National Grid Energy Distribution

UPPER OGMORE GRID CONNECTION

Design and Access Statement

NOVEMBER 2025

CONFIDENTIAL

National Grid Energy Distribution

UPPER OGMORE GRID CONNECTION

Design and Access Statement

TYPE OF DOCUMENT (VERSION) CONFIDENTIAL

PROJECT NO. UK0028130.1329

DATE: NOVEMBER 2025

WSP

Kings Orchard
1 Queen Street
Bristol
BS2 0HQ

Phone: +44 117 930 6200

WSP.com

QUALITY CONTROL

Issue/revision	First issue	Revision 1	Final
Remarks	Draft DAS	Updated Draft DAS	Final Draft DAS
Date	November 2025	November 2025	November 2025
Prepared by	Martha Downs	Martha Downs	Martha Downs
Signature	MD	MD	MD
Checked by	Edward Purnell	Edward Purnell	Edward Purnell
Signature	EP	EP	EP
Project number	UK0028130.1329	UK0028130.1329	UK0028130.1329
Report number	UK0028130.1329_Upper Ogmore_DAS. Rpt	UK0028130.1329_Upper Ogmore_DAS. Rpt	UK0028130.1329_Upper Ogmore_DAS. Rpt

CONTENTS

TABLES

FIGURES

EXECUTIVE SUMMARY

This report has been produced for the purpose of describing the approach taken by the Applicant (National Grid Energy Distribution) (NGED) to the design of the proposed Project, which is for the installation of a 66 kV overhead line (OHL) and underground cable (UGC) providing a connection between Upper Ogmore Wind Farm and the wider national grid (referred to as the 'Project' from here on).

The report identifies relevant planning policies relating to both the design and access at the national and local levels. It explains the considerations given by the Applicant when selecting the grid connection route and how the design has evolved in response to environmental and technical surveys, guided by appropriate planning policy.

The Project is then assessed against the standards for Good Design, which are contained in Planning Policy Wales, and which are consistent with the Welsh Government's guidance for Design and Access Statements (DAS).

Contact name Edward Purnell

Contact details 07773 476 599 | edward.purnell@wsp.com

1 INTRODUCTION

1.1 BACKGROUND

1.1.1. This Design and Access Statement (DAS) has been prepared by WSP UK Ltd (WSP) on behalf of National Grid Energy Distribution (NGED) (the Applicant). This DAS forms part of a suite of documents supporting a Development of National Significance (DNS) submission to Planning and Environment Decisions Wales (PEDW) on behalf of the Welsh Government for consent as a Development of National Significance (DNS).

1.1.2. The Project, which relates to the electricity infrastructure at Upper Ogmore Windfarm, comprises both 66 kilovolts (kV) overhead lines (OHL) and underground cables (UGC), totalling 9km, which will provide a connection between the previously consented Upper Ogmore Wind Farm and the wider National Grid.

1.1.3. This DAS should be read in conjunction with the accompanying **Planning Statement (PS)**, which sets out the planning policy context for the application, the **Environmental Statement (ES)**, which sets out an assessment of the likely significant environmental effects of the Project, and the **Green Infrastructure Statement (GIS)**. All of which have been prepared and submitted as part of this application.

1.1.4. This DAS has been prepared in line with the Planning (Wales) Act 2015[1] which sets out the requirements regarding the contents of a DAS and reflects the objectives of good design set out in Planning Policy Wales (PPW) (Welsh Government, 2024)[2] and Technical Advice Note 12: Design (TAN 12) (Welsh Government, 2016)[3]. This DAS has been informed by the guidance in Design and Access Statements in Wales (Welsh Government, 2017)[4].

