Preliminary Environmental Information Report

Chapter 11: Landscape and Visual Amenity

PEIR Chapter [PINS Ref: EN 010171]

Document Reference: EN 010171/PEIR CHP/11

Revision Number: 1

December 2025

Future Energy Llanwern Limited

Contents

11.0 Landscape and Visual Amenity

11.1 Introduction

11.1.1 This Chapter presents the preliminary assessment of the likely significant effects of the Proposed Development with respect to landscape and visual amenity receptors. It should be read in conjunction with the description provided in **Chapter 2: Description of the Proposed Development** and with respect to relevant parts of the following chapters:

- **Chapter 7: Cultural Heritage and Archaeology**;
- **Chapter 8: Ecology**; and
- **Chapter 14: Socio-economics, Tourism and Recreation**.

11.1.2 This Chapter is presented as a Landscape and Visual Impact Assessment (LVIA) undertaken and reviewed by Chartered Landscape Architects. Landscape and visual assessments are separate although linked processes, describing closely related but distinct sets of effects. Landscape effects are a combination of the physical changes to the fabric of the landscape arising from the Proposed Development and perceptual changes – the way these physical changes alter how the landscape is perceived. The landscape assessment considered the effects on the landscape as a whole, effects on individual elements of the landscape, and effects on characteristic combinations or patterns of elements and how these are seen to affect its character and quality. The visual assessment is concerned with the views that are available to people using the landscape who may be affected by the Proposed Development, and their perception of and response to changes in these views. Visual effects arise from changes in the composition and character of views, and the assessment considers how that change is likely to be experienced. Including the effects on both specific views and on general visual amenity – the pleasantness of the view or outlook – that the people potentially affected enjoy. For the purposes of assessment, whilst it is the people living, working, passing through or enjoying recreational activities in the area who actually see the views and enjoy the visual amenity, it is the places they may occupy that are mapped and described as visual receptors.

11.1.3 This Chapter describes:

- the legislation, policy and technical guidance that has informed the assessment (**Section 11.2**);
- any assumptions or limitations to the robustness of the assessment (**Section 11.3**);
- stakeholder engagement through consultation and engagement that has been undertaken and how comments from consultees relating to the Landscape and Visual Impact Assessment (LVIA) have been addressed (**Section 11.44**);
- the methods used for baseline data gathering and a summary of the assessment process, also the scope of this assessment – a detailed methodology is provided as appendices (**Section 11.45**);
- overall baseline conditions (**Section 11.6**);
- future baseline (**Section 11.6**)
- design, enhancement and mitigation measures relevant to landscape and visual amenity (**Section 11.7**);
- description and assessment of the impacts and effects that are likely to arise as a result of the Proposed Development that could cause changes to the landscape character or visual amenity (**Section 11.8**);
- additional mitigation and enhancement measures relevant to landscape and visual amenity incorporated into the Proposed Development to lessen potential impacts (**Section 11.9**);
- a summary of significant residual effects to landscape and visual amenity and conclusions considering all mitigation and enhancement measures for the different phases of the Proposed Development; Construction, Operation Year 1, Operation Year 15, and Decommissioning (**Section 11.10**) – detailed assessments are provided as appendices; and
- the assessment of cumulative (inter-project) effects (**Section 11.11**), considering the Proposed Development together with other similar developments in the area either existing or potentially coming forward currently through the planning system in the future.

11.1.4 A number of appendices accompany this LVIA as set out in **Table 11-1** below:

Table 11-1 Appendices that accompany the LVIA

Drawing number / Document reference	Drawing description
Appendix 11A	LVIA Methodology
Appendix 11B	LANDMAP filtering process
Appendix 11C	LANDMAP Aspect Areas: baseline descriptions and sensitivity assessments
Appendix 11D	LANDMAP Geological Landscapes Aspect Areas: Assessment of effects
Appendix 11E	LANDMAP Landscape Habitats Aspect Areas: Assessment of effects
Appendix 11F	LANDMAP Visual and Sensory Aspect Areas: Assessment of effects
Appendix 11G	LANDMAP Historic Landscape Aspect Areas: Assessment of effects
Appendix 11H	LANDMAP Cultural Landscape Services Aspect Areas: Assessment of effects
Appendix 11I	Assessment of landscape effects: Landscape/Marine Character Areas and Designated Landscapes
Appendix 11J	Viewpoint Analysis
Appendix 11K	WCP Sequential Visual Analysis

11.1.5 These appendices contain the extensive volume of baseline information and detailed assessments with summaries included in **Sections 11.10** and **11.12** in order to present a clear and succinct Preliminary Environmental Information Report (PEIR) chapter.

