Fferm Solar Larnog

Environmental Statement

Volume II, Chapter 5: Project Description

November 2026

Issue Sheet

Report Prepared for Trydan Gwyrdd Cymru

Document Title

Volume II, Chapter 5: Project Description

Disclaimer

This report has been prepared by WSP UK Ltd with all reasonable care and diligence within the terms of the contract with the Client, Trydan Gwyrdd Cymru. We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above. We accept no responsibility to third parties to whom this report, or any part, thereof is made available. Any such party relies upon the report at their own risk.

List of Contents

5. Project Description....1
5.1. Introduction....1
5.2. The Proposed Development....1
5.3. Construction Phase....10
5.4. Operational Phase....15
5.5. Decommissioning Phase....16
5.6. Major Accidents and Disasters....18
5.7. Embedded Environmental Measures....19

List of Tables

Table 5.1 - Solar array parameters and descriptions....4
Table 5.2 - Project Substation and BESS parameters....6
Table 5.3 - Ancillary infrastructure works parameters and descriptions....8
Table 5.4 - Estimated quantities of stone, sand and concrete during construction....12
Table 5.5 - Decommissioning methodologies and waste arisings....17
Table 5.6 - Summary of environmental measures to be implemented as part of the Proposed Development....20

List of Figures (see Volume III)

Figure 5.1: Indicative Site Layout
Figure 5.2: Typical Solar Arrangement
Figure 5.3: Typical Transformer Station
Figure 5.4a: Substation Compound Layout
Figure 5.4b: Substation Compound Elevations
Figure 5.5a: Deer Fence and CCTV General Arrangement
Figure 5.5b: Palisade Fence Plan and Access Gates General Arrangement
Figure 5.6: Indicative Grid Connection
Figure 5.7: Cable Trench Cross Sections
Figure 5.8: Construction Compounds and Access

5. Project Description

5.1. Introduction

5.1.1. This chapter provides a description of the Proposed Development, including:

- a description of the Site, as depicted in **Figure 1.1**;
- a summary of the proposed infrastructure and the approach to the construction, operational and decommissioning phases; and
- the embedded measures incorporated into the Proposed Development to avoid, reduce or offset potential adverse environmental effects.

5.1.2. The description of the Proposed Development presented in this chapter is a narrative on the planning consent sought and provides the basis for the assessments presented in **Chapters 6** to **11** of this Environmental Statement (ES), in accordance with the requirements of Regulation 17 and Schedule 4 of the Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017 ('the EIA Regulations)[1].

5.1.3. The area of land required for the construction, operation, maintenance and decommissioning of the Proposed Development is shown as the Site in **Figure 1.1: Site Location Plan**. The Site is approximately 46.54 hectares (ha) in size and represents the envisaged current maximum extent of land which is required to construction and operate the Proposed Development.

5.2. The Proposed Development

Overview

5.2.1. This section describes the main components of the Proposed Development which consists of the following:

- Ground mounted Solar Photovoltaic (PV) modules with a total installed capacity of approximately 35 MW. The PV modules will be mounted on fixed-tilt support structures facing south.
- Project Substation Compound, which will include substation, switching and control equipment, storage areas, vehicular parking, material laydown areas, perimeter fencing, lighting, security infrastructure and associated ancillary equipment. Battery Energy Storage Systems (BESS) would also be included within the Project Substation Compound.

[1] UK Government (2017). Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017 [online]. Available at: https://www.legislation.gov.uk/wsi/2017/567/contents [Accessed: August 2026].

- Balance of Solar System (BoSS) which comprises: inverters, transformers and switchgear.
- Ancillary infrastructure works including underground cables, boundary treatments, security equipment, weather stations, landscaping, biodiversity enhancement, access tracks, earthworks, surface water management, and any other works identified as necessary to enable the development.
- Permanent diversion of Public Footpath L1/5/2; and
- Associated safety and security infrastructure required for the construction, operation and decommissioning of the Proposed Development.

5.2.2. An indicative layout of the Proposed Development is shown on **Figure 5.1: Indicative Layout**.

Ground Mounted Solar PV Generating Station

Solar Arrangement

5.2.3. The proposed solar PV arrays will be arranged to maintain the existing field boundaries and hedgerows. Hedgerow planting / strengthening is proposed as part of the Proposed Development to provide further visual screening of the Proposed Development from nearby views. The site layout is presented **Figure 5.1: Indicative Layout**, which includes the indicative arrangement of the solar arrays.

Solar PV Modules

5.2.4. The Proposed Development would include bifacial solar PV modules with an anti-reflective coating. Solar PV modules convert sunlight into electrical current (as Direct Current (DC)). Each module would be approximately 2.4m x 1.3m and consist of a series of photovoltaic cells beneath a layer of toughened glass. The frame is typically built from anodised aluminium or steel. Bifacial PV modules use a glass backsheet instead of an aluminium backsheet. This allows solar irradiance to be absorbed from the rear-side of the module as well. The Proposed Development is anticipated to comprise approximately 50,000 – 55,000 solar PV modules.

5.2.5. The solar PV modules would be fixed to a mounting structure in groups known as ‘strings’. The string length is determined by the selected module and inverter characteristics, as well as the expected site temperatures. The modules are expected to be mounted on galvanised steel support structures known as ‘tables’ secured to the ground using driven piles or equivalent foundations.

5.2.6. Subject to the final design, the mounting structures will comprise fixed-tilt frames. Various factors, including site topography, field size and environmental constraints will help inform the number and arrangement of the solar PV tables in each row. The inter-row spacing between adjacent rows of solar arrays would be approximately 3m.

Mounting Structures

5.2.7. Each string of solar PV modules will be mounted on a metal rack, known as a mounting structure. The mounting structures are usually supported by galvanized steel poles, pile-driven into the ground to a depth of approximately 1.5 – 3.0m, although this would be dependent on geotechnical studies and 'pull-out' tests. There is also an option for some structure legs to be supported by concrete footings to reduce piling depths, if required due to the ground conditions.

5.2.8. The mounting structure carrying the solar PV modules will be designed to face southwards on a fixed angle of tilt. The solar PV modules would be angled at a slope of 10 to 30 degrees (currently assumed to be 17 degrees) from horizontal to optimise daylight absorption.

5.2.9. Once attached to the mounting structure, the minimum height of the lowest part of the solar PV modules will be approximately 80cm above ground level (AGL) and the maximum height of the solar PV modules will be approximately 3.5m AGL. The height for each solar PV module can be influenced by several design factors including, flood risk (and associated historic flood levels), local topography, visual receptors, land use practices, and the solar PV module type and configuration. A typical solar array arrangement is presented in **Figure 5.2: Typical Solar Arrangement**.