1.2 PURPOSE AND STRUCTURE OF THE REPORT

1.2.1. This DAS explains the design rationale for the proposed cable route, the 'Project', providing an explanation of the design principles and concepts that have informed the Project (as described in the ES), and how access issues have been considered. The DAS is structured as follows:

- **Section 1: Introduction** – provides background information on the DAS, the approach to design, and the renewable energy policy background;

[1] Welsh Government (2015). Planning (Wales) Act 2015. Available online: https://www.legislation.gov.uk/anaw/2015/4/contents. [Accessed February 2025].
[2] The Welsh Government (2024). Planning Policy Wales (Edition 12). (Online) Available at: https://www.gov.wales/planning-policy-wales [Accessed February 2025]
[3] Welsh Assembly Government (2009). Technical Advice Note 5: Nature Conservation and Planning. (Online) Available at: https://gov.wales/sites/default/files/publications/2018-09/tan5-nature-conservation.pdf [Accessed March 2025].
[4] Welsh Government (2017). Design and Access Statements in Wales. Available online at: https://www.gov.wales/sites/default/files/publications/2018-09/design-and-access-statements.pdf [Accessed March 2025].

- **Section 2: Summary of the Proposal** – provides a summary of the site location, Project Description, and the DNS regime;
- **Section 3: Vision –** sets out the vision for the Project;
- **Section 4: Site and Context Analysis** – sets out the site's context and the relevant planning policy;
- **Section 5: Design Developmen**t – summarises the factors that were considered in the design process; and
- **Section 6: The Proposal** – shows how the Project responds to PPW's requirements for good design and highlights how the design process has produced an appropriate scheme in relation to the planning policy context.

1.3 APPROACH TO THE DESIGN

1.3.1. The design process involved in formulating the layout of the Project has been led by a combination of engineering requirements and environmental considerations that have been utilised to produce a route that is appropriate in terms of function. The route has also taken into account comments from Natural Resource Wales (NRW) and CADW (the Welsh Government historic environment service) whilst trying to avoid and reduce detrimental environmental effects.

1.3.2. This proposal has also been informed by an Environmental Impact Assessment (EIA), which has considered the likely significant effects on a range of environmental receptors. The findings of the EIA are contained in the Environmental Statement (ES). Where relevant, this DAS refers to the finding of the ES.

2 SUMMARY OF THE PROJECT

2.1 THE LOCATION OF THE PROJECT

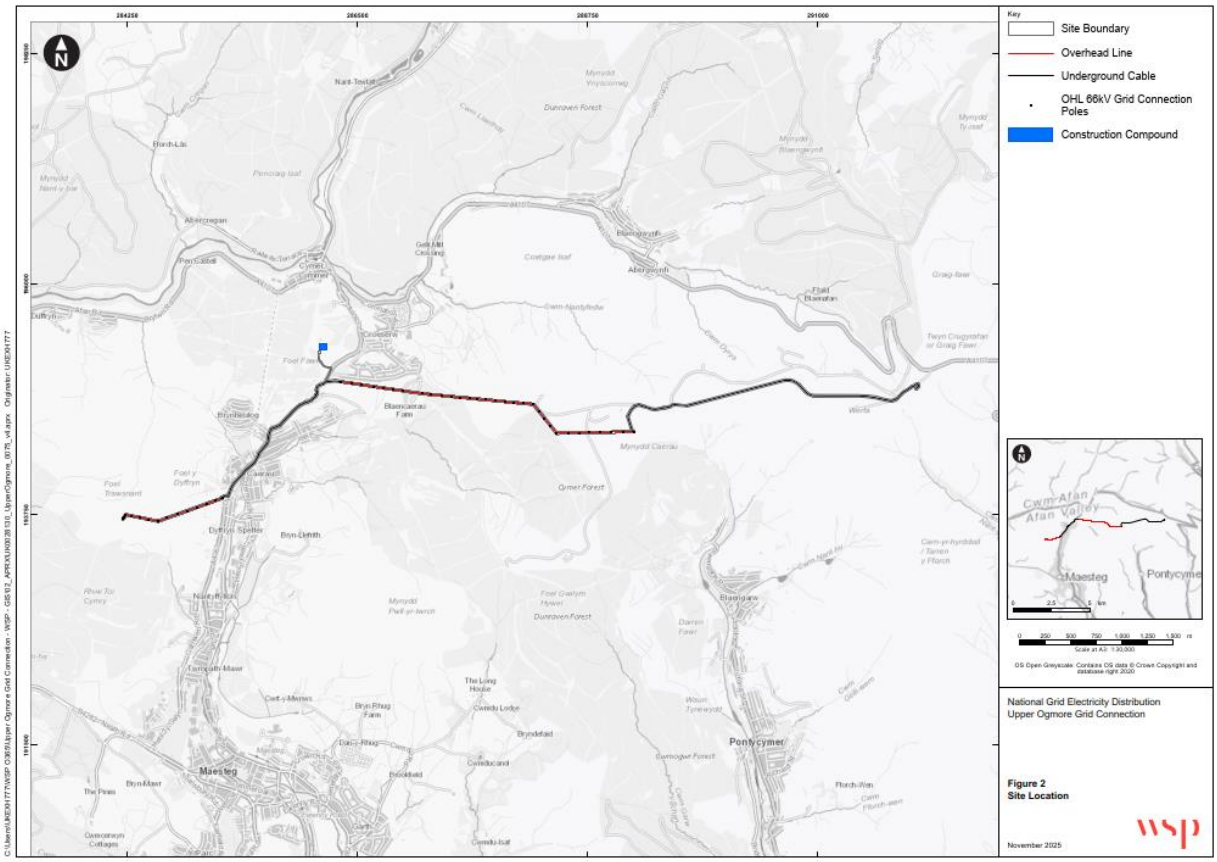
2.1.1. The Project is situated within the southwest of Wales, a linear project, the route begins at an intersection with the Foel Trawsnant Grid Connection (DNS reference: DNS CAS-02505-N3T6M4), to the south of Coeserw, and centred at Grid Reference((E) 287980, (N) 194848.

