction	Where habitats are subject to temporary loss, these will be allowed to naturally regenerate as soon as possible following construction. The OHL poles would predominantly be located in open grassland fields however some will be positioned in habitats of higher biodiversity value e.g. scrub / marshy grassland. Permanent habitat loss, if any, will be confined to the absolute minimum required, confined to the footprints of the OHL poles only. The Project includes an allowance of 10 m to micro-site the location of poles and to avoid impacts to hedgerows, tree lines and watercourse or other sensitive habitat where possible.	Fragmentation of habitats and the species they support	A pre-works check will be carried out prior to habitat removal by a suitably experienced ecologist acting as an ECoW. Any harvest mice discovered during construction will be moved out of harm into adjacent suitable vegetation by the ECoW. The ECoW will oversee all vegetation clearance works, and will ensure clearance follows a two-stage cut (to be safeguarded by a written Method Statement) to minimise the risk of killing and / or injury of harvest mice.	CEMP DNS Condition	With the implementation of the ecological mitigation measures described, at this stage, it is concluded likely that residual effects will be Not Significant in the long-term for those important ecological features which have been fully assessed.

Issue	Project Stage	Embedded measures	Potentially Significant Effect prior to Mitigation	Outline Mitigation/ Enhancement Measures	Means of Implementation	Significance of Residual Effect Following Implementation
Ecology – General (habitat loss)	Construction	By applying the step-wise approach and the DECCA framework, habitat loss will be avoided in the first instance to minimise the overall habitat loss resulting from the Project. Where habitats are subject to temporary loss, these will be allowed to naturally regenerate as soon as possible following construction. Permanent habitat loss, if any, will be compensated for by enhancement / creation of new habitats.	Direct habitat loss (permanent and temporary) within construction zone; temporary loss of habitat for protected species.	An OHMP will also be prepared for the Project, in consultation with the LPA (BCBC, NPTC and RCTCBC), which will set out habitat enhancement and creation, including general measures for harvest mice, management measures and monitoring requirements for Priority Habitats within the Site. Where vegetation clearance or prescribed as a management measure, clearance will be undertaken in a suitable manner for minimising effects on harvest mice.	CEMP DNS Condition	With the implementation of the ecological mitigation measures described, at this stage, it is concluded likely that residual effects will be Not Significant in the long-term for those important ecological features which have been fully assessed.
Ecology – General (light)	Construction	Construction works are currently programmed to start in September 2028 for a total of 9 months. There will be no nighttime working with works taking place between 07:00 and 19:00 hours on weekdays and 07:00 to 13:00 on Saturdays. In exceptions, there may be a requirement for a 7-day work week. This would be agreed with the LPA as appropriate During the winter months when day length is shorter, some site lighting will be required. Site lighting will be controlled to prevent incidental spillage on to features that may be used by nocturnal / diurnal species.	Changes in artificial light levels leading to direct impact to nocturnal / diurnal protected species such as bats and water vole.	A pre-works check will be carried out prior to habitat removal by a suitably experienced ecologist acting as an ECoW. Any harvest mice discovered during construction will be moved out of harm into adjacent suitable vegetation by the ECoW. The ECoW will oversee all vegetation clearance works, and will ensure clearance follows a two-stage cut (to be safeguarded by a written Method Statement) to minimise the risk of killing and / or injury of harvest mice.	CEMP DNS Condition	With the implementation of the ecological mitigation measures described, at this stage, it is concluded likely that residual effects will be Not Significant in the long-term for those important ecological features which have been fully assessed.