Balance of Solar Systems (BoSS)

5.2.10. The BoSS refers to the components and equipment that convert the Direct Current (DC) electricity collected by the solar PV modules into Alternating Current (AC) electricity used transmitted by the grid. The principal components of the BoSS include inverters, transformers, and switchgear as follows:

- Inverters: Inverters are required to convert the DC electricity collected by the PV modules into AC, which allows the electricity generated to be exported to the grid. Inverters are sized to cope with the characteristics of the DC electricity that is generated by the solar PV modules. The Proposed Development is anticipated to include approximately 95 string inverters, distributed throughout the solar arrays.
- Transformers: Transformers are required to 'step-up' the voltage of the electricity generated before it reaches the Project Substation. The Proposed Development is anticipated to include approximately six transformer stations.
- Switchgear: Switchgear refers to a variety of electrical control equipment such as disconnect switches, fuses and circuit breakers to control, protect and isolate electrical equipment. Switchgear is used both to de-energise equipment to safely allow maintenance to be carried out and to clear faults downstream.

5.2.11. Electricity generated by the solar PV modules would be collected via string inverters distributed throughout the solar arrays, which convert DC electricity to AC. String

inverters comprise small electrical cabinets which are typically located beneath or adjacent to panel tables, where they are largely screened by the solar modules themselves.

5.2.12. The BoSS transformers and switchgear will be housed within a Transformer Station. The transformer stations will be arranged at intervals across the Site and would be mounted on concrete pads or concrete columns surrounded by permeable hardstanding. The transformer stations are typically the size of a shipping container, approximately 6m x 3m in plan, and up to approximately 3m in height. The Transformer Station would be painted in a colour in keeping with the surrounding environment, often with a green painted finish.

5.2.13. A typical Transformer Station is presented on **Figure 5.3: Typical Transformer Station**.

5.2.14. **Table 5.1** details the parameters used in the EIA for the proposed solar array.

Table 5.1 - Solar array parameters and descriptions

Equipment and Parameter		Measure
Solar PV Generation	Gross electrical output capacity (DC)	35 MW
Solar PV Modules	Number of solar PV modules	Approximately 50,000 – 55,000
	Solar PV module dimensions	2.4m x 1.3m
Solar arrays	Solar array – minimum height of the lower edges of modules	0.8m AGL
	Solar array – maximum height of the top edges of modules	3.5m AGL
	Solar module tilt angle	South facing, approximately 10-30 degrees
	Distance between arrays	3m
Solar mounting structures	Depth	1.5-3.0m
String Inverters	Number	Approximately 95
Transformer Stations	Number	6
	Dimensions	Approximately 6m x 3m and up to 3m in height.

Project Substation Compound

5.2.15. The location of the Project Substation is presented in **Figure 5.1: Indicative Layout**.

5.2.16. The Project Substation will facilitate the export of electricity from the Proposed Development to the grid network (see **paragraph 5.2.45**).

5.2.17. The final design and configuration of the Project Substation will be determined through detailed design. The Project Substation compound dimensions have been specified to accommodate a 33kV substation. The compound will house transformers, switchgear, metering equipment, protection control and relay equipment, supervisory control and data acquisition (SCADA) and telecommunications systems, auxiliary power systems, and associated operational infrastructure.

5.2.18. A control building would also be provided, which may comprise either a painted block building or of prefabricated construction with external colours and finishes sensitive to the context to be confirmed prior to construction.

5.2.19. The Project Substation is anticipated to have a maximum height of approximately 3.5m AGL. **Figure 5.4a: Substation Compound Layout** shows the proposed layout and **Figure 5.4b: Substation Compound Elevations** shows the elevations of the Project Substation and BESS.

5.2.20. The BESS and substation infrastructure will be located within a shared fenced compound comprising areas of hardstanding, internal access roads, equipment maintenance areas and associated fire-water storage and containment infrastructure. The overall size of the compound is anticipated to be approximately 60 x 54m. Foundations for buildings and electrical infrastructure are anticipated to extend to a depth of up to approximately 1.7m below ground level.

5.2.21. Permanent palisade steel fencing (up to 2.75m high) will be installed around the perimeter of the Project Substation Compound. The Project Substation Compound would include lighting in accordance with relevant standards but will not be permanently lit. Refer to **Figure 5.5a-b** for details regarding typical fencing.

Battery Energy Storage Systems (BESS)

5.2.22. The BESS will be located within a dedicated battery storage area within the Project Substation Compound. The BESS units would be housed within purpose-built containers with a maximum height of up to 3 m. The BESS is designed to provide energy storage and grid support services. It will primarily allow electricity generated by the Proposed Development to be stored and exported when required, while also supporting the stability and operation of the grid network.

5.2.23. The BESS will comprise battery storage units, power conversion systems, medium-voltage power station transformers, switchgear, protection and control systems, Supervisory Control and Data Acquisition (SCADA) equipment, heating, ventilation and air conditioning systems, fire detection and safety systems, underground cabling, access roads, fire-water storage and containment infrastructure, and associated ancillary equipment, all of which will be located within the Project Substation Compound.

5.2.24. The BESS will incorporate a fire-water containment system designed to ensure that contaminated fire-fighting water generated during an emergency event is retained on Site and prevented from contaminating surrounding land, surface water and groundwater receptors. As noted within **Appendix 5D: Outline Battery and Fire Safety Management Plan** (BFSMP), the containment strategy may include bunding of the BESS compound and substation, appropriately sized contaminated water storage tanks and/or an isolatable drainage network, with the final design developed at the detailed design stage.

5.2.25. The requirement for lightning protection associated with the Project Substation and associated electrical infrastructure will be assessed during the detailed design stage. Where required, lightning protection measures will be incorporated into the final design in accordance with the relevant engineering standards and operational safety requirements.

5.2.26. **Table 5.2** details the parameters used to inform the EIA in relation to the Project Substation Compound.

Table 5.2 - Project Substation and BESS parameters

Parameter		Description
Project Substation Compound	Compound Size	Approximately 60m x 54m.
	Foundation depth	1.7m
	Substation – Maximum height	3.5m
	Height of palisade fencing (substation)	2.75m
BESS	BESS container height	Up to 3m

Ancillary Infrastructure Works

On Site Cabling

5.2.27. On-site electrical cabling is required to connect the proposed infrastructure. Where possible, on-site cabling will be laid underground. The dimensions of the trenches will vary depending on the number of ducts they contain and are assumed to be up to approximately 1m wide, with a depth of approximately 1.2m.

5.2.28. Cabling between solar PV modules and the inverters will typically be required to be installed above ground along a row of racks and fixed to the mounting structure, and then underground (between racks and the inverter input). A typical cable trench cross section is detailed in **Figure 5.7: Cable Trench Cross Sections**.

5.2.29. Cable routing would utilise existing gaps in hedgerows and be routed alongside internal access tracks to minimise ground disturbance, where reasonably practicable. Open-cut trenching methods would be used for much of the cable routing. However, there may be a requirement for specialist trenchless techniques (technique to be confirmed at detailed design stage) for a cable crossing beneath St Mary's Well Bay Road.

Fencing and Security

5.2.30. Security fencing will enclose the operational areas of the Proposed Development. The fields encompassing the solar PV modules and supporting infrastructure will likely be fenced using a typical 'deer fence' with wooden post supports which are expected to have a maximum height of 2.5m. Appropriate signage will be installed at access points and along the Site perimeter where required for operational, health and safety, security and wayfinding purposes. To maintain ecological connectivity and facilitate the movement of small mammals, the fencing will incorporate suitably sized mammal gates at appropriate intervals and locations.