2.1.2. The Project is mainly situated within the authoritative bounds of Bridgend County Borough Council (BCBC), though it partially traverses through Neath Port Talbot County Borough Council (NPTCBC). The application Site boundary covers an area of 22.61 hectares (ha).

2.1.3. Further information relating to the location and siting of the Project is contained within Section 2 of the Planning Statement (PS) also submitted with this application.

2.1.4. For the avoidance of doubt, the proposed cable route is depicted in **Figure 2-1** below.

Figure 2-1: Site Location and Local Authority Boundaries



2.2 THE PROJECT

2.2.1. The Project, which is related to Upper Ogmore Wind Farm's electricity infrastructure, comprises both 66 kV OHL and UGC. This proposed cable route will provide the connection between the Wind Farm and the wider National Grid.

2.2.2. The main elements of the Project consist of the following:

- 4.1 km of overhead lines, including 104 wooden poles (placed side by side to form the proposed H-Pole technology to support the overhead line – resulting in 52 H-Poles in total);
- 4.9 km of underground cable, including cable ducts and 18 joint bay boxes;
- Temporary working areas, e.g., construction compound; and
- Watercourse crossing(s).

2.3 DEVELOPMENTS OF NATIONAL SIGNIFICANCE

2.3.1. The Project is considered a DNS according to the Planning (Wales) Act 2015[5], the Development of National Significance (Wales) (Regulations) 2016 (as amended)[6].

2.3.2. The requirement for a DNS application is triggered by the OHL section of the proposed Project, referencing the England and Wales High Court (Administrative Court) Decisions (2019)[7]. 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])."

2.3.3. The Project is therefore considered to be functionally interdependent with the consented Upper Ogmore Wind Farm, in that the wind farm will not be able to properly function without the proposed grid connection.

2.3.4. The Application, which comprises an Environmental Statement (ES), considers in each ES chapter the in-combination effects between the consented Upper Ogmore Wind Farm and the proposed electricity connection (the 'Project').

2.3.5. Further information pertaining to the Project's designation as a DNS and the EIA Approach is found within **Draft ES Chapter 1: Introduction** and **ES Chapter 2: Environmental Impact Assessment Approach**.

[5] Welsh Government (2015). Planning (Wales) Act 2015. Available online: https://www.legislation.gov.uk/anaw/2015/4/contents. [Accessed February 2025].
[6] Welsh Government (2016). The Development of National Significance (Wales) Regulation 2016. Available online: https://www.legislation.gov.uk/wsi/2016/56/contents. [Accessed February 2025].
[7] https://www.gov.wales/developments-national-significance-dns-guidance#:~:text=Explains%20the%20planning%20application%20process%20for%20developments,of%20national%20significance%20%28defined%20categories%20of%20infrastructure%20developments%29.