Issue	Project Stage	Embedded measures	Potentially Significant Effect prior to Mitigation	Outline Mitigation/ Enhancement Measures	Means of Implementation	Significance of Residual Effect Following Implementation
Ecology – General (hydrological effects)	Construction	Construction works would be undertaken using all necessary and practical measures to minimise the release of sediment-laden run-off and toxic materials e.g. as a result of refuelling, into nearby watercourses.	Introduction of toxic pollutants or sediments into the environment resulting in changes, loss or damage to terrestrial or freshwater environments and the fauna they support.	An OHMP will also be prepared for the Project, in consultation with the LPA (BCBC, NPTC and RCTCBC), which will set out habitat enhancement and creation, including general measures for harvest mice, management measures and monitoring requirements for Priority Habitats within the Site. Where vegetation clearance or prescribed as a management measure, clearance will be undertaken in a suitable manner for minimising effects on harvest mice.	CEMP DNS Condition	With the implementation of the ecological mitigation measures described, at this stage, it is concluded likely that residual effects will be Not Significant in the long-term for those important ecological features which have been fully assessed.
Ecology – General (noise and vibration disturbance)	Construction	Construction works would be undertaken using all necessary and practical measures to minimise the noise, vibration and visual disturbance. Construction works will take place between 07:00 to 19:00 hours on weekdays and 07:00 to 13:00 on Saturdays. In exceptions, there may be a requirement for a 7-day work week. This would be agreed with the local council as appropriate. Full measures to address noise, vibration and visual disturbance are detailed in the CEMP.	N/A	A pre-works check will be carried out prior to habitat removal by a suitably experienced ecologist acting as an ECoW. Any harvest mice discovered during construction will be moved out of harm into adjacent suitable vegetation by the ECoW. The ECoW will oversee all vegetation clearance works, and will ensure clearance follows a two-stage cut (to be safeguarded by a written Method Statement) to minimise the risk of killing and / or injury of harvest mice.	Noise and Vibration Management Plan via CEMP DNS Condition	With the implementation of the ecological mitigation measures described, at this stage, it is concluded likely that residual effects will be Not Significant in the long-term for those important ecological features which have been fully assessed.
Ecology – General (air quality/ dust)	Construction	Due to the nature of the Project, impacts arising from dust generation have been assessed as being minimal (see Chapter 4: Description of the Project). There will be little to no demolition and earthworks will be undertaken only for the underground works under existing roads.	N/A	An OHMP will also be prepared for the Project, in consultation with the LPA (BCBC, NPTC and RCTCBC), which will set out habitat enhancement and creation, including general measures for harvest mice, management measures and monitoring requirements for Priority Habitats within the Site. Where vegetation clearance or prescribed as a management measure, clearance will be undertaken in a suitable manner for minimising effects on harvest mice.	CEMP DNS Condition	With the implementation of the ecological mitigation measures described, at this stage, it is concluded likely that residual effects will be Not Significant in the long-term for those important ecological features which have been fully assessed.

Issue	Project Stage	Embedded measures	Potentially Significant Effect prior to Mitigation	Outline Mitigation/ Enhancement Measures	Means of Implementation	Significance of Residual Effect Following Implementation
Ecology – General (general species safeguarding)	Construction	Appropriate pre-construction surveys or inspections will be carried out as required. A Method Statement will be prepared (to be included within the CEMP), to minimise impacts and will include measures such as: ensuring all excavations will have sloped sides or have a means of escape for entrapped animals; excavations to be checked each morning by operatives prior to work within the excavation, protection of retained habitats / features, designated haul routes, Ecological Clerk of Works (ECoW) and timing of work, restricting work to daylight hours.	Death, injury or displacement of protected species during construction e.g. due to entrapment within excavations of collisions with construction traffic.	A pre-works check will be carried out prior to habitat removal by a suitably experienced ecologist acting as an ECoW. Any harvest mice discovered during construction will be moved out of harm into adjacent suitable vegetation by the ECoW. The ECoW will oversee all vegetation clearance works, and will ensure clearance follows a two-stage cut (to be safeguarded by a written Method Statement) to minimise the risk of killing and / or injury of harvest mice.	Pre-construction surveys or inspections where required, Method Statement and CEMP, ECoW.	With the implementation of the ecological mitigation measures described, at this stage, it is concluded likely that residual effects will be Not Significant in the long-term for those important ecological features which have been fully assessed.
Ecology – General (removal of trees)	Construction	Whilst the intention is for the OHL route to be as straight as possible, there will be some deviation to avoid environmental features, such as trees. At points of deviation, angle poles will be used; these are likely to be H-pole structures. Trees with bat suitability will be avoided where possible; however, two of the trees identified (T5 and T18) are considered to be ‘at risk’ of being directly impacted by the Project. Appropriate pre-construction surveys or inspections will be carried out as required, with works to, or near trees following a Method Statement (to be included within the CEMP) and overseen by ECoW (as required).	Direct and permanent loss of trees with bat roosting suitability	An OHMP will also be prepared for the Project, in consultation with the LPA (BCBC, NPTC and RCTCBC), which will set out habitat enhancement and creation, including general measures for harvest mice, management measures and monitoring requirements for Priority Habitats within the Site. Where vegetation clearance or prescribed as a management measure, clearance will be undertaken in a suitable manner for minimising effects on harvest mice.	Pre-construction surveys or inspections where required, Method Statement and CEMP, ECoW.	With the implementation of the ecological mitigation measures described, at this stage, it is concluded likely that residual effects will be Not Significant in the long-term for those important ecological features which have been fully assessed.

