

Elwy Solar Energy Farm

DESIGN AND ACCESS STATEMENT

P19-2023 | JULY 2020

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1.0 INTRODUCTION

- 1.1 This Design & Access Statement has been prepared by Pegasus Group on behalf of Solarcentury ("the Applicant") in support of a planning application for a Development of National Significance (DNS) for Elwy Solar Energy Farm on land at Gwernigrn Farm, St Asaph, Denbighshire ("the Application Site").
- 1.2 This application seeks full, temporary (37 years), Planning Permission for Elwy Solar Energy Farm with the following Description of Development:
- "Construction of a solar farm and energy storage hybrid farm, together with all associated works, equipment and necessary infrastructure."**
- 1.3 The Proposed Development would have a generating capacity of approximately 62MW and therefore this project constitutes a Development of National Significance (DNS). Therefore, instead of applying to the Local Planning Authority for Planning Permission, this planning application will be determined by the Welsh Government.
- 1.4 This document has been prepared in line with The Town and Country Planning (Development Management Procedure) (Wales) Order 2012 which sets out the requirements for Design and Access Statements. Additionally, this statement has also considered the objectives of good design as set out in Planning Policy Wales (PPW) and Technical Advice Note 12: Design (TAN 12).
- 1.5 The purpose of this document is to demonstrate that the Applicant has fully considered the design and access issues as part of the comprehensive preparation of the scheme prior to submission of the

planning application. This report therefore covers the following matters:

- Use – What buildings and spaces will be used for.
- Amount – How much will be built on site.
- Layout - How the buildings and public and private spaces will be arranged on the site, and the relationship between them and the buildings and spaces around the site.
- Scale - How big the buildings and spaces would be (their height, width and length).
- Landscaping - How open spaces will be treated to enhance and protect the character of a place.
- Appearance - What the building and spaces will look like, for example, building materials and architectural details.
- Access- Why the access points and routes have been chosen, and how the site responds to road layout.

1.6 This Design and Access Statement should be read in conjunction with the accompanying Planning Statement which assesses the planning policy context relating to the design and access issues of the Proposed Development.

2.0 APPLICATION SITE AND CONTEXT

- 2.1 The Application Site comprises land near to the city of St Asaph, c.2km east of Bodelwyddan and c.2.5km south of Rhuddlan. The Application Site comprises approximately 170 hectares (ha) which includes land which will be retained for grazing and an underground grid connection, whilst the actual area for development comprises approximately 106 (ha).
- 2.2 The site is located within the administrative boundary of Denbighshire County Council.
- 2.3 The parcel of land is located to the north of the A55 and to the west of the A525.
- 2.4 A number of trees and hedgerows are present across the site along with several ponds. An area of Ancient Semi Natural Woodland is located within the site to the north-west of Gwernigron Farmhouse. The River Elwy is located approximately 150m east from the eastern site boundary.
- 2.5 There are three Denbighshire County Council Public Rights of Way (PRoW) which route across the site (201/8, 208/20 and 208/18). 201/8 terminates at the eastern site boundary adjacent to the A525 dual carriageway where there is no obvious entrance or connection to the surrounding footpath network. Additionally, a Sustrans National Route 84 runs adjacent to the eastern site boundary.
- 2.6 The site does not lie within or adjacent to any statutory or non-statutory designated sites for nature conservation, however, there are several designated sites in the area within 10km of the Application Site including: Elwy Woods SSSI/SAC (c.3.5km south-west), Liverpool Bay

SPA (c.6.5km north), the Dee Estuary SSSI/Ramsar/SPA/SAC (c.9.5km north-east) and Coedydd ac ogofau Elwy a meirchion SSSI (c.3.5km south-west).

- 2.7 The site is not subject to any statutory designations relating to its historic value. The Grade II Listed Gwernigrn Farmhouse and its Grade II* Listed Dovecote is excluded from, but surrounded by the application site. Meanwhile the Grade II Listed Plas Coch, and the Grade II Listed Talardy Hotel and its-Grade II Listed garden wall and greenhouse, lie outside the eastern boundary of the site. Designated historic assets further afield include the Grade II Listed Pengwern Hall (c. 525m to the north); the Grade 1 Listed and Scheduled Monument Rhuddlan Castle (c. 1.5km to the north), St Asaph (c. 400m to the south east) , Rhuddlan (c. 1.1km to the north) and Bodelwyddan Conservation Areas (c. 1.4km to the west)- each containing numerous Listed Buildings; and the Grade II* Listed Bodelwyddan Castle (c. 2km to the south west) and its historic park and garden (c. 1.1km to the south west).
- 2.8 The site forms Grade 3a and 3b land, Grade 3b does not qualify as 'Best and Most Versatile' agricultural land. The site is capable of being used for sheep grazing during the operational life to continue an agricultural use. The agricultural potential of the site can be fully restored following the decommissioning and removal of the Proposed Development.
- 2.9 Natural Resources Wales (NRW) flood maps indicate the site lies within zones A-C1.
- 2.10 A review of the Denbighshire County Council adopted Local Development Plan has been undertaken. The proposed Application Site is located outside of the defined Development Boundary for St Asaph, being in open countryside in planning terms, and none of the land is allocated in the Local Plan for development. The site is located within a

Mineral safeguarded Area (Sand and Gravel).