3 OBJECTIVES

3.1 THE OBJECTIVES OF THE PROJECT

3.1.1. Underpinning the design of the Project is the need to provide a deliverable grid connection that balances minimising effects on the environment whilst also achieving land owner agreements for the siting of wooden poles, the installation of overhead lines, and underground cables.

3.1.2. This means the Project has been designed to:

- ensure the visual impacts on the surrounding area are minimised;
- ensure the effects on residents are minimised as far as possible, recognising that the undergrounding stage will cause adverse effects, but these will be temporary in nature; and
- ensure that effects on other environmental considerations, including ecology, the historic environment, and the water environment, are minimised.

4 SITE AND CONTEXTUAL ANALYSIS

4.1.1. The Project covers a total distance of 9km. The Route begins at an intersection with the Foel Trawsnant Grid Connection (DNS reference: DNS CAS-02505-N3T6M4), at a tee-off point connecting the grid connection to the wider national grid (NG Ref: SS 84115 93652). The Route begins as Overhead Line (OHL), traversing approximately 1.1km (referred to as the Western OHL section). Upon reaching Caerau, the route then transitions into Underground Cables (UCG) (referred to as the Western UGC section), following the existing highway network (the A4063) for approximately 1.7km to the north (NG Ref: SS 87032 94984). Immediately before reaching Brynheulog Road, the route goes back to OHL (referred to as the Eastern OHL Section) for approximately 3 km to the east. To the northwest of Blaengarw, close to Mynydd Caerau, the route transitions back into UGC (referred to as the eastern UGC section) and continues west for approximately 3.2km. The connection will finish at the previously consented Upper Ogmore Windfarm (NG Ref: SS 92011 95059).

4.1.2. There are approximately 14 Public Rights of Way (PRoW) that interact with the Project; either terminating within the Project are crossing through, three PRoWs are crossed by the OHL.

4.1.3. There are no statutorily designated sites (SSSI, SPA, SAC, AONB, etc.) that are situated within the boundaries of the Project; there is one non-statutory designated SINC situated within the Project boundary. There is one designated historical asset, a scheduled monument located within the Project's scoping boundary, the Clawdd Mawr Dyke.

4.1.4. In terms of residential receptors, the Project is situated within close proximity of the following settlements:

- Maesteg, c.2.5km east of western OHL.
- Caerau, the western UGC, directly pass through.
- Croeserw, 0.1km north of the eastern OHL.
- Nant-y-Moel, c. 2.6km southeast of the eastern UGC.

4.2 NATIONAL POLICY

4.2.1. Given the functional nature of the Project (i.e., linear electrical infrastructure), the design guidance in NPS EN-1 *"Overarching National Policy Statement for Energy (EN-1)"* is considered to be particularly pertinent.

4.2.2. Paragraph 4.7.2 of EN-1 explains that *"Applying good design to energy projects should produce sustainable infrastructure sensitive to place, including impacts on heritage, efficient in the use of natural resources, including land-use, and energy used in their construction and operation, matched by an appearance that demonstrates good aesthetic as far as possible.* ***It is acknowledged, however, that the nature of energy infrastructure development will often limit the extent to which it can contribute to the enhancement of the quality of the area"*** (bolding our emphasis).

4.2.3. Paragraph 4.7.6 goes on to explain *"Whilst the applicant may not have any or very limited choice in the physical appearance of some energy infrastructure, there may be opportunities for the applicant to demonstrate good design in terms of siting relative to existing landscape character, land form and vegetation".*

4.3 THE DEVELOPMENT PLAN

FUTURE WALES

4.3.1. Future Wales: The National Plan 2040 (FWNP) was published in February 2021 and sets out the national development framework for development in Wales up to 2040. FWNP sets out national policy and is the highest tier of the development plan against which DNS applications are assessed. Future Wales includes a range of high-level policies which are intended to shape local authority development plans and inform decision-making on applications for DNS.

4.3.2. The relevant policies have been discussed within the Planning Statement that has been submitted as part of this application.

LOCAL DEVELOPMENT PLANS

4.3.3. As stated previously, the Project falls within the authoritative bounds of two administrative areas:

- Bridgend County Borough Council (BCBC); and
- Neath Port Talbot County Borough Council (NPTCBC).