5.2.31. Pole-mounted, inward-facing closed-circuit television (CCTV) systems incorporating passive infra-red (PIR) detectors will be deployed at regular intervals around the operational areas of the Proposed Development to provide sufficient surveillance coverage within the boundaries of each field, whilst avoiding the need for night-time lighting. The CCTV cameras will be mounted on timber support poles, with camera heights typically approximately 1.5 m above the solar PV modules and up to 5 m above ground level within the Project Substation Compound.

Drainage

5.2.32. A detailed operational drainage design will be completed pre-construction, with the objective of ensuring that drainage of the land to the present level is maintained.

5.2.33. The design of the new drainage system will be based on the Flood Consequence Assessment (FCA) and Outline Drainage Statement (see **Appendix 11E**). The drainage design will include an attenuation pond incorporated within the site layout to provide temporary surface water storage and attenuate runoff rates. Further details are provided in **Appendix 11E**. Field drainage or ditches are assumed to be required in some areas of the solar PV generating station, depending on the topography and hydrology.

Access

5.2.34. The Proposed Development would be permanently accessed via St Mary's Well Bay Road, which provides suitable entry points into the parcels which adjoin the public highway. The site access points are shown on **Figure 5.1: Indicative Layout**. The ecological mitigation area located in the east of the Site would be accessed via the existing field access points.

5.2.35. Internal access tracks will be provided throughout the Site to facilitate access for construction, operational and maintenance vehicles. Where practicable, the Proposed Development will utilise existing farm tracks, field gateways and gaps in field boundaries in order to minimise the need for new access infrastructure and avoid the loss of existing vegetation and habitats. Early survey work has identified that all fields

designated for solar PV generating stations have suitable access points and are connected by an existing network of tracks currently used by agricultural machinery.

5.2.36. Approximately 2.4 km of new access tracks would be required within the Site. The access tracks will typically comprise permeable stone surfacing formed from compacted crushed stone to a typical depth of approximately 300 to 500 mm, subject to detailed ground investigations and engineering design. The tracks will have a typical width of approximately 4 m, with a maximum width of up to 6 m required for two-way vehicle movements and bends. The design of the internal access tracks has accounted for maintenance and emergency access requirements, including access for emergency services vehicles to the Project Substation Compound and BESS.

5.2.37. Details of vehicle access arrangements, construction traffic routing, delivery vehicle requirements, and measures to manage traffic during the construction phase are provided within the Transport Statement (see **Appendix 11F**) and outline Construction Traffic Management Plan (see **Appendix 5B**). These documents will set out the proposed measures to manage the movement of construction traffic to and from the Site and minimise effects on the local highway network.

Table 5.3 details the parameters required for the ancillary infrastructure works.

Table 5.3 - Ancillary infrastructure works parameters and descriptions

Parameter		Description
On-site cabling	Cable trench – width	Approximately 1m wide
	Cable trench – depth	Approximately 1.2m
Security fencing	Height of solar field fencing	Up to 2.5m
CCTV	CCTV – maximum height	1.5m above solar modules 5m AGL within Project Substation Compound
Internal access tracks	Access track width	Up to 6m
	Length of new access tracks	Approximately 2.4 km
	Construction material	Permeable stone surfacing formed from compacted crushed stone to a typical depth of approximately 300 to 500 mm

Landscaping, Habitat Management, Biodiversity Enhancement, and Amenity Improvements

5.2.38. The Proposed Development will include landscaping, habitat management, biodiversity enhancement, and amenity improvements. These measures will be sensitively designed to retain and enhance ecological networks, landscape character, and

recreational connectivity including consideration of the setting, accessibility, and user experience of Public Rights of Way (PRoW) within and adjacent to the Site.

5.2.39. The key proposals as part of the Outline Landscape and Ecological Management Plan (LEMP) include:

- The retention and long-term management of existing hedgerows, mature trees, established vegetation corridors, grassland areas and Public Rights of Way, which would be incorporated into the long-term landscape framework.
- Landscape enhancement measures, such as native species planting and hedgerow reinforcement, native tree planting, creation of a traditional orchard and establishment of species-rich wildflower grasslands.
- Existing PRoW, including the Wales Coast Path and local footpath network, will be retained, incorporated into the proposed layout, and maintained to ensure access for the lifetime of the Proposed Development.
- The diversion of Footpath L1/5/2 has been designed to maintain PRoW connectivity, whilst enhancing the recreational experience of users. It would be routed through the proposed orchard and species-rich wildflower habitat, providing a more attractive and biodiverse setting than the existing agricultural field edge and reducing the direct association between the route and operational solar infrastructure.
- Ongoing monitoring and adaptive habitat management to ensure the successful establishment and long-term delivery of landscape and biodiversity benefits.

5.2.40. Details of the proposed landscape and ecology strategy is set out within the Landscape Masterplan and oLEMP (see **Appendix 6G**).

Public Right of Way Diversion

5.2.41. Public Footpath L1/5/2 currently passes through the eastern parcel of the Site. The existing route of Public Footpath L1/5/2 is shown on **Figure 3.1: Environmental Constraints Plan**.

5.2.42. As part of the Proposed Development, the Applicant is proposing the permanent diversion and enhancement of Public Footpath L1/5/2. The existing alignment of the footpath is difficult to access at the eastern boundary of the Site due to overgrown vegetation. The proposed diversion has been developed through discussions with the Local Planning Authority (LPA) and is intended to improve the functionality, accessibility and user experience of the route. The diverted alignment would provide a clearly defined footpath with enhanced surface conditions and improved connectivity within the local Public Rights of Way (PRoW) network, representing an overall enhancement to recreational access.

5.2.43. The proposed diversion would provide a more accessible and clearly defined route through the Site, improving usability and connectivity for users. The diverted route has been designed to integrate with the Proposed Development and the landscape strategy, which is detailed within the oLEMP (see **Appendix 6G**). The proposed diversion of Public Footpath L1/5/2 is shown in **Annex A** of **Appendix 6G**.

5.2.44. Further engagement will be undertaken with the Local Planning Authority and other relevant stakeholders to refine and agree the routing of the proposed diversion. The permanent diversion of Public Footpath L1/5/2 would be progressed through a separate application process with the relevant highway authority following the grant of planning permission for this Proposed Development.

Grid Connection

5.2.45. The Proposed Development would need to be connected to the grid network. The Applicant is in discussion with National Grid Electricity Distribution (NGED) with regard to the likely grid connection location for the Proposed Development.

5.2.46. It is currently understood that the Proposed Development would connect to either Penarth Primary Substation or Sully Grid Bulk Supply Point. The final point of connection will be determined through the ongoing grid connection application process and contractual agreement with NGED.

5.2.47. The Project Substation would be connected to the NGED substation via underground electrical cabling. The grid connection cable route is anticipated to be predominantly located within the public highway corridor. The indicative grid connection options are shown on **Figure 5.6: Indicative Grid Connection**.

5.2.48. The grid connection would be brought forward by NGED and therefore, the grid connection infrastructure does not form part of the Proposed Development application and is therefore considered as a cumulative development within the EIA.