- 2.11 Denbighshire County Council has published a list of additional candidate sites for the replacement Local Development Plan 2018-2033. Consultation on the additional candidate sites was undertaken between 13th January 2020 and 13th March 2020. The site is identified for solar photovoltaic development within the additional candidate sites document.

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3.0 DESIGN

3.1 A considerable number of factors have contributed towards the design and layout and connection of the solar energy farm that is proposed in this application. These are now discussed against the various aspects of Design highlighted within the Commission for Architecture and the Built Environment (CABE) which became the Design Council in 2011. CABE's guidance document regarding the production of Design and Access Statements.

3.2 An important factor in finalising the proposals has been consultation with the community and local stakeholders. This process is summarised in the accompanying Statement of Community Involvement.

Use

3.3 It is proposed that the use of the site will be for the development of a solar farm and energy storage hybrid park, involving solar photovoltaic panels, a battery storage facility and associated infrastructure. The electrical connection infrastructure also forms part of this application.

3.4 The proposed solar farm will involve the temporary change of use of the land but, due to the time restricted nature of the development, the agricultural use will be retained in the long term. The site will also be capable of dual use farming during its operational period, with small livestock able to graze the land between and amongst the panels.

3.5 In addition, the minimal physical intrusion of the development itself will mean that the panels can be removed after their 37-year lifetime and the land will revert swiftly to full agricultural use. In this respect, the proposed scheme will result in a less permanent impact than most other forms of development, including some alternative methods of

renewable energy production.

- 3.6 The inclusion of battery energy storage within the development will increase the effectiveness of the Proposed Development, balancing the release of electricity produced from a renewable source into the grid as well as providing operational support services to the grid.
- 3.7 Due to the land required for such projects, these will generally need to be located outside of urban areas and within the countryside, where the capacity to accommodate such developments exists.
- 3.8 Underground cables will be used to connect the solar and battery installation to the National Grid Bodelwyddan substation.
- 3.9 This Design and Access Statement, and the Planning Statement, set out why it is considered that this particular site is well suited to accommodate the proposed use. It is also demonstrated that the Proposed Development is supported by both local and national policy.

Amount and Fabrication

- 3.10 The extent of the Proposed Development has been refined and finalised having consideration of potential environmental effects. A series of technical assessments have been undertaken to accompany this application assessing the potential environmental effects of the Proposed Development.
- 3.11 As a result of the iterative process, the Proposed Development, although covering a large area of land, is confined to locations where effects have been limited as far as possible and are considered justifiable when considered in the context of the scheme benefits, including to support the UK's renewable energy increase and CO₂

reduction legally binding targets. Consideration of the planning balance which weighs up all material factors associated with the planning application is contained within the accompanying Planning Statement.

3.12 The Proposed Development on the main project site will consist primarily of a steel framework to support the panels and the panels themselves. In addition, inverter/transformer containers will be introduced as well as a battery energy storage compound. The scheme also includes boundary fencing and a CCTV system to restrict access and protect the scheme from theft and vandalism. This is the minimal level of development necessary to ensure that the site performs effectively with regards to its purpose of generating low carbon renewable energy.

3.13 Underground cables will be installed to connect the Proposed Development to the National Grid Bodelyddan substation.

Layout

3.14 In proposing the general layout of the development of the main project site, great consideration was given to the retention of the established field boundaries on site along with planting of native hedgerows and trees. This will help ensure that the development is well contained both physically and visually.

3.15 The photovoltaic panels will be laid out in rows across the site and will be spaced to avoid any shadowing effect from one panel to another with topography dictating exact row spacing.

3.16 Relatively small ancillary control buildings are required around the site. The submitted Site Layout drawing outlines the position of these structures within the site and the accompanying elevation drawings set

out their dimensions.

3.17 A network of operation phase internal tracks around the solar parcels will be laid to allow vehicle access to the supporting equipment to allow for maintenance. The layout and extent of the roads is limited to that necessary to provide access and maximise efficiency.