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

4.3.4. BCBC adopted its Replacement Local Development Plan (RLDP) in March 2024. **Table 4-1** summarises the policies considered to be relevant to the Project.

Table 4-1: BCBC Local Development Plan Policies

Policy Title	Summary
Policy DNP 1: Development in the Countryside	Policy DNP1 aims to protect the countryside from inappropriate development. The policy states that *"all development outside defined settlement boundaries must ensure that the integrity of the countryside is conserved and enhanced,"* while the policy states that overall, there is a presumption against development in the countryside. Renewable energies are listed under point 8 as an acceptable use. It further states that *"countryside development must be of a sustainable form with prudent management of natural resources and respect for the cultural heritage of the area"*.
Policy DNP 4: Special Landscape Areas	Policy DNP4 seeks to ensure that the character and quality of the Country's Landscape is protected from inappropriate development. There are three SLAs which are of relevance to the Project, as designated within Policy DNP 4. The Project travels through two Special Landscape Areas, SLA 1: Foel Y Duffryn and SLA 2: Northern Uplands. Referring to the Landscape and Visual Impact Assessment (LVIA) undertaken as part of **the Draft ES Chapter 6**, that assesses the impact of the Project during construction and operation on the landscape and visual receptors surrounding the Project, the assessment concludes that while the Project may have either a moderate to major effect on some receptors, overall it is considered that due to the nature of the Project and need for renewable development this is not considered to be a key planning issue, and not considered to be inappropriate.

	Following consultation for the Scoping Decision, BCBC agree with the sentiment stated within the LVIA and have not highlighted that the Project would result in significant adverse effects on the SLAs.
Policy DNP 5: Local and Regional Nature Conservation Sites	Policy DNP5 seeks to provide protection to locally and regionally important areas of nature conservation, stating that the development within or adjacent to highlighted sites *"must be compatible with the nature conservation or scientific interest of the area".* **Draft ES Chapter 8: Ecology** details the local and regional sites of importance situated near the Project. One Site of Importance to Nature Conservation (SINC), Caerau West, has been identified as being present within the Study Area of the Project. The site is not situated within the bounds of the Project itself. Due to the nature of the Project and the proposed embedded mitigation, detailed in section 8.7 of Chapter 8, it is considered unlikely that the Project would result in an adverse impact on sites of local and regional importance.
Policy DNP 6: Biodiversity, Ecological Networks, Habitats, and Species	Policy DNP6 aims to achieve a balance between the need for development and the need to conserve biodiversity. The policy states that *"all development proposals must provide a net benefit for biodiversity and improved ecosystem resilience".* A Net Benefit for Biodiversity will be implemented within the Project, including that 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 an 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).
Policy DNP 7: Trees, Hedgerows, and Development	Policy DNP7 recognises the importance of retaining trees and seeks to ensure that suitable trees are not harmed due to development. The policy states that *"development that would adversely affect trees, woodland and hedgerows of public amenity or natural/ cultural heritage value […] would not be permitted".* As stated within paragraph 8.14.5 of **Draft ES Chapter 8**, it is stated that as part of the NBB of the project, any trees removed will be replaced at a 3:1 ratio.
Policy SP 13: Decarbonisation and Renewable Energy	Policy SP13 supports renewable and low-carbon development proposals that contribute to meeting national and local renewables and low-carbon energy and energy efficiency targets.
Policy SP 18: Conservation of the Historic Environment	Policy SP18 aims to protect the historic environment within the County Borough. The policy states that *"development proposals must protect, conserve, and where appropriate, preserve and enhance historic assets".* **Draft ES Chapter 10: Historic Environment** identifies historic assets within the vicinity of the Site, the chapter concludes that, providing the appropriate embedded mitigation measures are implemented, there will be no significant effects resulting from the Project.

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

4.3.5. NPTCBC adopted its Local Development Plan in January 2016. **Table 4-2** summarises the relevant policies associated with the Project.