Issue	Project Stage	Embedded measures	Potentially Significant Effect prior to Mitigation	Outline Mitigation/ Enhancement Measures	Means of Implementation	Significance of Residual Effect Following Implementation
Ecology – General (introduction or spread of INNS)	Construction	Biosecurity measures, such as boot wash stations, will be implemented throughout construction to avoid the introduction or spread of INNS	Direct impacts to habitats	A pre-works check will be carried out prior to habitat removal by a suitably experienced ecologist acting as an ECoW. Any harvest mice discovered during construction will be moved out of harm into adjacent suitable vegetation by the ECoW. The ECoW will oversee all vegetation clearance works, and will ensure clearance follows a two-stage cut (to be safeguarded by a written Method Statement) to minimise the risk of killing and / or injury of harvest mice.	CEMP, PMoW and ECoW	With the implementation of the ecological mitigation measures described, at this stage, it is concluded likely that residual effects will be Not Significant in the long-term for those important ecological features which have been fully assessed.
Ecology – SINC^s and Priority Habitats (temporary habitat loss)	Construction	Habitat loss will be avoided in the first instance to minimise the overall habitat loss resulting from the Project. Where habitats are subject to temporary loss, these will be replaced as soon as possible following construction. Poles will be stored at the temporary construction compound and transported to	Potential effects on ecological features (SINC ^s , Priority Habitats, Ancient Woodland)	An OHMP will also be prepared for the Project, in consultation with the LPA (BCBC, NPTC and RCTCBC), which will set out habitat enhancement and creation, including general measures for harvest mice, management measures and monitoring requirements for Priority Habitats within the Site. Where vegetation clearance or prescribed as a management measure, clearance will be undertaken in a suitable manner for minimising effects on harvest mice.	CEMP, oHMP	With the implementation of the ecological mitigation measures described, at this stage, it is concluded likely that residual effects will be Not Significant in the long-term for those important ecological features which have been fully assessed.
Ecology – SSSI (Mynydd-Ty-Isaf)	Construction	Habitat loss will be avoided in the first instance to minimise the overall habitat loss resulting from the Project.	In the absence of mitigation, the Project has the potential to degrade the habitats for which the SSSI is designated for, as a result of pollution / contamination incidents during construction. No direct impacts e.g. habitat loss, will occur within the footprint of the SSSI.	A pre-works check will be carried out prior to habitat removal by a suitably experienced ecologist acting as an ECoW. Any harvest mice discovered during construction will be moved out of harm into adjacent suitable vegetation by the ECoW. The ECoW will oversee all vegetation clearance works, and will ensure clearance follows a two-stage cut (to be safeguarded by a written Method Statement) to minimise the risk of killing and / or injury of harvest mice.	CEMP	With the implementation of the ecological mitigation measures described, at this stage, it is concluded likely that residual effects will be Not Significant in the long-term for those important ecological features which have been fully assessed.

Issue	Project Stage	Embedded measures	Potentially Significant Effect prior to Mitigation	Outline Mitigation/ Enhancement Measures	Means of Implementation	Significance of Residual Effect Following Implementation
Ecology – Bats (temporary habitat loss, disturbance/ collision risk, changes in light levels)	Construction and Operation	Habitat loss will be avoided in the first instance to minimise the overall habitat loss resulting from the Project.	Potential effects on ecological features (Bats)	An OHMP will also be prepared for the Project, in consultation with the LPA (BCBC, NPTC and RCTCBC), which will set out habitat enhancement and creation, including general measures for harvest mice, management measures and monitoring requirements for Priority Habitats within the Site. Where vegetation clearance or prescribed as a management measure, clearance will be undertaken in a suitable manner for minimising effects on harvest mice.	CEMP ECoW	With the implementation of the ecological mitigation measures described, at this stage, it is concluded likely that residual effects will be Not Significant in the long-term for those important ecological features which have been fully assessed.
Ecology – Harvest Mouse (temporary habitat loss, disturbance, changes in light levels)	Construction	Habitat loss will be avoided in the first instance to minimise the overall habitat loss resulting from the Project.	Potential effects on ecological features (Water Voles)	A pre-works check will be carried out prior to habitat removal by a suitably experienced ecologist acting as an ECoW. Any harvest mice discovered during construction will be moved out of harm into adjacent suitable vegetation by the ECoW. The ECoW will oversee all vegetation clearance works, and will ensure clearance follows a two-stage cut (to be safeguarded by a written Method Statement) to minimise the risk of killing and / or injury of harvest mice. An OHMP will also be prepared for the Project, in consultation with the LPA (BCBC, NPTC and RCTCBC), which will set out habitat enhancement and creation, including general measures for harvest mice, management measures and monitoring requirements for Priority Habitats	CEMP oHMP ECoW	With the implementation of the ecological mitigation measures described, at this stage, it is concluded likely that residual effects will be Not Significant in the long-term for those important ecological features which have been fully assessed.