5.2.49. Notwithstanding, the indicative grid connection routes (two options) have been identified (as detailed in **Paragraph 5.2.47**) to inform this ES and a high-level appraisal is provided within **Appendix 2A**. Where relevant, the potential effects associated with the grid connection options have also been considered as part of the cumulative assessments provided in each topic chapter.

5.3. Construction Phase

Construction Programme

5.3.1. Subject to obtaining planning permission and following a final investment decision, construction is indicatively scheduled to commence in 2028 and last for approximately 6 - 9 months, followed by a commissioning period of approximately 3 months.

Construction Working Hours

5.3.2. For the purposes of this ES, subject to the caveats noted below, construction activities have been assumed to take place between 07:00 to 19:00 hours on weekdays and 07:00 to 13:00 on Saturdays. Quiet on-site working activities such as electrical commissioning have been assumed to extend outside the core working times, noted above, where required. No working will be undertaken on Sundays. Working hours may be reduced at times due to seasonal or weather restrictions or in certain locations where required as mitigation (for example during the breeding bird season should a stand-off from an active nest be required).

Construction Site Compounds and Access

5.3.3. Temporary compounds will be established before commencement of the main construction works. The compounds will be used for the storage of materials, plant and equipment and will also accommodate staff welfare facilities, waste storage, and wheel washing areas.

5.3.4. The temporary compounds would include hardstanding areas, with apron and haul road areas comprising stone laid on a geotextile membrane. There will be three compounds across the Site; the Main Site Compound (approximately 2,600m^2), the western Satellite Compound (approximately 3,250m^2), and the eastern Satellite Compound (approximately 900m^2). Temporary lighting and security measures may be required within the compounds to ensure safe operation and site security during the construction period.

5.3.5. Construction access to the Site will be via the B4267 Lavernock Road and St Mary's Well Bay Road. The construction access points into the Site would utilise existing field accesses. The temporary construction compounds and access points are shown on **Figure 5.8: Construction Compounds and Access**.

5.3.6. Existing farm tracks and field entrances utilised where practicable. However, new access tracks are proposed, as detailed within **Paragraph 5.2.34** to **5.2.37**.

Construction lighting and site security

5.3.7. Temporary lighting may be required within construction compounds, welfare areas, material storage areas and other active working areas during periods of low daylight, particularly during the winter months. Construction lighting will be designed to provide safe working conditions and site security while minimising light spill beyond the Site boundary. The location, specification and operation of temporary lighting will be implemented through the CEMP.

5.3.8. Temporary site security measures will be implemented throughout the construction period to protect personnel, plant, equipment and materials. Security measures will

include temporary fencing around construction compounds and storage areas, lockable access gates, warning signage and controlled site access arrangements.

5.3.9. Following completion of construction, all temporary lighting, fencing, security infrastructure and associated construction compounds will be removed, unless otherwise required for the operation and maintenance of the Proposed Development (i.e. the Project Substation Compound).

Site material quantities

5.3.10. For the purposes of the EIA, all construction materials are assumed to be imported to Site. **Table 5.4** outlines the estimated quantities of stone, sand and concrete required for access tracks and foundations.

Table 5.4 - Estimated quantities of stone, sand and concrete during construction

Material	Purpose	Approximate quantity required
Stone	Access track infill and temporary construction compounds	6,950m^3
Concrete	Transformer and Substation Compound foundations	5,700m^3
Sand	Cable trenches	864m^3

Construction Activities

5.3.11. The types of construction activities that will be required include the following:

- Site preparation, including vegetation clearance and ground preparation works.
- Import of construction materials, plant and equipment to the Site.
- Establishment of construction compounds and welfare facilities.
- Installation of temporary and permanent drainage infrastructure, including surface water management measures and attenuation features.
- Upgrading existing tracks and construction of new access tracks within the Site.
- Erection of module mounting structures and mounting of modules. Installation of electric cabling, inverters, transformer cabins, and battery storage units.
- Construction of Project Substation and installation of equipment.
- Appropriate storage and capping of soil.
- Installation of fencing, gates, security infrastructure and associated site signage.
- Landscape planting, habitat creation and ecological enhancement works, where required.
- Cable pulling.
- Testing and commissioning.
- Site reinstatement (i.e. returning any land used during construction, for temporary purposes, back to its previous condition).

Construction Environmental Management

5.3.12. An Outline Construction Environmental Management Plan (oCEMP) has been submitted as part of the ES (see **Appendix 5A**) and sets out the key measures to be employed during construction to control and minimise the impacts on the environment. The oCEMP provides a framework which will be developed further by a Construction Contractor once they are commissioned for the Proposed Development.

5.3.13. The subsequent details and implementation of this will be provided via the development of a detailed CEMP which will be secured by a planning condition.

5.3.14. The purpose of the CEMP is:

- To ensure disruption levels because of construction activities are kept to a minimum.
- To comply with relevant regulatory requirements and environmental commitments.
- To ensure procedures are put into place to minimise environmental effects during construction.

Waste Management

5.3.15. During construction, the use and management of materials and resources would be controlled through the approved CEMP. The CEMP would incorporate a Site Waste Management Plan (SWMP), which would identify the anticipated waste streams and estimated waste quantities arising during construction, monitor waste arisings, identify measures to minimise waste generation, and set out procedures for the appropriate storage, segregation, reuse, recycling and disposal of waste materials. Construction waste materials would predominantly include inert and non-hazardous wastes, including (but not limited to) aggregates, concrete, metals, packaging materials, and green waste. Other waste streams may include waste electrical and electronic equipment (WEEE) and wastes generated from construction compounds and welfare facilities, such as mixed municipal waste, food waste and sanitary waste, which would be managed and disposed of in accordance with relevant legislative requirements.

5.3.16. Any hazardous waste, such as plant machinery oils, would be managed in accordance with the Hazardous Waste (England and Wales) Regulations 2005[2].

5.3.17. At this stage, it is not possible to estimate quantities of waste and surplus materials which would be produced on-site during the construction phase. Any such waste materials produced, which are expected to be minimal, would be removed from site

[2] The Hazardous Waste (England and Wales) Regulations 2005. Available at: https://www.legislation.gov.uk/uksi/2005/894/contents [Accessed: August 2026].

and taken to an appropriate waste recycling or disposal facility. Site waste management procedures are discussed further in the oCEMP (see **Appendix 5A**).

5.3.18. The CEMP would also ensure that construction materials would be locally sourced where practicable and from recycled or secondary sources where feasible, with all materials stored within designated areas to minimise the risk of pollution to air, ground or water. All relevant environmental legislation would be complied with, and any waste requiring off-site disposal would be handled by suitably licensed contractors.

Construction Traffic Management

5.3.19. An outline Construction Traffic Management Plan (oCTMP) has been prepared (see **Appendix 5B**), which proposes measures to control the delivery of materials and staff onto the Site during the construction phase.

5.3.20. A CTMP would be produced prior to the commencement of main construction and will be secured by a planning condition, in accordance with the oCTMP.

Construction Reinstatement and Habitat Creation

5.3.21. A programme of construction reinstatement and habitat creation will commence during the construction phase, where practicable, in order to reduce the duration of temporary disturbance and facilitate the early establishment of landscape and ecological mitigation measures.