Table 4-2: NPTC Local Development Plan Policies

Policy Title	Summary
Policy SP 1: Climate Change	Policy SP1 is an overarching policy within the NPTCBC LDP; the measures highlighted within the policy should influence both the plan itself and proposals within the borough.
Policy SP 15: Biodiversity and Geodiversity	Policy SP15 aims to conserve, enhance, and protect important species, habitats, and sites of geological interest. Details of biodiversity enhancement are held within **Draft ES Chapter 8**. Overall, it is considered that the Project will not result in significant negative impacts on important sites for nature and biodiversity.
Policy EN 2: Special Landscape Area	Policy EN2 highlights Special Landscape Areas, which are *"protected as far as possible from any development that would harm their distinctive features and characteristics"* The Project passes through one SLA as designated by NPTCBC, being SLA 5: Myndd Y Geli. Overall, it is considered unlikely that the project would result in an adverse impact on the SLA. This is confirmed within the scoping consultation response from NPTCBC, which does not note landscape as a key constraint.
Policy SP 18: Renewable and Low-Carbon Energy	Policy SP18 aims to accord with national guidance and strategy and seeks to deliver proportionate contributions to meet Wales' national renewable energy targets and energy efficiency targets. Point (1) of the Policy states that, where appropriate, all forms of renewable energy and low-carbon technology will be encouraged. The Project is considered to be both appropriate and necessary as it will enable a renewable energy project to be connected to the wider national grid.

4.3.6. The Supplementary Planning Guidance (SPG): Landscape and Seascape, published in May 2018, is also considered relevant to the Project.

4.3.7. Further details on planning policy and guidance is held within the Planning Statement.

5 DESIGN EVOLUTION

5.1 INTRODUCTION

5.1.1. This section sets out the process undertaken to evolve the Project. A full description of the approach to the selection of the Site and to deciding on the specific design is set out in **ES Chapter 4: Description of Development.**

5.2 ROUTE SELECTION

5.2.1. The Applicant started the route selection process in 2023. **Table 5-1** below sets the main iterations

5.3 DESIGN

5.3.1. The design of the Project is considered to be the industry standard for this type of overhead line, as the Project is for a low-voltage transmission 66 kV. The proposed H-Poles (approx. 15 metres tall) are considered to be the least intrusive to the surrounding areas.

5.3.2. The underground cables will be laid in trenches that measure 1.5m in depth, and between 600mm to 1.5m wide.

5.4 ROUTE DESIGN ITERATIONS

5.4.1. The proposed grid connection route has evolved in response to a number of environmental and technical constraints, as well as achieving land owner agreements for the siting of wooden poles, the installation of overhead lines, and underground cables.

5.4.2. **Table 5-1** identifies the main iterations of the design and the rationale for such changes.

Table 5-1: 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, cost and effects on the environment. Following this, detailed 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 the underground cable in Caerau to this tee-off was modified accordingly, ensuring the route was efficient.
Route 3 April 2025	The terminal pole of the aforementioned section connecting the tee-off from Foel Trawsnant to the underground route in Caerau was moved 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 Ogmore Wind Farm land boundary was modified to be placed on flatter terrain. Following surveys and walkovers, the route was modified to avoid the 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 Trawsnant tee-off and the position/spans of the nearby poles were modified accordingly. Various pole micro-siting variations were made in accordance with feedback from 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 meant 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.

6 THE PROPOSAL

6.1 INTRODUCTION

6.1.1. This section sets out further information about the Project and how it meets the objectives of Good Design contained in the PPW in line with the Welsh Government's DAS guidance (2017). The objectives of Good Design are included in **Figure 6-1.**

Figure 6-1: Objectives of Good Design

6.1.2. The five objectives examined in the following sections are:

- **Character** – sustaining or enhancing local character, promoting legible design and a successful relationship between public and private spaces;
- **Access** – ensuring access for all;
- **Movement** – promoting sustainable means of transport;
- **Environmental Sustainability** – ensuring the efficient and protection of resources; and
- **Community Safety** – ensuring safe and attractive spaces.

6.1.3. At the start of each section, the Welsh Government's DAS guidance (2017) requirements are captured. Additionally, in the final section, consideration is given to how the Project responds to the policy context.