11.1.6 The figures in **Table 11-2** below also accompany this LVIA:

Table 11-2: Figures that accompany the LVIA

Drawing number / Document reference	Drawing description
Figure 11-1	LVIA Study Area (5km)
Figure 11-2	National and Regional Landscape/Seascape Character Areas (5km)

Drawing number / Document reference	Drawing description
Figure 11-3	Local Landscape Character – LANDMAP Aspect Areas (Visual and Sensory) (1km)
Figure 11-4	Designations (5km)
Figure 11-5	Topography (5km)
Figure 11-6	Zone of Theoretical Visibility with Viewpoint Locations (5km)
Figure 11-7	Viewpoint Locations and Recreational Routes/Areas (1km)
Figure 11-8	Substation Option 2 ZTV
Figure 11-9	Viewpoint Photosheets
Figure 11-10	WCP Sequential Photosheets

11.1.7 Each set of visualisation figures for Viewpoints 1 to 17 is presented across a number of pages including:

- Existing view comprising baseline photography as a single frame with annotations – 39.6° horizontal field of view.
- Existing view comprising baseline photography as a panoramic image showing extent of the Proposed Development and/or the surrounding landscape context with annotations – 90.0° horizontal field of view in sets of one, two or three to demonstrate 90, 180 or 360 degree views.
- Two sets of photos are included at each viewpoint location taken in October 2024 and February 2025 to illustrate seasonal variation in the landscape, particularly leaf loss on vegetation which represents the worse-case scenario.

11.2 Legislation, Planning Policy and Technical Guidance

11.2.1 This section identifies the legislation, planning policy and technical guidance that has informed the assessment of effects with respect to landscape and visual amenity.

Legislation

11.2.2 A summary of the relevant legislation is given in **Table 11-3**.

Table 11-3 Legislation relevant to the LVIA

Legislation	Legislative context
Well-being of Future Generations (Wales) Act 2015 (Ref 11-1)	The Act puts in place seven well-being goals to help ensure that public bodies are all working towards the same vision of a sustainable Wales. In relation to landscape matters, the most relevant well-being goal is the achievement of 'a resilient Wales', which seeks to maintain and enhance a biodiverse natural environment that has the capacity to adapt to change (for example climate change). Planning Policy Wales Edition 12 (Ref 11-2) recognises that this goal can be supported by identifying, understanding, valuing, protecting, maintaining and enhancing sufficient scales, extent and connectivity of, and between, landscapes and habitats to enable them to withstand the pressures of change and protect, maintain and enhance biodiversity as well as promoting opportunities for social and economic activity and improvements based on valuing and enabling access to the natural, historic and built environment.
Environment (Wales) Act 2016 (Ref 11-3)	This Act requires, under Section 6 – Biodiversity and resilience of ecosystems duty, that a public authority must seek to maintain and enhance biodiversity and promote the resilience of ecosystems. This requirement could be interpreted to include landscape as part of the ecosystems approach.

Planning Policy

11.2.3 A summary of the relevant national and local planning policy is given in **Table 11-4**.

Table 11-4: Planning Policy relevant to the LVIA

Legislation	Legislative context
National planning policy	
Overarching National Policy Statement for Energy (EN-1) (Ref 11-4)	Landscape and Visual effects of energy projects are covered in Section 5.10 where paragraph 5.10.1 states that the *effects of energy projects will vary on a case by case basis according to the type of development, its location and the landscape setting of the proposed development*. It goes on to explain that *references to*

Legislation	Legislative context
	landscape should be taken as covering seascape and townscape where appropriate. Paragraph 5.10.5 accepts that virtually all nationally significant energy infrastructure projects will have adverse effects on the landscape, but there may also be beneficial landscape character impacts arising from mitigation. Paragraph 5.10.6 goes on to explain that *projects needs to be designed carefully… to minimise harm to the landscape, providing reasonable mitigation where possible and appropriate*. Paragraph 5.10.12 explains that *outside nationally designated areas, there are local landscapes that may be highly valued locally. Where a local development document plan in Wales has policies based on landscape or waterscape character assessment, these should be paid particular attention. However, locally valued landscapes should not be used in themselves to refuse consent, as this may unduly restrict acceptable development*. With regards visual receptors paragraph 5.10.13 accepts that *all proposed energy infrastructure is likely to have visual effects for many receptors around proposed sites*. However, paragraph 5.10.14 explains that *the Secretary of State will have to judge whether the visual effects on sensitive receptors, such as local residents, and other receptors, such as visitors to the local area, outweigh the benefits of the project*. This LVIA will be prepared in accordance with the overarching principles set out in paragraphs 5.10.15-24 where paragraph 5.10.16 accepts that *several guides have been produced to assist in addressing landscape issues*. These relevant guidelines are set out in **Table 11-5**.