5.3.22. Following completion of construction activities, areas disturbed during construction will be reinstated. Reinstatement measures are anticipated to include the replacement of soils, reinstatement of drainage features and reseeding using appropriate seed mixes specified in the LEMP.

5.3.23. Habitat creation and enhancement measures will be implemented across the Site and are anticipated to include:

- Native species hedgerow planting and hedgerow reinforcement;
- Strategic native tree planting;
- Creation of a traditional orchard;
- Establishment of species-rich wildflower grasslands;
- Enhancement of field margins and boundary habitats;
- Creation of attenuation ponds and marginal wetland habitats; and
- Long-term management of landscape features to promote diversity, resilience and visual quality.

5.3.24. The location and extent of reinstatement, habitat creation and biodiversity enhancement measures are shown in the Landscape Masterplan and in the oLEMP (see

Appendix 6G). A detailed LEMP will be produced following consent and prior to the start of construction, which will be secured by a planning condition.

5.4. Operational Phase

5.4.1. The Proposed Development has a design life of up to 40 years. At the end of the operational life, the Proposed Development would either be repowered (subject to a new planning application) or decommissioned.

Maintenance

5.4.2. During the operational phase of the Proposed Development, maintenance activities would be limited and would primarily comprise vegetation management, routine inspection, maintenance and servicing of equipment and infrastructure, and the replacement of equipment or components where necessary.

- Vegetation management would be undertaken periodically to maintain safe and efficient operation of the Proposed Development.
- Routine maintenance and servicing activities would include inspections, testing and repairs of equipment and associated infrastructure.
- There may be an occasional requirement for the replacement of equipment or components (e.g. substation components, Solar PV modules, and associated electrical equipment). However, these activities are expected to be infrequent. Where replacement components are required, additional deliveries and vehicles (i.e. HGVs) would be required.

Operational Lighting

5.4.3. The Project Substation Compound will require lighting to be activated when personnel are present within the compound to meet operational health and safety requirements. The lighting will be controlled through motion sensors and/or timers to ensure that it operates only when required and switches off automatically when no longer needed. The lighting design will seek to minimise potential effects on sensitive receptors through the use of appropriately directed lighting, with light directed downward and away from field boundaries, existing vegetation and other sensitive features, thereby reducing light spill and glare.

Landscape and Ecology Management

5.4.4. A programme of landscape and ecology management will be carried out throughout the operational phase of the Proposed Development. The measures, objectives and management principles are set out within the oLEMP submitted as part of the ES (see **Appendix 6G**). The oLEMP establishes the framework for the long-term management, monitoring and maintenance of habitats and landscape features across the site.

5.4.5. The Applicant is exploring the opportunity to create grassland and animal grazing beneath the solar modules. This would have benefits for the land, as well as diversifying the farming practices across the Site.

BESS

5.4.6. The outline Battery and Fire Safety Management Plan (oBFSMP) has been submitted as part of the ES (see **Appendix 5D**) and sets out the framework for the safe operation of the BESS. The oBFSMP is required to set out the operational requirements and mitigations for any BESS related safety risks. The detailed BFSMP would be developed prior to construction, in accordance with the oBFSMP, and in consultation with the Local Fire Authority. This would be secured via planning condition.

5.5. Decommissioning Phase

5.5.1. The Proposed Development has an operational design life of up to 40 years, and planning consent for this period will be sought. There are two options at the end of the operational life; repowering (via a new planning application) or decommissioning. As part of this application, it is assumed that the Proposed Development would be decommissioned.

5.5.2. Decommissioning the Proposed Development would initially comprise the disconnection from the electricity grid to make all elements safe, after which time components can be removed and either recycled or safely disposed of. At the end of the operational phase, any above ground infrastructure will be dismantled and removed in accordance with industry best practice at the time. The decommissioned materials will follow the waste hierarchy such that they would be reused where possible before recycling and disposal were considered. The duration of decommissioning works is anticipated to last for 6-9 months.

5.5.3. **Table 5.5** sets out details regarding the indicative methodologies for the removal of the main Proposed Development components and associated waste arisings.

5.5.4. For the purposes of this ES, it is assumed that all concrete, hardstanding areas, and foundations for the infrastructure will be removed to a depth of up to 1m. It is assumed that all the below ground cables will be left in situ.

5.5.5. It is anticipated that after the operational period of 40 years, that the land within the Site will be returned to agricultural use and established habitats and planting, such as hedgerows and woodland would be retained.

5.5.6. Further details of the decommissioning methodologies, waste management measures, and other management controls will be developed and confirmed within a Decommissioning Plan (which would include a Decommissioning Traffic Management

Plan) prepared prior to the commencement of decommissioning works. An Outline Decommissioning Plan will be submitted as part of the application and will establish the overarching principles and commitments that will inform the detailed Decommissioning Plan, to be secured via planning condition.

Table 5.5 - Decommissioning methodologies and waste arisings

Component	Indicative Decommissioning Methodology and Waste Arisings
Solar Modules	Solar modules would be disconnected, removed from the mounting structures and taken off site by suitably licensed contractors. The main waste streams are anticipated to comprise glass, aluminium/steel, silicon and small quantities of electrical components. Where practicable, solar modules would be reused, refurbished or recycled through specialist recycling facilities, with residual waste managed in accordance with the relevant legislation and best practice guidance available at the time of decommissioning.
Mounting Structures	The mounting structures would be dismantled on-site and the driven piles would be pulled out of the ground. Where concrete footings have been installed to address local ground conditions, these would be broken up and removed. Any localised ground disturbance would be reinstated using suitable soil. The main waste streams would be galvanized steel and concrete. Steel components would be suitable for recycling, whilst any concrete arising from foundation removal would be reused or recycled, where practicable.
Cables	All above ground cables would be removed from the Site. Underground buried cables would be left *in-situ*, as re-excavation would result in greater environmental effects. The main waste streams would comprise copper, aluminium, insulation and ducting material (i.e. polymers). These materials would be recycled where practicable, although some polymers may be recycled, recovered or disposed of by suitably licensed contractors.
Inverters (String Inverters)	The string inverters would be disconnected from the mounting structures and removed from Site by suitably licensed contractors. The main waste streams would include Waste Electrical and Electronic Equipment (WEEE), steel, aluminium, copper, silicon and plastics. Materials would be recovered and recycled; however, small volumes of hazardous components may be present and would be managed by appropriately licensed contractors.
Transformer Stations	Transformer stations would be disconnected, dismantled and removed from Site. Materials arising are anticipated to comprise steel, aluminium, copper cabling, electrical equipment, concrete pads/columns and, where present, transformer oils and other specialist electrical components. Metal components would be suitable for recycling, whilst any concrete arising from foundation removal would be reused or recycled, where practicable. Transformer oils and any other hazardous materials would be removed and managed by appropriately licensed contractors in accordance with the relevant legislation and environmental standards applicable at the time of decommissioning. Following removal, the land beneath the transformer stations would be reinstated to the pre-existing condition.
Project Substation	The switchgear and electrical equipment would be disconnected and removed from Site where they will be dismantled and recoverable materials will be recycled. The buildings and associated concrete foundations (up to 1m depth) will be demolished and removed from Site and where possible the materials will

Component	Indicative Decommissioning Methodology and Waste Arisings
	be crushed and recycled. Security fencing would be removed and recycled where practicable. Transformers would be removed and transported via Abnormal Indivisible Loads (AILs) for dismantling and recovery. Transformers may contain oils or other hazardous substances requiring specialist handling and disposal. The ground beneath and around the Project Substation Compound will be reinstated with soils and reseeded.
BESS	BESS containers and units would be dismantled and removed from Site. The BESS would include battery cells that constitute hazardous waste and would be managed through appropriately licensed facilities. Other waste streams would include metals, plastics, cabling, electronic components and storage containers.
Access tracks	Internal access tracks would either be retained for agricultural purposes or removed and land reinstated. Materials removed would primarily comprise stone and aggregate, which would be suitable for reuse on Site or recycling elsewhere.