Issue	Project Stage	Embedded measures	Potentially Significant Effect prior to Mitigation	Outline Mitigation/ Enhancement Measures	Means of Implementation	Significance of Residual Effect Following Implementation
Ecology – Water Vole (temporary habitat loss, disturbance, changes in light levels)	Construction	Habitat loss will be avoided in the first instance to minimise the overall habitat loss resulting from the Project.	Potential effects on ecological features (Water Voles)	A pre-construction survey of the footprint of the Site and a suitably sized area (250 m radius based on the ZOI of disturbance impacts) will be conducted to ascertain any new water vole habitats within the Site and to gain an up-to-date picture of locations of water vole populations immediately prior to construction. If water voles are found to be present within areas that will be impacted by the Project, a development licence will be sought from NRW to allow the work to proceed lawfully. This will include production of a Method Statement which the work must adhere to. Construction will adhere to measures outlined within a CEMP to minimise construction effects on water vole and be overseen by an ECoW. Specifically, and incorporated into embedded mitigation, construction works would be undertaken using all necessary and practical measures to avoid the release of additional sediment-laden and toxic material (e.g. from refuelling) run-off into nearby watercourses and dust management measures. Habitats which will be temporary lost will be allowed to regenerate naturally following clearance and installation of the OHL poles. Geo-grid matting or similar will also be used where vehicles / plant machinery require tracking across marshy grassland habitats, to minimise effects to the ground flora and compaction of the soil during installation of the poles. An OHMP will also be prepared which will set out habitat enhancement and	CEMP oHMP ECoW	With the implementation of the ecological mitigation measures described, at this stage, it is concluded likely that residual effects will be Not Significant in the long-term for those important ecological features which have been fully assessed.

Issue	Project Stage	Embedded measures	Potentially Significant Effect prior to Mitigation	Outline Mitigation/ Enhancement Measures	Means of Implementation	Significance of Residual Effect Following Implementation
				creation and management measures, to benefit the local water vole population. During the winter months, when day length is shorter, and activity is likely to be low, construction task lighting will be required. Such lighting will be task specific and controlled to prevent incidental spillage on to features that may be used by nocturnal species and retained habitat.		
Ecology – Otters (temporary habitat loss, disturbance, changes in light levels)	Construction	Habitat loss will be avoided in the first instance to minimise the overall habitat loss resulting from the Project	There are no pathways for potentially significant effects on otter. However, it is considered that otter may occasionally disperse through the network of tributaries that occur on Site but are unlikely to use the Site for regular foraging or sheltering purposes.	The risk of potential effects on otter is considered to be low, and construction works will not directly impact water courses or the immediate riparian habitat. Mitigation measures for otter will however be set out within the CEMP for the Project. Such measures will include: - Measures to ensure that construction activities do not directly or indirectly effect water courses, including implementation of appropriate buffers and fencing around construction zones to ensure personnel and plant machinery do not stray on to retained habitat, pollution and contamination prevention measures and dust management. - Ensuring all excavations will have sloped sides or have a means of escape for entrapped animals; excavations to be checked each morning by operatives prior to work within the excavation - If construction works are required in the vicinity of water courses, a pre-construction survey will be	CEMP	With the implementation of the ecological mitigation measures described, at this stage, it is concluded likely that residual effects will be Not Significant in the long-term for those important ecological features which have been fully assessed