3.18 The equipment to be installed on the site includes:

- Photovoltaic (PV) arrays (fixed panels);
- 25 Substations (40ft), positioned around the site;
- Exporting Substation;
- Battery Storage Compound;
- Boundary fencing;
- A CCTV system on c.3m poles, located at strategic points around the site;
- Associated access tracks, this will include a operational phase access track as well as a temporary construction only access track. The main site access will be into the south-eastern boundary of the site from St Asaph Road (A525). An additional access has been proposed into the eastern site boundary, this access is intended for use during the construction phase only;
- Storage container(s) for spare parts etc.;
- Relevant communications and monitoring equipment.

3.19 In terms of the grid connection for this site, 33kV underground cables will be laid between the main project site and the National Grid substation at Bodelwyddan. The Bodelwyddan substation is a Tee off the Deeside to Pentir 400kV overhead line which forms part of the

national transmission network. Supergrid transformers convert the 400kV voltage down to 132kV for use on the local, Distribution Network Operators (DNO) network but have a tertiary connection point which permits a connection at 33kV. This will involve the installation of various items of electrical equipment to manage the conversion.

- 3.20 The grid connection route corridor is included as part of the planning application. This will require underground cabling to connect the site to the substation. The cable route will involve horizontal directional drilling (HDD) under the A55 to enable connection from the site to the substation, as well as potentially much shorter drill sections to cross other, smaller obstacles.

Scale

- 3.21 The scale of development on site has been determined by the equipment necessary to efficiently generate renewable energy. All of the plant buildings on site will be at or below single storey level (i.e. approximately at or below c.4m in height). Even when viewed from nearby public vantage points, the scale of development will not be overbearing due to its limited height and relatively benign appearance (i.e. lack of movement and external illumination etc.).
- 3.22 Each array of panels within the field will be mounted on a simple metal framework. The main purpose of the mounting structure is to hold the modules in the required position without undue stress. It must be capable of withstanding appropriate environmental stresses for the location, such as wind or snow loading. The framework will be driven into the soil between 1 and 2 metres deep, removing the need for deep foundations. Such supporting systems are designed to avoid the use of concrete foundations and are reversible. However, the use of concrete foundations may be used at specific locations where the localised

ground conditions require it.

3.23 With regard to the proposed ancillary buildings, they are designed to be as small as possible while still being capable of undertaking their required function within the site. Such structures will not be prominent within the surroundings and be smaller than many isolated stores and barns typically found in the countryside environment.

3.24 The grid connection cables will be buried underground and will therefore be appropriate to the setting and location.

Landscape

3.25 The impact upon the local landscape has been given careful consideration in putting forward the proposed scheme. While a scheme of this size will inevitably have an effect on landscape character as set out above, it has been located so to minimise effects as far as possible.

3.26 It is considered that the landform and vegetation including mature trees and hedgerows of the site and surrounding area, make this location ideal for utilisation as a solar farm and the effects resulting from the installation of the development. The mature trees and hedgerows offer significant screening and allow for the proposals to be successfully accommodated.

3.27 A Landscape and Visual chapter is included in the Environmental Statement which considers the landscape and visual effects of the Proposed Development. Potential visibility of the Application Site is generally limited throughout the surrounding landscape by intervening landform and vegetation. The landscape and visual assessment demonstrates that there would not be significant views from the Clwydian Range and Dee Valley AONB, which is located some 3.6km to

the east of the site at its nearest point. The limited effects are due to the distance together with clear separation of landscape character.

3.28 In terms of visual effects, consideration was undertaken from nine viewpoints. Two of these viewpoints are within the site along the Public Rights of Way and would therefore be subject to significant change from the proposed development. The hedgerow and tree planting included within the scheme would mitigate such visual effects once it has matured sufficiently, reducing the residual effect in this regard. Other viewpoints from outside are not considered to be significantly affected by the proposed development

3.29 The underground grid connection will be buried and will avoid landscape obstacles such as trees and hedgerows.

Appearance

3.30 Visual effects of the Proposed Development have been assessed in the Landscape and Visual Chapter of the ES. In the longer term as a result of the mitigation planting visual effects would be reduced. The planting plan provides for the introduction of significant new hedgerow planting and identifies where hedgerows will be maintained to between 3 and 4 m in height to maintain visual screening.

3.31 In any case, the proposed measures of introducing additional new planting, where necessary hedgerows have been infilled to further screen potential views of the site. Additionally, new hedgerows are proposed to the north of Gwernigrn Farmhouse which will help screen views and a setback has been incorporated to ensure the setting is respected.

3.32 Containers which house equipment will be recessively coloured so as to

blend in with the landscape.