5.6. Major Accidents and Disasters

Construction / Decommissioning

5.6.1. The oCEMP (see **Appendix 5A**) details measures to manage the environmental impacts of the Proposed Development during the construction phase. Such measures will minimise the likelihood of major accidents or disasters arising from construction of the Proposed Development, for example through pollution prevention, management of waste, and water management measures.

5.6.2. During construction, established regulations and industry best practice would be applied to manage on-site works and reduce the risk of major accidents or disasters. The construction works for the Proposed Development would be undertaken in accordance with primary health and safety legislation, including:

- The Health and Safety at Work Act 1974[3];
- The Management of Health and Safety and Work Regulations 1999 (as amended)[4]; and
- The Construction (Design and Management) (CDM) Regulations 2015[5].

5.6.3. As required by the CDM Regulations a Construction Phase (Health & Safety) Plan will be prepared for the works by the Site contractors, setting out emergency procedures to be followed in the event of such an incident.

[3] UK Government (1974). The Health and Safety at Work Act etc 1974. [Online] Available at: https://www.legislation.gov.uk/ukpga/1974/37/contents [Accessed August 2026].
[4] UK Government (1999). The Management of Health and Safety and Work Regulations 1999 (as amended). [Online]. Available at: https://www.legislation.gov.uk/uksi/1999/3242/contents [Accessed August 2026].
[5] UK Government (2015). Construction (Design and Management) Regulations 2015. [online] Available at: https://www.legislation.gov.uk/uksi/2015/51/contents [Accessed August 2026].

5.6.4. During decommissioning, management measures would be implemented in a similar manner to those applied during the construction phase and in accordance with the latest guidance and legislation at the time of decommissioning activities.

Operation

5.6.5. Given the nature of the Proposed Development, it is considered that the key areas of concern in relation to major accidents and disasters would include flood risk and fire risk. These matters are considered in further detail below:

- **Flood Risk**: The flood risk associated with the existing site and the Proposed Development is detailed within the FCA and outline Drainage Strategy (see **Appendix 11E**).
- **Fire Risk**: The Proposed Development comprises electrical infrastructure, including the Project Substation and associated battery storage, which carries a very low risk of fire. This risk would be managed through the installation of equipment by suitably qualified professionals, regular inspection and maintenance, and adherence to applicable safety standards. The ES is also supported by an outline BSMP, informed by guidance produced by the National Fire Chiefs Council (see **Appendix 5D**). With these measures in place, the operational phase is not anticipated to give rise to significant effects relating to major accidents or disasters.

5.6.6. Major accidents and disasters are not considered further on the basis that the Proposed Development is located in an area of low environmental risk, would be constructed and operated in accordance with established health, safety and emergency procedures, while being supported by appropriate assessments and management plans, and is temporary and reversible in nature.

5.7. Embedded Environmental Measures

5.7.1. In accordance with Regulation 17(3) of the EIA Regulations, the environmental topic chapters (**Chapters 6-11**) within the ES include a description of the "*measures envisaged to avoid, prevent, reduce or, if possible, offset any identified significant adverse effects on the environment*".

5.7.2. **Table 5.6** summarises the embedded mitigation measures proposed as part of the Proposed Development, as well as the mechanisms which would be used to ensure that these measures are implemented as part of the Proposed Development. Greater detail on these measures can be found in each of the technical assessment chapters, as well as additional mitigation measures identified as part of the EIA process.

Table 5.6 - Summary of environmental measures to be implemented as part of the Proposed Development

Environmental Measure	Relevant Phase	Compliance Mechanism	ES Section Reference
A CEMP will be developed in accordance with the oCEMP prior to the commencement of construction and will set out the measures to be employed during construction to control and minimise the impacts on the environment.	Construction	CEMP secured via planning condition.	Appendix 5A: Outline CEMP.
A CTMP will be developed in accordance with the oCTMP (see Appendix 5B) prior to the commencement of construction. It will include measures to control the delivery of materials and staff onto the Site during the construction phase.	Construction	CTMP secured via planning condition.	Appendix 5B: Outline CTMP.
A Soil Management Plan (SMP) will be developed in accordance with the Outline SMP prior to the commencement of construction. It will set out the measures to protect soils during the construction phase of the Proposed Development.	Construction	Soil Management Plan secured via planning condition.	Appendix 5C: Outline Soil Management Plan.
A Battery Fire Safety Management Plan (BFSMP) will be developed in accordance with the oBFSMP, which will set out the procedures, responsibilities and control measures for the prevention, detection and management of battery fire incidents during the operational life of the Proposed Development.	Operation	BFSMP secured via planning condition.	Appendix 5D: Outline Battery Fire Safety Management Plan.
Field 12 (see Figure 6.8) to contain the construction compound will be returned to its current condition once construction is complete.	Construction	To be implemented through the CEMP, which would be secured via planning condition.	Table 6.10 of Chapter 6: Landscape and Visual.
Field selection for the Proposed Development layout, including the position of the substation, was informed by early appraisal work to identify fields within the Applicant's control that could best accommodate solar panels to keep adverse Landscape and Visual effects and the influence of the Proposed Development over the surrounding landscape as low as possible.	Operation	Secured through the design.	Table 6.10 of Chapter 6: Landscape and Visual.