Issue	Project Stage	Embedded measures	Potentially Significant Effect prior to Mitigation	Outline Mitigation/ Enhancement Measures	Means of Implementation	Significance of Residual Effect Following Implementation
				undertaken by a suitably experienced ecologist. In the unlikely event that an otter holt/ couch/ lay-up is identified and is anticipated to be adversely affected, then a mitigation strategy will be compiled and if necessary, an EPS licence obtained.		
Ecology – Reptiles (temporary habitat loss, disturbance, changes in light levels)	Construction	Habitat loss will be avoided in the first instance to minimise the overall habitat loss resulting from the Project. Where habitats are subject to temporary loss, these will be replaced as soon as possible following construction. Disturbance to features that could support reptiles or amphibians (e.g. scrub, dense tussocky grassland, rocks) will be kept to a minimum, and works in these areas will take place outside the hibernation period for those species. A method statement will be prepared which will include measures such as ensuring all excavations will have sloped sides or have a means of escape for entrapped animals; excavations to be checked each morning by operatives prior to work within the excavation. This will include the protection of retained features, designated haul routes, ecological supervision (ECoW). Construction activities will be minimised outside of normal working hours (with works taking place between 07:00 and 19:00 hours on weekdays and 07:00 to 13:00 on Saturdays). In exceptions, there may be a	Potential effects on ecological features (Reptiles)	A pre-works survey for reptiles will be carried out prior to habitat removal by a suitably experienced ecologist acting as an ECoW. Any reptiles discovered during construction will be moved out of harm into adjacent suitable vegetation by the ECoW. The ECoW will oversee all vegetation clearance works, and will ensure clearance follows a two-stage cut (to be safeguarded by a written Method Statement) to minimise the risk of killing and / or injury of reptiles. Any potential refugia / hibernacula identified on Site will be dismantled by hand during the active season. No clearance of hibernacula will take place between October – March inclusive. An OHMP will also be prepared for the Project, in consultation with the LPA (BCBC, NPTC and RCTCBC), which will set out habitat enhancement and creation, including general measures for reptiles, management measures and monitoring requirements for Priority Habitats within the Site. Where vegetation clearance or prescribed as	CEMP ECoW oHMP	With the implementation of the ecological mitigation measures described, at this stage, it is concluded likely that residual effects will be Not Significant in the long-term for those important ecological features which have been fully assessed.

Issue	Project Stage	Embedded measures	Potentially Significant Effect prior to Mitigation	Outline Mitigation/ Enhancement Measures	Means of Implementation	Significance of Residual Effect Following Implementation
		requirement for a 7-day work week. This would be agreed with the local council as appropriate This will largely avoid the hours of darkness, particularly in the summer when species are most active. The winter months when day length is shorter, some site lighting will be required. Site lighting will be controlled to prevent incidental spillage on to features that may be used by nocturnal species.		a management measure, clearance will be undertaken in a suitable manner for minimising effects on reptiles. This will incorporate long-term management and monitoring of the habitats present within the Site. This will include 'reptile friendly' cutting of associated habitats.		

Ornithology

Ornithology – General (Physical changes to the spatial environment that could result in collision, injury, or fatality of individual nightjar.)	Construction	Measures to prevent impacts on nightjar (and general breeding birds) will be included in final construction methodologies. This will include steps such as: ■ Clearance of construction and other working areas outside of the breeding bird season ■ The use of dedicated working areas and construction access routes ■ Where works cannot be completed outside of the breeding bird season the construction methodology will include employment of Ecological Clerk of Works to carry out pre-works checks and monitoring of construction areas to identify potential bird nests Any active bird nests in or immediately adjacent to working areas would be identified and suitable “no working” buffers established around nest sites.	Permanent or temporary land-take/changes to habitats to facilitate construction could displace birds from existing habitat and result in direct injury or damage to nest sites..	N/A – embedded mitigation	CEMP DNS Condition	With the implementation of the mitigation measures described, at this stage, it is concluded likely that residual effects will be Not Significant in the long-term for those important ecological features which have been fully assessed.