- 3.33 The panels are designed to be non-reflective and the Glint and Glare study which supports the application demonstrates that there will be no effects on road users owing to the existing vegetation. Nor will there be reflections at residential properties owing to existing and proposed vegetation and intervening buildings.

Crime Prevention / Community Safety

- 3.34 During the construction period, two temporary secure compounds will be used for storage and offloading (one at each entrance). It is proposed that there will a 24hr security presence on the site during the construction phase.

- 3.35 The design of the site includes two particular security features:

- perimeter fencing: two forms of fencing of at least 2m in height are included in the design – wire strung ‘deer’ fencing, and welded wire mesh. These will be applied to individual compounds to exclude trespassing around the equipment.
- pole-mounted CCTV system serves an important purpose in protecting the valuable equipment within the Application Site. These security features will deter potential criminal activity as well as potential unauthorised access into the site.

- 3.36 The perimeter fencing includes badger and small mammal friendly access points to allow the passage of small mammals across the Application Site. Its siting has however also considered the impact on the appearance of the area and has been set away from the boundaries of the fields (panels are at least 6m from the field boundaries or 10m

from the perimeter boundaries) , ensuring that there is separation from the existing vegetation and any sensitive ecological features. The existing and proposed mitigation planting will contribute towards visual screening of the site.

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4.0 ACCESS

Construction Phase

- 4.1 A temporary site access is proposed into the eastern site boundary, from St Asaph Road (A525), this access is intended for use during the construction phase only.
- 4.2 Access during construction will also be taken from the existing access point to Gwernigron Farm from the A525. A new track will be laid alongside the existing sealed roadway to minimise shared use of that road with residents.
- 4.3 Two temporary offloading areas are proposed adjacent to the access points, towards the eastern site boundary. These will be where all deliveries are made throughout the construction process. Smaller vehicles will then distribute materials and plant to the remaining sections of the site.
- 4.4 Cars and small commercial vehicles will also access the site management area, which is to be located on the current farmyard, to the south west of the Gwernigron Farm residences.
- 4.5 A detailed Construction Traffic Management Plan (CTMP) has been prepared to demonstrate how the site will be accessed during the construction period. The CTMP provides details of the number of deliveries during the construction period and also provides details of vehicle routing to access and exit the site.

Operational Phase

- 4.6 Once fully operational the site access will be into the south-eastern

boundary of the site from St Asaph Road (A525). This access will link to a network of internal tracks around the site.

- 4.7 Once in full operation, the solar farm will not generate any significant traffic movements, with security and maintenance staff the only likely infrequent visitors who will use the network of internal tracks.
- 4.8 Pedestrian access (other than to users of the Public Rights of Way) to the solar farm will be restricted for security purposes to prevent theft and vandalism.
- 4.9 The areas of solar panels cover a number of existing easements for utilities crossing the site (overhead electricity and telecommunication wires, underground gas pipes and cables connecting offshore wind farms). Provisions will be in place for the owners of these assets to gain access as required.
- 4.10 It is proposed to divert the existing PROW within the site as illustrated on the Site Layout Plan. Under Section 251 of the 1990 TCPA Act, a secondary consent is sought to allow the diversion of footpaths 201/8 and 208/20.

5.0 SUMMARY AND CONCLUSIONS

5.1 The Design and Access arrangements of the Proposed Development have been assessed. It is considered that due to the benign appearance of the scheme and the natural screening afforded to the site, that the development proposals will not have an unacceptable adverse effect on the visual or amenity value of the wider countryside.

5.2 The site and extent of development have been carefully selected. It is naturally screened and supplemented by additional planting which, coupled with the low-profile physical height of the solar panels and associated equipment helps minimise views of the Proposed Development.

5.3 The equipment forming the development has been selected on the basis of maximising efficiency and productivity, but also to minimise visual effects where possible.

5.4 Safe access can be taken into the site from the public highway and within the site. Mitigation measures will be employed to ensure construction traffic is managed appropriately as outlined within the accompanying CTMP.

5.5 There are a number of benefits associated with the Proposed Development which have been assessed within this Design and Access Statement as well as the accompanying Planning Statement and include;

- Making a valuable contribution to providing decentralised renewable energy;
- Delivering biodiversity enhancements;

- Agricultural uses can continue during operation (grazing of sheep);
- Temporary nature of the development, following cessation of renewable energy generation at the site, the land will revert back to its previous use.

5.6 Overall, the development proposals are appropriate in terms of design and access and the development clearly represents a necessary step towards meeting the UK's legally binding climate change and renewable energy obligations. It is therefore considered that the application be supported, and planning permission granted.

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