6.2 CHARACTER

6.2.1. As noted in Section 1.4, EN-1 acknowledges that the nature of energy infrastructure development will often limit the extent to which it can contribute to the enhancement of the quality of the area. Notwithstanding the above, paragraph 6.2.2 provides details on the design and construction of the overhead lines, the cable trenches, and the temporary construction compound.

OVERHEAD LINE

6.2.2. 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.

6.2.3. 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, or to position the wood poles as close to field boundaries as possible to minimise effects on agricultural operations. 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 a 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.

6.2.4. The height of the wooden poles will mostly be up to 15m above ground. This is due to the foundation depths, with the amount of wood pole below ground typically being between 1.8m to 2.4m as shown in **Table 4-1** of **Draft ES Chapter 4: Description of Development** (see also **Appendix 4C**). Minimum ground clearance will be 6.3m, with an assumed minimum clearance to trees from the conductors is 4m from the nearest part of the tree.

6.2.5. 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. Conductor wire will be used for all the OHL sections. Span length between poles will likely be between 90m to 130m; however, the actual span between poles will be influenced by topography and the surrounding environment.

6.2.6. The construction and maintenance of OHL will be in accordance with NGED (2024) Policy Document: OH6/4.

Electric and Magnetic Fields (EMFs)

6.2.7. Electric and Magnetic Fields (EMFs) arise from the 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.

6.2.8. 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

6.2.9. 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** of the ES). The exact width of the trench can depend upon the final specification proposed for the cable, but it will likely be in the region of 600mm, widening to approximately 1.5m closer to the surface to enable access.

6.2.10. The cable ducts are then to be 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. Where cables are required to be laid alongside a highway, instead of beneath, a maintenance strip approximately 1m on the outside of the verge is required for future access.

6.2.11. Cables are jointed at approximately 250m intervals. The joint boxes are generally 1-2m deep and 5m x 3m in width. Once the cable ducts are laid, the cable will then be pulled through.

6.2.12. The creation of trenches, laying of cable ducts, and pulling of cable will be in accordance with NGED (2021) Standard Technique: CA6A/7.

TEMPORARY CONSTRUCTION COMPOUND

6.2.13. 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 2.1**.

6.2.14. 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.

6.2.15. Poles and cables will be stored at the temporary construction compound. Poles will be transported to the works area and laid down within the Site boundary on the day of installation.

6.2.16. 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).

6.2.17. The temporary construction compound will only be accessed by construction personnel. The compound itself will be removed following completion of construction, and the land returned to its original use.

MICRO-SITING

6.2.18. Micro-siting refers to the precise locating of infrastructure, in this instance, OHL poles. The Project has a micro-siting allowance of 10m.

6.2.19. 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 archaeologically sensitive locations and adverse changes to the 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.

6.2.20. 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).

6.3 ACCESS

6.3.1. **Draft ES Chapter 7: Traffic and Transport** describes the transport network surrounding the site and the routes to be taken by local construction vehicles. Access to the Site will be primarily provided via the existing access track for the consented Upper Ogmore Wind Farm, which branches off from the A4107.

6.3.2. No new access tracks will be constructed currently, though this may change depending on topographical constraints. The minimal number of vehicles required for the 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.

6.3.3. An outline Construction Traffic Management Plan (CTMP) (**Appendix 7A**) and outline Public Right of Way Management Plan (PRoWMP) (**Appendix 7B**) have been produced to accompany the EIA report. An explanation of these documents is outlined below:

- 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.
- 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.

6.3.4. In the normal course of operation, there is no requirement to inspect UGCs, although they are regularly tested at the joint bays. 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.

6.4 MOVEMENT

6.4.1. 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 B A4107, turning off onto the existing access track for the Upper Ogmore Wind Farm. The access routes for vehicles will vary depending on the origin of the contractors and materials.

HELICOPTER USAGE

6.4.2. 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.

6.4.3. 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.

6.5 ENVIRONMENTAL SUSTAINABILITY

RENEWABLE ENERGY

6.5.1. The Welsh Government has set a target for 100% of energy consumption in 2035 to be provided by renewable sources.

6.5.2. The Project will help to ensure environmental sustainability through the distribution of renewable energy, thus supporting the move away from fossil fuels.

AGRICULTURAL LAND

6.5.3. The H-Poles will only result in a very small permanent land take, which will not result in significant environmental effects in relation to land.