Issue	Project Stage	Embedded measures	Potentially Significant Effect prior to Mitigation	Outline Mitigation/ Enhancement Measures	Means of Implementation	Significance of Residual Effect Following Implementation
Ornithology – General (light)	Construction	Construction works are currently programmed to start September 2028 for a total of 9 months. There will be no nighttime working with works taking place between 07:00 and 19:00 hours on weekdays and 07:00 to 13:00 on Saturdays. In exceptions, there may be a requirement for a 7-day work week. This would be agreed with the LPA as appropriate During the winter months when day length is shorter some site lighting will be required. Site lighting will be controlled to prevent incidental spillage on to features that may be used by nocturnal / diurnal species.	Changes in artificial light levels leading to direct impact to nocturnal / diurnal protected species such as nightjar.	N/A – embedded mitigation	CEMP DNS Condition	With the implementation of the mitigation measures described, at this stage, it is concluded likely that residual effects will be Not Significant in the long-term for those important ecological features which have been fully assessed.
Ornithology – General (noise, vibration and visual disturbance)	Construction	Pre-works surveys would be completed to confirm the presence/absence of Nightjar up to 500m of construction areas to inform requirements for measures to avoid impacts on active nest sites. Where works cannot be scheduled to avoid the main breeding season, additional measures such as the employment of “no-disturbance buffers” around nest sites or the use of sound buffers would be considered. Construction works would be undertaken using all necessary and practical measures to minimise the noise, vibration and visual disturbance. Construction works will take place between 07:00 to 19:00 hours on weekdays and 07:00 to 13:00 on Saturdays. In exceptions, there may be a requirement for a 7-day work week. This would be agreed with the local council as appropriate	Production of aural or visual disturbance that has the potential to disturb or displace birds resulting in breeding failure and impacts on the local population.	N/A – embedded mitigation	CEMP DNS Condition	With the implementation of the mitigation measures described, at this stage, it is concluded likely that residual effects will be Not Significant in the long-term for those important ecological features which have been fully assessed.

Issue	Project Stage	Embedded measures	Potentially Significant Effect prior to Mitigation	Outline Mitigation/ Enhancement Measures	Means of Implementation	Significance of Residual Effect Following Implementation
Ornithology – General (direct mortality due to collision impact)	Operation	Micro siting of the OHL route from the nearest point of linear/foraging features considered likely to be well-used by birds such as treelines, woodland, and some waterbodies. There is an allowance of 10m built into the Project design.	Changes to habitats to facilitate construction could lead to collision	N/A – embedded mitigation	CEMP DNS Condition	With the implementation of the mitigation measures described, at this stage, it is concluded likely that residual effects will be Not Significant in the long-term for those important ecological features which have been fully assessed.
Ornithology – Breeding species (peregrine, nightjar and kestrel)	Construction and Operation	See above for embedded measures.	Physical changes to the spatial environment that could result in collision, injury and fatality of individual peregrine, nightjar and kestrel.	The following mitigation measures will avoid / minimise collision impacts to peregrine, kestrel, and nightjar: ■ Use of bird flight diverters on the OHL to improve visibility for birds and reduce collision events. ■ Habitat management under OHL route to discourage prey species for kestrel and nesting habitat for nightjar. These measures will be provided in a Conservation Plan will be devised in consultation with the LPA. Appropriate mitigation will ensure legal compliance with respect to effects upon Schedule 1 WCA birds.	CEMP, Conservation Plan, oHMP	With the implementation of the mitigation measures described, at this stage, it is concluded likely that residual effects will be Not Significant in the long-term for those important ecological features which have been fully assessed.

Issue	Project Stage	Embedded measures	Potentially Significant Effect prior to Mitigation	Outline Mitigation/ Enhancement Measures	Means of Implementation	Significance of Residual Effect Following Implementation
Ornithology – Nightjar	Construction and Operation	See above for embedded measures.	Physical changes to the spatial environment that could result in injury, or fatality of individual nightjar during construction phase has the potential to disturb, injure, kill or displace birds resulting in breeding failure and impacts on the local population.	Timing of works would be prioritised to avoid works in suitable habitat during the nightjar breeding season. If any is required, pre-works surveys would be completed to confirm the presence/absence of nightjar up to 500m of construction areas to inform requirements for measures to avoid impacts on nightjar during the construction phase. Where works cannot be scheduled to avoid the main breeding season, additional measures such as the employment of “no-disturbance buffers” around nest sites or the use of sound buffers would be considered.	CEMP, ECoW/ Pre-survey works	With the implementation of the mitigation measures described, at this stage, it is concluded likely that residual effects will be Not Significant in the long-term for those important ecological features which have been fully assessed.
Ornithology – Red Kite and Goshawk	Construction and Operation	See above for embedded measures.	Physical changes to the spatial environment that could result in collision, injury and fatality of individual red kite and goshawk.	The following mitigation measures will avoid / minimise collision impacts to red kite and goshawk: ■ Use of bird flight diverters on the OHL to improve visibility for birds and reduce collision events. ■ Habitat management under OHL route to discourage prey species. ■ 5m stand-off exclusion buffers from sensitive habitats (e.g. woodlands and trees lines) to reduce collision risk. These measures will be provided in a Conservation Plan will be devised in consultation with the LPA. Appropriate mitigation will ensure legal compliance with respect to effects upon Schedule 1 WCA birds.	CEMP Conservation Plan	With the implementation of the mitigation measures described, at this stage, it is concluded likely that residual effects will be Not Significant in the long-term for those important ecological features which have been fully assessed.