Environmental Measure	Relevant Phase	Compliance Mechanism	ES Section Reference
The western half of Field 7 (see Figure 6.8) is to remain outside of the Site Boundary of the Proposed Development. Solar panels will be restricted to the lower eastern half of the field. The western part of the field will remain free of panels thus retaining open pastoral character of the slopes of Hopkins Mount and forming an open visual buffer within the setting of the neighbouring residential property to the south.	Construction, Operation and Decommissioning	Secured through the design.	Table 6.10 of Chapter 6: Landscape and Visual.
The proposed solar panel arrays have been arranged within field boundaries to retain as much existing boundary vegetation as possible to retain field pattern/structure and character while also breaking up the visual mass of panels across the Site.	Operation	Secured through the design. Implemented through the LEMP, which would be secured via planning condition.	Table 6.10 of Chapter 6: Landscape and Visual.
Solar panels have been avoided in the southern part of Field 6 (see Figure 6.8) forming an open visual buffer within the setting of the neighbouring residential property to the east. This has also allowed for the creation of an orchard adding amenity and biodiversity value as well as for the diversion of Footpath L1/5/2 which will reduce the adverse effects to the visual amenity of this route.	Construction, Operation and Decommissioning	Secured through the design. Implemented through the LEMP, which would be secured via planning condition.	Table 6.10 of Chapter 6: Landscape and Visual.
10m buffer from existing hedgerow boundaries / trees and tree blocks to proposed solar panels.	Construction, Operation and Decommissioning	Secured through the design. Implemented through the LEMP, which would be secured via planning condition.	Table 6.10 of Chapter 6: Landscape and Visual.
15m buffer from the existing boundary hedgerow/trees and solar panels along south-western edge of Fields 8 and 11 (see Figure 6.8).	Construction, Operation and Decommissioning	Secured through the design. Implemented through the LEMP, which would be secured via planning condition.	Table 6.10 of Chapter 6: Landscape and Visual.
Cable runs and internal access tracks make use of existing hedgerow gaps wherever possible to keep the amount of existing hedgerow removal to a minimum.	Construction, Operation and Decommissioning	Secured through the design. Implemented through the LEMP, which would be	Table 6.10 of Chapter 6: Landscape and Visual.

Environmental Measure	Relevant Phase	Compliance Mechanism	ES Section Reference
		secured via planning condition.	
Infill and supplementary planting in gaps within existing boundary hedgerows to strengthen landscape structure / character and improve habitat connectivity.	Operation and Decommissioning.	Secured through the design. Implemented through the LEMP, which would be secured via planning condition.	Table 6.10 of Chapter 6: Landscape and Visual.
All existing hedgerows within the Site to be maintained at a minimum height of 2m.	Operation.	Secured through the design. Implemented through the LEMP, which would be secured via planning condition.	Table 6.10 of Chapter 6: Landscape and Visual.
Hedgerows on the boundaries of Fields 2, 4 and 7 either side of St Mary's Well Bay Road, the south-western boundary of Fields 8 and 11 and the boundary on the northern side of the residential property known as Sutton Farm to be maintained at 3m high (see Figure 6.8).	Operation and Decommissioning.	Secured through the design. Implemented through the LEMP, which would be secured via planning condition.	Table 6.10 of Chapter 6: Landscape and Visual.
New hedgerow planting on the western edge of the Site within Field 7.	Operation and Decommissioning.	Secured through the design. Implemented through the LEMP, which would be secured via planning condition.	Table 6.10 of Chapter 6: Landscape and Visual.
New hedgerow planting along Footpath L1/5/2 between the route of the footpath and the fenceline on the northern edge of the Proposed Development within Field 8. Hedge to be maintained at a minimum of 2m high.	Operation, Decommissioning.	Secured through the design. Implemented through the LEMP, which would be secured via planning condition.	Table 6.10 of Chapter 6: Landscape and Visual.
New scrub planting within the buffer between the Wales Coast Path and the fenceline on the south-western edge of the Proposed Development.	Operation, Decommissioning.	Secured through the design. Implemented through the LEMP, which would be	Table 6.10 of Chapter 6: Landscape and Visual.

Environmental Measure	Relevant Phase	Compliance Mechanism	ES Section Reference
		secured via planning condition.	
New tree and scrub planting to the north, east and south of the substation within Field 2 (see Figure 6.8).	Operation and Decommissioning.	Secured through the design. Implemented through the LEMP, which would be secured via planning condition.	Table 6.10 of Chapter 6: Landscape and Visual.
Orchard planting in the southern part of Field 6 (Figure 6.8).	Operation and Decommissioning.	Secured through the design. Implemented through the LEMP, which would be secured via planning condition.	Table 6.10 of Chapter 6: Landscape and Visual.
Tussocky grassland and wildflower meadow to be provided within field margins and buffers to provide additional biodiversity value across the site.	Operation and Decommissioning.	Secured through the design. Implemented through the LEMP, which would be secured via planning condition.	Table 6.10 of Chapter 6: Landscape and Visual.
Grass sward below the panels within the fields to be maintained by sheep grazing to provide additional biodiversity value while also retaining a characteristic land use across the site.	Operation.	Secured through the design. Implemented through the LEMP, which would be secured via planning condition.	Table 6.10 of Chapter 6: Landscape and Visual.
Construction works would be undertaken using all necessary and practical measures to minimise the release of additional sediment-laden run-off into nearby waterbodies.	Construction.	Implemented through the CEMP, which would be secured via planning condition.	Table 7.15 of Chapter 7: Biodiversity.
Appropriate pre-construction surveys or inspections will be carried out. A method statement would be prepared under which:	Construction.	Implemented through the CEMP, which would be secured via planning condition.	Table 7.15 of Chapter 7: Biodiversity.

Environmental Measure	Relevant Phase	Compliance Mechanism	ES Section Reference
• Vehicle movement outside of daylight hours would be restricted, vehicle speeds controlled, and operatives warned of the presence of certain species to reduce the risk of collisions. • All excavations would 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. • Activities would be restricted to normal working hours (so largely avoiding the hours of darkness, particularly in the summer when species are most active). • Site lighting will be controlled to prevent incidental spillage on to features that may be used by nocturnal species.			
Biosecurity measures, such as boot wash stations, will be implemented throughout construction to avoid the introduction or spread of INNS. An INNS Management Plan will also be prepared.	Construction.	INNS Management Plan secured via planning condition.	Table 7.15 of Chapter 7: Biodiversity.
The Proposed Development has been designed to avoid direct impacts on international, national and locally designated sites of nature conservation and habitats of high ecological value, including all Section 7 Priority Habitat, woodland, scrub and scattered trees. This has been achieved through the siting of the Proposed Development outside of designated sites and through the avoidance of habitats of high ecological value during the design iteration process.	Construction, Operation and Decommissioning.	Embedded in design.	Table 7.15 of Chapter 7: Biodiversity.
Existing hedgerows and field boundaries on-site will be retained and protected throughout the Proposed Development. Existing field access points will be used throughout the Proposed Development, with no new access points created, avoiding the unnecessary removal or severance of hedgerows. Some existing field access points may need to be widened (to allow for machinery/plant access during construction only), however these	Construction, Operation and Decommissioning.	Embedded in design. Also, implemented through the CEMP, which would be secured via planning condition.	Table 7.15 of Chapter 7: Biodiversity.

