DESIGN AND ACCESS STATEMENT:
PROPOSED SOLAR FARM

PANTYBRAD ROAD | LLANTRISANT | CF72 8YY

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1. INTRODUCTION

1.1 INTRODUCTION

1.1.1 This Design and Access Statement accompanies a planning application submitted on behalf of Infinite Renewables for the construction and operation of a 2MW (generation capacity) solar farm on land north of the Royal Mint, Llantrisant.

1.1.2 The purpose of this Design and Access Statement is to allow the applicant to demonstrate that development proposals are based on a thoughtful design process and a sustainable approach to access. The DAS should also demonstrate how the development proposals have evolved during the design process.

1.1.3 This statement sets out the design and access principles for the proposed development in accordance with the Charted Associated of Building Engineers (CABE) guidance.

1.1.4 The application is also accompanied by a Planning Statement and technical appendices. The Planning Statement provides an appraisal of the proposed development against the Development Plan and other material considerations. The technical appendices contain the environmental assessments.

1.1.5 This Design and Access Statement is set out in the following way:

- **Chapter 1** provides an introduction to the development;
- **Chapter 2** describes the process of identifying the area of search and high-level designing considerations;
- **Chapter 3** considers the assessments undertaken; and
- **Chapter 4** presents the design of the solar farm.

1.2 OUTLINE DESCRIPTION OF THE SITE AND SURROUNDINGS

1.2.1 The proposal site comprises c. 2ha of typical agricultural pasture land, located west of Pantybrad Road, as shown on drawing IR1013/04/01 and Figure 1.1 below. Located within the same field unit, but not within the proposal site, is a recently constructed wind turbine, known locally as the 'Daffodil' (planning ref. 16/0124/10).

1.2.2 The site is located on sloping ground (between c.115m and c.130m AOD) which forms the lower slopes of Mynydd y Glyn and is surrounded by mature hedgerows, areas of scrub and trees.

1.2.3 The site lies within a semi-rural setting, with agricultural land surrounding the site to the north and an industrial built-up area including the Royal Mint and Llantrisant Business Park, located to the south.

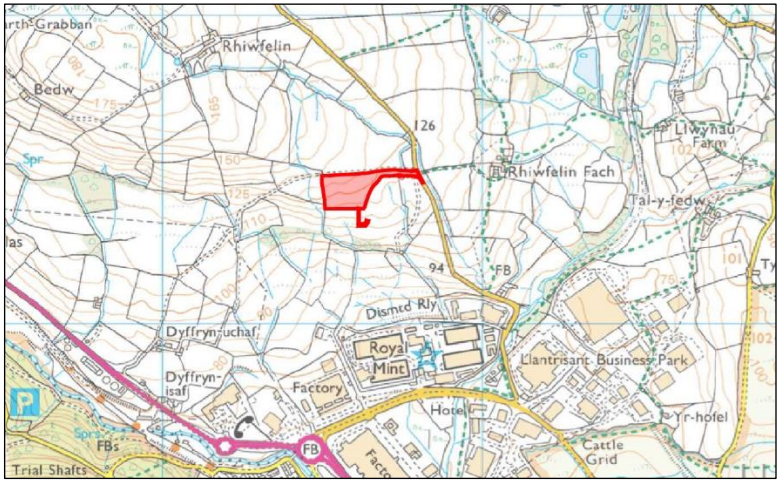

Figure 1.1 Site Location

Figure 1.2 View of the application site looking west from the site entrance

Figure 1.3: View of the application site looking south

Figure 1.4: View of the application site looking east

1.3 THE PROPOSAL

1.3.1 Infinite Renewables are seeking planning permission to construct and operate a solar photovoltaic (PV) farm on approximately 2ha of farmland located to the north of the Royal Mint and west off Pantybrad Road, Llantrisant, CF72 8YY.

1.3.2 The proposal will comprise the following:

- Photovoltaic (PV) panels and associated supporting frames;
- String Inverters, attached to the underside of the panels, and substation (housed in prefabricated containers)
- Associated cabling (largely below ground);
- Post and rail fencing; and
- Temporary set down areas

1.3.3 The primary purpose of the solar farm is to supply green energy to the Royal Mint who are a large consumer of energy. The facility will have an export capacity of 2MW, i.e. the amount of power that is supplied. The solar arrays will be connected to string inverters and a substation which converts the electricity generated by the PV panels. A below ground cable will connect the facility to the point of connection.

2. DESIGN PROCESS

2.1 DESIGN PROCESS

2.1.1 Site selection is a critical aspect of the solar farm development process. The selection process is based on a number of factors including the distance of the facility to the point of connection, proximity to sensitive receptors (such as residential properties and ecological sites), site orientation and inclination, ground conditions, current use of the land and vehicle access. A review of potential sites was undertaken that could serve the given point of connection to assess the potential for the development of solar energy projects.