Issue	Project Stage	Embedded measures	Potentially Significant Effect prior to Mitigation	Outline Mitigation/ Enhancement Measures	Means of Implementation	Significance of Residual Effect Following Implementation
Ornithology – Non-breeding bird assemblage	Construction and Operation	See above for embedded measures.	Surveys have not been undertaken yet to quantify the potential effects. However, non-breeding bird assemblages have been scoped in on a precautionary basis. It is considered likely that the effects will be similar to the potential effects of breeding birds within the Study Areas, with relatively low levels of predicted collision that could result in injury and fatality of non-breeding birds on Site.	The following mitigation measures will avoid / minimise collision impacts to birds: - Use of bird flight diverters on the OHL to improve visibility for birds and reduce collision events. - Habitat management under OHL route to discourage sensitive species. 5m stand-off exclusion buffers from sensitive habitats (e.g. woodlands and trees lines) to reduce collision risk.	CEMP	With the implementation of the mitigation measures described, at this stage, it is concluded likely that residual effects will be Not Significant in the long-term for those important ecological features which have been fully assessed.
Historic Environment						
Historic Environment – General (see historic assets listed in Table 10-7)	Construction and Operation	Construction Phase Construction phase will be temporary, totalling 9 months with 2 months planned for OHL installation. Micro-siting of H-pole pylon foundations (OHL), underground cable (UGC) or construction compound to avoid known historic assets. Avoidance maps of known non-designated historic assets within the CEMP. Micro-siting of H-pole pylon foundations (OHL), underground cable (UGC) or construction compound to avoid historic assets.	Effects to the significance of the historic asset through changes to its setting.	Embedded mitigation has been included through the design process.	CEMP and Recommended archaeological monitoring (Watching Brief), secured by Planning Condition.	Subject to the implementation of the environmental measures, the Project will avoid significant effects upon the sub-surface aspect of the historic environment. Since the installation works would only take place over 2 months, any impacts to their setting during the construction phase would be temporary and therefore negligible. During the operation phase, the new OHL site would be visible within a landscape in which existing OHL of greater sizes are already prominent and visible, and therefore the impact is also considered negligible.

Issue	Project Stage	Embedded measures	Potentially Significant Effect prior to Mitigation	Outline Mitigation/ Enhancement Measures	Means of Implementation	Significance of Residual Effect Following Implementation
		Peat surveys conducted to enable identification of peat deposits of potential paleoenvironmental significance. Micro-siting H-pole foundations or underground cable routes to avoid disturbing. Where avoidance of physical impacts to archaeological remains is not possible, a proportionate programme of archaeological investigation and mitigation may be required, in advance of construction. The scope of any archaeological works will be agreed in advance with Heneb and set out in Written Scheme of Investigation. Operation phase Proposed OHL design using wooden H-poles, have kept effects on setting to a minimum. The underground cable route will not directly impact any designated assets, nor will it be visible due to its position below the ground.				

Issue	Project Stage	Embedded measures	Potentially Significant Effect prior to Mitigation	Outline Mitigation/ Enhancement Measures	Means of Implementation	Significance of Residual Effect Following Implementation
Historic Environment – Non-designated Bwlch Garw, Boundary Stone (516547)	Construction	Construction activities associated with the installation of the underground cable will avoid disturbance of the historic asset through design and fencing off the asset during the construction works. Location should be marked on construction phase plans and avoidance measures included in toolbox talk.	Direct disturbance to non-designated historic asset	Embedded mitigation has been included through the design process.	CEMP Development design.	Subject to the implementation of the environmental measures, the Project will avoid significant effects upon the sub-surface aspect of the historic environment. Since the installation works would only take place over 2 months, any impacts to their setting during the construction phase would be temporary and therefore negligible. During the operation phase, the new OHL site would be visible within a landscape in which existing OHL of greater sizes are already prominent and visible, and therefore the impact is also considered negligible.
Historic Environment – Clawdd Mawr, Mynydd Caerau scheduled monument (GM231)	Construction	Avoidance of the direct impacts to Clawdd Mawr, Mynydd Caerau scheduled monument (GM231) through appropriate design. Intrusive construction activities associated with the underground cable where it crosses the scheduled area, will be contained entirely within the footprint of the existing trackway. Protection measures during the construction phase will include: - erection of temporary fencing demarcating the scheduled monument where it is crossed by the proposed underground cable within the existing trackway - inclusion of the scheduled monument on construction phase site plans - provision of a toolbox talk or briefing to construction site team to identify working methods to ensure avoidance of impacts during delivery of the works.	Direct disturbance of the scheduled monument	Embedded mitigation has been included through the design process.	CEMP Development design.	Subject to the implementation of the environmental measures, the Project will avoid significant effects upon the sub-surface aspect of the historic environment. Since the installation works would only take place over 2 months, any impacts to their setting during the construction phase would be temporary and therefore negligible. During the operation phase, the new OHL site would be visible within a landscape in which existing OHL of greater sizes are already prominent and visible, and therefore the impact is also considered negligible.