Environmental Measure	Relevant Phase	Compliance Mechanism	ES Section Reference
will be kept to the minimum and any habitat loss will be limited to fringe habitats only and temporary loss.			
Undertaking construction in accordance with good practice and BPM, that is set out in the oCEMP supporting this EIA (see Appendix 5A). All construction activities to be undertaken within normal working hours for construction. Any required mitigation measures to avoid significant effects will be confirmed in the detailed CEMP.	Construction/ Decommissioning.	The detailed CEMP would be secured via planning condition.	Table 8.21 of Chapter 8: Noise and Vibration.
A planning condition, or planning conditions, would be attached to the consent for the Proposed Development that will define fixed operational noise limits and require submission, and approval, of a scheme of operational noise management that will ensure compliance with the noise limits. The determination of the fixed noise limits will be undertaken in liaison with, and agreed in writing by, Vale of Glamorgan Council. The Operational Noise Management Plan should be submitted prior to the operation of the scheme.	Operation.	Operational Noise Management Plan to be secured via planning condition.	Table 8.21 of Chapter 8: Noise and Vibration.
Revision of the Site Boundary to remove eastern land parcels which were identified through geophysical survey as archaeologically sensitive.	Construction.	Planning conditions: for consented Site Boundary and construction parameters.	Table 9.15 of Chapter 9: Historic Environment.
Sensitive design and location of boundary fencing, the use of strategically located native planting to provide local, longer-term screening and filtering of views, and the creation of new forms of grassland cover, where appropriate, to address effects on visual amenity.	Operation.	Planning conditions: delivery of a LEMP.	Table 9.15 of Chapter 9: Historic Environment.
Design and layout of Site and associated infrastructure is incorporated within existing land parcels, retaining existing woodland and field boundaries.	Construction and Operation.	Planning conditions: for consented Site Boundary and construction parameters.	Table 9.15 of Chapter 9: Historic Environment.

Environmental Measure	Relevant Phase	Compliance Mechanism	ES Section Reference
Design of the solar panel mounting to comprise an option for use of structure legs to be supported by concrete footings to reduce piling depths.	Construction.	The detailed CEMP would be secured via planning condition.	Table 9.15 of Chapter 9: Historic Environment.
The Project Substation Compound (including substation equipment and BESS) has been located outside of areas at risk of surface water flooding.	Construction, Operation and Decommissioning.	Embedded in the design.	Chapter 11: Other Environmental Effects (Climate Resilience)
Fire safety has been considered as part of Appendix 5D: Outline Battery Fire Safety Management Plan (BFSMP), which includes fire detection, suppression, monitoring, emergency response and maintenance procedures;	Operation.	BFSMP secured via planning condition.	Chapter 11: Other Environmental Effects (Climate Resilience)
Management proposals for the replacement or enhancement planting set out within Appendix 6G.	Operation.	Implemented through the LEMP, which would be secured via planning condition.	Chapter 11: Other Environmental Effects (Climate Resilience)
Strengthening existing hedgerows and incorporating additional planting along sensitive boundaries. Specific sections of hedgerow adjacent to Fort Road and The Bay Caravan Park will be allowed to establish and grow above 3 m where required to provide effective screening of the solar panels from affected receptors.	Operation.	Implemented through the LEMP, which would be secured via planning condition.	Chapter 11: Other Environmental Effects (Glint and Glare).
The Proposed Development has been designed to minimise impacts on existing hydrological processes. New impermeable areas have been limited where practicable. An Outline Drainage Strategy and design has also been developed to detail how surface water will be managed on-site, taking account of climate change allowances. The strategy incorporates sustainable drainage measures to maintain existing hydrological conditions and ensure that runoff generated by the Proposed Development does not increase flood risk elsewhere.	Operation.	Drainage design – secondary SAB consents.	Chapter 11: Other Environmental Effects (Hydrology, Hydrogeology and Geology).
The design and layout of the Proposed Development has taken account of existing public sewers and watermains within and adjacent to the Site, with infrastructure sited to avoid or minimise	Construction, Operation and Decommissioning.	Embedded in the design.	Chapter 11: Other Environmental Effects (Hydrology,

Environmental Measure	Relevant Phase	Compliance Mechanism	ES Section Reference
encroachment on these assets and maintain access for inspection, maintenance and repair.			Hydrogeology and Geology).
During construction, existing drainage pathways will be retained where practicable and runoff will be managed within the same hydrological catchments. Temporary drainage measures will be implemented as required to control surface water runoff and minimise erosion.	Construction.	CEMP to be secured via planning condition.	Chapter 11: Other Environmental Effects (Hydrology, Hydrogeology and Geology).
The oCEMP details a range of sediment and erosion control measures to be implemented through the construction period to minimise the mobilisation and transport of sediment and protect water quality. This includes locating soil, spoil and material stockpiles at least 20 m from waterbodies wherever practicable; installing measures such as silt fencing, sediment traps, earth bunds or filter media where required; avoiding the creation of preferential flow pathways; and progressively stabilising and reinstating disturbed ground	Construction.	CEMP to be secured via planning condition.	Chapter 11: Other Environmental Effects (Hydrology, Hydrogeology and Geology).
A Pollution Prevention Plan will be prepared as part of the detailed CEMP before construction commences. The oCEMP includes the pollution prevention measures to be included within the Pollution Prevention Plan and implemented during the construction phase	Construction.	CEMP to be secured via planning condition.	Chapter 11: Other Environmental Effects (Hydrology, Hydrogeology and Geology).
Groundwater protection has been incorporated into the conceptual drainage design, with runoff from the Project Substation Compound and BESS subject to appropriate treatment and pollution control measures prior to infiltration or discharge. Measures would include containment systems for transformers, oil interception, filtration and additional treatment infrastructure where required	Operation.	Drainage design – secondary SAB consents.	Chapter 11: Other Environmental Effects (Hydrology, Hydrogeology and Geology).
Further site-specific ground investigation, groundwater monitoring and infiltration testing will be undertaken at the detailed design stage to confirm ground conditions, groundwater levels and the suitability of the proposed drainage measures. These investigations will also inform the detailed CEMP.	Construction.	CEMP to be secured via planning condition.	Chapter 11: Other Environmental Effects (Hydrology, Hydrogeology and Geology).

Environmental Measure	Relevant Phase	Compliance Mechanism	ES Section Reference
If previously unidentified contamination is encountered during construction, work in the affected area will cease and the material will be subject to appropriate risk assessment. Where necessary, contaminated material will be removed, treated or otherwise managed in accordance with an agreed remediation strategy before construction recommences.	Construction.	CEMP to be secured via planning condition.	Chapter 11: Other Environmental Effects (Hydrology, Hydrogeology and Geology).
Effects on safeguarded mineral resources will be limited by minimising excavation and permanent ground disturbance. The Project Substation Compound has been positioned outside the mapped limestone resource areas, and the predominantly ground-mounted nature of the solar infrastructure will limit disturbance across the remainder of the Site. Excavated materials will be reused for reinstatement and landscaping where practicable, subject to their environmental and geotechnical suitability, thereby reducing the need to import or export material.	Construction, Operation and Decommissioning.	Secured through the design.	Chapter 11: Other Environmental Effects (Hydrology, Hydrogeology and Geology).
Temporary construction compounds and other working areas will be reinstated following the completion of construction. Stripped topsoil and subsoil will be stored separately and reinstated in the correct sequence, with disturbed land restored to its pre-construction condition as far as reasonably practicable. Reinstatement will take place as soon as practicable to reduce the period of soil storage and the risk of erosion. Soil stripping and storage will be managed in accordance with best practice measures, as detailed within the Outline Soil Management Plan	Construction.	CEMP and SMP to be secured via planning condition.	Chapter 11: Other Environmental Effects (Hydrology, Hydrogeology and Geology).