2.1.2 Based on the high-level selection criteria mentioned above the proposal site was considered suitable to accommodate a proposal of this scale. Within this area, the area of land has been identified to accommodate PV deployment, located within a suitable distance of the Royal Mint.

2.1.3 Assessment work has identified the likelihood of any significant environmental impacts resulting from the proposal on identified receptors. Detailed assessments also identified, where necessary mitigation is to be incorporated into the design of the scheme to ensure environmental acceptability and enhancements.

2.2 COMMUNITY ENGAGEMENT

2.2.1 Infinite Renewables is committed to engaging with the local community to give residents and other interested parties the opportunity to find out more about the development and express their views. Pre-application consultation (PAC) has been undertaken as part of the planning application process. A Pre-Application Consultation Report has been produced summarising community engagement activity undertaken prior to the submission of the planning application.

3. SCOPE OF ASSESSMENTS

3.1 SCOPE OF ASSESSMENTS

3.1.1 Three environmental assessments have been undertaken to inform the design of the proposed solar farm. As part of the design process, a number of factors were highlighted including retaining and managing existing vegetation, and enhancing biodiversity.

3.1.2 The identified improvements, constraints and suggested mitigation, were then mapped to inform the final design.

3.2 ECOLOGY AND BIODIVERSITY

3.2.1 A Preliminary Ecological Appraisal has been undertaken for the site which will guide any mitigation and enhancement opportunities that can be included into the proposal.

3.2.2 Two statutory designated sites lie within 1km of the site boundary; Rhos Tonyrefail SSSI and Llantrisant Common and Pastures SSSI and one non-statutory designated site Y Gweira Pasture Wildlife Trust Reserve. The Preliminary Ecological Appraisal concludes that there are no potential impacts on these sites from the proposed development.

3.2.3 The site largely comprises improved and semi-improved grassland, which has been identified to be of low ecological value, and presents minimal ecological constraints to development. The site is bordered by hedgerows, a ditch and small areas of marshy grassland which are considered to be of ecological interest due to their potential to support a range of protected species. All hedgerows and ditches bordering the site will be retained with a 4m perimeter buffer included between the hedgerows and panel rows. In addition, a small area of purple moor-grass and rush pasture present to the south of the site will be retained and protected during the construction and operation of the solar farm.

3.2.4 Overall, the in-field habitats are of low ecological value and are unlikely to impacted by the proposed development. In addition, with mitigation measures and proposed biodiversity enhancement, the Preliminary Ecological Appraisal concludes there would be net benefits to biodiversity across the site.

3.3 COAL MINING RISK ASSESSMENT

3.3.1 Coal Authority mapping data suggests that a small coal seam outcrop is potentially located beneath parts of the development area. However, given the lack of information on the seam it is considered that it is likely that the seam is of inferior size/quality and therefore highly unlikely that the seam would have been historically worked. In addition, there is a substantial thickness of superficial drift cover below the site which would have made working the seam uneconomical.

3.3.2 It is therefore concluded that there is insignificant risk to the proposed development caused by unrecorded shallow coal mine workings.

3.4 LANDSCAPE AND VISUAL

3.4.1 A Landscape and Visual Appraisal has been undertaken for the proposal. The site is concluded to be of low landscape value influenced by the presence of the operational wind turbine and the near distance to the lower lying industrial areas principally focussed upon the Royal Mint facility.

3.4.2 Key to consideration of the landscape and visual impact is the design of the site. The layout has evolved through several iterations, informed by the assessment process. The level and distribution of existing vegetation means visual effects would be localised and of limited duration. The proposals are considered to be acceptable in landscape and visual terms.

4. SCHEME DESIGN

4.1 GENERAL CONSIDERATIONS

4.1.1 The proposed development is a 2MW solar farm which will supply green energy to the Royal Mint, a key local employer who consume large amounts of energy. The proposal will provide an opportunity to help reduce the environmental impact of the Royal Mint's activities and contribute towards the Welsh Government's low carbon targets.

4.1.2 The importance of renewable energy generation as part of the response to climate change is recognised at all levels of governance in Wales. Furthermore, renewable energy from solar supports the national economic objective to decentralise energy supply and to lessen dependence on fossil fuels. The Government consequently considers that the wider benefits of renewable energy schemes to society and the economy are significant and must be given weight by decision makers in reaching their decisions on individual planning applications.

4.1.3 Rhondda Cynon Taf County Borough Council has signed up to the UK100 Clean Energy Commitment and has an ultimate goal of becoming 'Net Zero' by 2050.

4.1.4 A typical site arrangement will include ground mounted PV panels aligned east to west, predominantly facing south, similar to that as shown in figure 4.2 below. There will also be a substation and the site will be secured by the existing post and wire fence along the northern and western boundary and a new post and rail fence along the eastern and southern boundary.