6.5.4. The vast majority of the underground cable will be laid in roads, thereby having no effect on agricultural land. A small section (250m approx. in the northern section of the route and 300m approx. in the southern section of the route) will be laid through fields. 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 refill trenches. Any surplus excavated material, which is expected to be minimal, would be removed from the site in HGVs and taken to an appropriate waste recycling or disposal facility.

LANDSCAPE EFFECTS

6.5.5. Whilst it is recognised that the ES confirms that significant effects will occur, grid connections by their nature create landscape and visual effects, and the role of the decision maker is to consider the extent to which these effects outweigh the positive benefits of the project, such that the application could be considered unacceptable. It is considered that, given the low height of the H-Poles (with a maximum height of 15m), the project is likely to blend into the landscape to a far greater degree than higher voltage connections that require taller and more prominent structures (such as steel lattice pylons).

ECOLOGY

6.5.6. **Draft ES Chapter 8: Ecology** examines the likely effects on statutorily and non-statutorily designated sites. It lists the designations that will need consideration, of which only one SINC is situated within the Survey Area, and then identifies if there are likely to be any significant effects on them. Given the distance and a lack of pathways from the site, it is concluded that significant effects arising from the Project are not likely to occur, and the sites are scoped out for further assessment.

6.6 COMMUNITY SAFETY

6.6.1. The Project will be delivered in a safe manner and ensure that the opportunities for crime are minimised through effective design measures, such as appropriate security fencing around the temporary construction compound.

6.6.2. An Outline Public Rights of Way Management Plan (PRoWMP) has been prepared (**Draft ES Appendix 7B**), which details the anticipated temporary impacts on the PRoW network and identifies mitigation measures. The Outline PRoWMP will be developed into a final PRoWMP and agreed with the Local Highway Authorities to ensure appropriate mitigation is implemented to minimise the impact of the Project on the transport network and PRoWs.

6.7 RESPONDING TO THE PLANNING POLICY CONTEXT

6.7.1. The development has been designed to minimise the take-up of land, the impact on the landscape, and the effects on biodiversity assets. Additionally, through the ES, the effects on a range of other environmental receptors have been assessed. The EIA process has helped to ensure that, where possible, the design of the grid connection has sought to avoid or reduce the environmental impacts. Detailed consideration has therefore been given to the criteria in Policy 18 of Future Wales

6.7.2. **Table 5-1** above identifies the main iterations of the design and the rationale for such changes which have been implemented to address policy requirements, including minimising effects of historic assets, forests and ancient woodland, and agricultural operations.

7 CONCLUSION

7.1 SUMMARY OF THE PROJECT DESIGN

7.1.1. The Project involves the installation of a 66 kV overhead line and underground cable connection from the approved Upper Ogmore Wind Farm, situated within South Wales, to the wider national grid.

7.1.2. The Project is therefore directly related to the distribution of power from a ‘renewable energy’ development. As a result, it positively contributes to the achievement of the UK and Wales’ goal to increase renewable energy generation to help combat the challenges posed by climate change.

7.1.3. The design of the Project has been informed by consideration of technical, environmental, and policy constraints. The purpose of this DAS has been to demonstrate the key principles that have informed the design evolution of the proposed cable route. The design has been informed by the EIA process. The ES demonstrates that the effects on a range of environmental receptors have been assessed, and a range of measures have been proposed to reduce and avoid, impacts of the Project on the environment where possible.

7.1.4. Whilst the Draft ES identified that some significant environmental effects are predicted to occur at a local level, national policy highlights that these are often inherent in the development of grid infrastructure and that the level of effect should be balanced against the environmental benefits arising from the mitigation of climate change.

7.1.5. There will be some disruption to public access within the highways during the construction phase, particularly when laying the underground cable, but this will be temporary, and once operational, the Project will not restrict access with appropriate mitigation measures. The ES states there will be no significant negative effects regarding highways and access as a result of the construction activities proposed. Furthermore, non-significant effects will be further reduced via the adoption of management measures in the form of a CTMP and PRoWMP, which will be secured by a condition.

Kings Orchard
1 Queen Street
Bristol
BS2 0HQ

wsp.com