Issue	Project Stage	Embedded measures	Potentially Significant Effect prior to Mitigation	Outline Mitigation/ Enhancement Measures	Means of Implementation	Significance of Residual Effect Following Implementation
Water Resource and Flood Risk						
Water Resource and Flood Risk – General	Construction and Operation	Construction Phase The CEMP will contain principles to be carried forward in order to mitigate potentially significant impacts to surface water and groundwater receptors within the study area. The CEMP will refer to a number of industry standard best-practice guidance documents. The following is a list of mitigation measures to be followed: ▪ The method of works will consider the potential for impacts where works are undertaken within 10 m of a surface water feature; ▪ Buffer strips and silt mitigation should be installed where works are within 10 m of a surface water feature; ▪ Where possible, topographical gradients should be kept as shallow as possible to	Potential effects on Hydrological features	Construction ▪ Pre-construction (baseline) and construction water quality monitoring (inc. routine sampling) cognisant of established environmental quality standards (EQS); ▪ Pre-construction identification of GWDTE by the contractor; followed by detailed risk assessment of confirmed GWDTE and pre-construction groundwater level and quality monitoring – cognisant of EQS and source-pathway-receptor linkages - between the Project and identified GWDTE; and ▪ Use of ground investigation data to locations where shallow groundwater is likely to be encountered; to inform construction	CEMP	Following mitigation measures, no residual effects are expected. Measures are expected to sufficiently mitigate the potential Water Environment and Flood Risk risks.

Issue	Project Stage	Embedded measures	Potentially Significant Effect prior to Mitigation	Outline Mitigation/ Enhancement Measures	Means of Implementation	Significance of Residual Effect Following Implementation
		minimise the risk of watercourse contamination from silt runoff; ■ Surface water runoff should be captured at source and disposed of in accordance with good practice guidance and regulatory construction runoff permits; ■ The refuelling of construction and maintenance vehicles should be undertaken in a controlled area with measures in place to prevent spillages from contaminating surface water and groundwater receptors, such as drip trays and bunds, if necessary; ■ Regular visual inspection of watercourses in proximity of current works should be undertaken to monitor changes to discolouration and identify increased sediment loading; ■ Those conducting the works should understand the hydraulic connectivity of the site, particularly between surface watercourses and drainage networks, to ensure work can be undertaken in such a way that minimises potential for pollution of receptors; and ■ Any discharge of water should be passed through appropriate treatment for removal of soluble and sediment-bound pollutants prior to discharge; water should not be discharged during periods of high flow in receiving watercourses to reduce the risk of downstream flood risk. Operation Phase OHL maintenance and repair activities ■ Maintenance: visual inspection, thermographic surveys, vegetation management, pole maintenance, conductor and insulator checks, and earthing system testing; and		monitoring and mitigation plan including e.g. locations where dewatering of excavations may be required Operation and Decommissioning At the time of writing this chapter (October 2025), no additional mitigation measures have been identified for the operation and decommissioning phases of the Project. This will be subject to ongoing consideration as the ES is further developed, and cognisant of any further consultation undertaken with stakeholders and consultees.		

Issue	Project Stage	Embedded measures	Potentially Significant Effect prior to Mitigation	Outline Mitigation/ Enhancement Measures	Means of Implementation	Significance of Residual Effect Following Implementation
		▪ Repair: conductor replacement or re-tensioning, insulator replacement, pole replacement, and lightning protection repairs. UGC maintenance and repair activities ▪ Maintenance: cable route inspections, thermal monitoring, joint and termination inspections, partial discharge testing, and sheath testing; and ▪ Repair: fault location and excavation, cable jointing or section replacement, drainage improvement, and reinstatement.				

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