4.1.5 Below ground cabling will link the site from the proposed substation to the existing wind turbine transformer. This will then connect into the existing underground connection to the Royal Mint, where it will provide electricity.

Figure 4.1 Image of ground mounted PV panels

Figure 4.2 Typical PV panel arrangement

4.2 AMOUNT

4.2.1 The application site measures approximately 2ha and is located on typical agricultural pasture land to the north of the Royal Mint.

4.2.2 The proposed solar panels require no foundations works as the arrays are supported by steel frame posts which are driven into the ground to a depth of circa 1.5m. The substation unit will sit on concrete base to ensure stability. The site will be secured by the existing post and wire fence along the northern and western boundary and a new post and rail fence along the eastern and southern boundary.

4.2.3 The panels are constructed from impermeable materials; rain water will run off directly onto the ground below. As the panels are raised off the ground, the surface below remains permeable. The amount of land that is made impermeable by the installation of the facility is limited to the base pad of the substation. The land on the site can continue to be used for agricultural purposes (sheep grazing or similar) or for biodiversity enhancement following installation of the panels.

4.2.4 During the construction phase a temporary construction compound will be required. The compound will accommodate deliveries of materials and equipment during construction. It is proposed that this will be temporarily located adjacent to the site entrance on the existing hardstanding area, secured with a temporary steel fence.

4.2.5 The proposal will have a lifespan of 25 years, after which all equipment will be removed from the site and the land will continue to be used for agriculture.

4.3 SCALE

4.3.1 The proposed solar farm will consist of photovoltaic panels laid out in arrays running from east to west facing south across the site and will be angled between 10° and 35° to the horizontal. Each array will be mounted on simple metal framework.

4.3.2 Each panel is approximately 1m wide and 2m in length. All panels will be mounted on frames with a maximum height of 2.5m above ground level; the lowest part of the panel will measure approximately 800mm above ground level.

4.3.3 The rows of panels will be set 1.5m apart to avoid shadowing and allow for scheduled maintenance. Substations are typically 3m in height.

4.4 APPEARANCE

4.4.1 The layout of the solar farm has been designed to fit within the context of the area and all existing perimeter hedgerows will be retained and enhanced. The identified constraints outlined above has had an input into the design of the solar farm.

4.5 LANDSCAPING

4.5.1 Opportunities exist within the scheme for general biodiversity enhancements to be undertaken; the following have been incorporated into the site design:

- All existing boundary hedgerows will be retained, including hedge trees. The hedges will help to screen visibility from publicly accessible areas to the solar panels;
- A 4m perimeter buffer included between the hedgerows and proposed panels within which a meadow grassland mix will be allowed to naturally recolonise (sown if required) subject to a low intensity management regime (an animal cut or grazing). The meadow grassland fringes will provide enhanced habitat fringes and contribute to increasing biodiversity levels in the local area;
- Beneath the panels, grass pasture will be sown and managed a meadow grassland, allowed to grow or grazed by sheep as deemed appropriate;

- By the site entrance a limited number of additional standard sized hedge trees will be planted along the hedgerows at random spacing's to increase tree coverage levels, filter visibility and provide green links between existing woodland and scrub areas locally; and
- Habitat creation for reptiles including simple structures such as hibernacula and grass snake eff laying heaps, and reduced management of grassland along boundaries and ditches.

4.6 ACCESS

4.6.1 The proposal site will be principally served via Pantybrad Road utilising the existing wind turbine access track and entrance. This will provide access during the construction phase and subsequent maintenance visits. As part of the construction phase a temporary set down area, adjacent to the site entrance on the existing hardstanding parking area, will be provided for the delivery of materials, equipment and welfare facilities.

4.6.2 It is estimated that approximately 10 staff will be on site during the construction period, depending on the phases of the construction schedule.

4.6.3 Once constructed, during the operational phase of the site, there will be no site based staff, only be a requirement for routine inspections/maintenance by light goods vehicle approximately three to four times a year. The access during the operational phase will be as per the construction routes.

5. SUMMARY AND CONCLUSIONS

5.1 SUMMARY AND CONCLUSION

5.1.1 This Design and Access Statement accompanies a planning application submitted on behalf of Infinite Renewables.

5.1.2 It is proposed to construct and operate a 2MW solar farm across approximately 2ha of pastureland north of the Royal Mint. The application site is located off Pantybrad Road, Llantrisant, CF72 8YY.

5.1.3 Details are provided on the site, principal design features and potential environmental considerations of the proposal.

5.1.4 This statement discusses the findings of the scope of assessments undertaken to support the planning application in parallel with an inclusive scheme of community engagement.

5.1.5 It is considered that this DAS illustrates how the development proposals have been subject to a thoughtful design process by a range of professionals, demonstrating a sustainable approach to accessibility and design of the solar farm.


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