Legislation	Legislative context
	Throughout this LVIA minimising adverse effects arising to the landscape character and visual amenity of the area as a result of the Proposed Development have been considered by incorporating mitigation measures such as those set out in paragraphs 5.10.26-28.
National Policy Statement for Renewable Energy Infrastructure (EN-3) (Ref 11- 5)	NPS EN-3 sets out some of the specific potential impacts that should be considered that could arise from different types of renewable energy infrastructure projects. Solar Photovoltaic Generation is covered under section 2.10. The potential impacts to Landscape, visual and residential amenity are covered in paragraphs 2.10.93 -101. Paragraph 2.10.94 states that *solar farms are likely to be in low lying areas of good exposure and as such may have a wider zone of visual influence that other types of onshore energy infrastructure, Paragraph 3.10.86 goes on to explain that whilst it may be the case that the development covers a significant surface area, in the case of ground-mounted solar panels it should be noted that with effective screening and appropriate land topography, the area of a zone of visual influence could be appropriately minimised.* Paragraph 2.10.100 explains that *the applicant should consider as part of the design, layout, construction, and future maintenance plans how to protect and retain, wherever possible, the growth of vegetation on site boundaries, as well as the growth of existing hedges, established vegetation, including mature trees within boundaries. Applicants should also consider opportunities for individual trees within the boundaries to grow on to maturity*. Throughout this LVIA minimising adverse effects arising to the landscape character and visual amenity of the area as a result of

Legislation	Legislative context
	the Proposed Development have been considered by incorporating mitigation measures such as those set out in paragraphs 2.10.131-133.
Planning Policy Wales, Edition 12 (Ref 11-6)	Large scale solar farms will be considered under the heading of *Renewable and Low Carbon Energy* within the *Productive and Enterprising Places* topic. When discussing *Locational Policies for Renewable and Low Carbon Energy Development* paragraph 5.9.15 states that *outside identified areas, planning applications for renewable and low carbon energy developments should be determined based on the merits of the individual proposal* and goes on to explain that the *local need for a particular scheme is not a material consideration, as energy generation is of national significance.* Paragraph 5.9.20 explains that when determining applications planning authorities should identify *the impact on the natural and historic environment* as well as their *cumulative impact.* Paragraph 5.9.21 expects developers wherever possible to *consider how to avoid, or otherwise minimise, adverse impacts through careful consideration of location, scale, design and other measures.* General LVIA issues are included in Chapter 6 - Distinctive and Natural Places and more specifically within Section 6.3 Landscape. Paragraph 6.3.12 and 6.3.13 relate to non-statutory designations such as Special Landscape Areas *that define local areas of high landscape importance, which may be unique, exceptional or distinctive to the area. Planning authorities should apply these designations where there is good reason to believe that normal planning policies cannot provide the necessary protection.* Paragraphs 6.3.21 concerns the use of LANDMAP and its role in informing landscape assessments needed to inform local authorities in making local policy, guidance and decision making.

Legislation	Legislative context
Future Wales - The National Plan 2040 (Ref 11-7)	**Policy 17** – Renewable and Low Carbon Energy and Associated Infrastructure notes that *the Welsh Government strongly supports the principle of developing renewable and low carbon energy from all technologies and at all scales to meet our future energy needs. It goes on to explain that applications for large-scale wind and solar will not be permitted in National Parks and Areas of Outstanding Natural Beauty and all proposals should demonstrate that they will not have an unacceptable adverse impact on the environment. And that proposals should describe the net benefits the scheme will bring in terms of social, economic, environmental and cultural improvements to local communities. New strategic grid infrastructure for the transmission and distribution of energy should be designed to minimise visual impact on nearby communities.* **Policy 18** – Renewable and Low Carbon Energy Developments of National Significance. Proposals qualifying as Developments of National Significance will be permitted subject to Policy 17 and the criteria listed under Policy 18. Of relevance to the LVIA for the Project, item 1 requires that there are no unacceptable adverse impact on the surrounding landscape and item 2 requires that there are no unacceptable adverse visual impacts on nearby communities and individual dwellings. The cumulative impacts of existing and consented renewable energy developments should also be considered.
Local planning policy	
Newport Local Development Plan 2011-26, Adopted January 2015 (Ref 11-8)	**Objective 1 – Sustainable User of Land** *To ensure that all development makes the most efficient use of natural resources by seeking to locate development in the most sustainable locations, minimise the impact on the environment and make a positive contribution to local communities.* **Objective 2 – Climate Change**

Legislation	Legislative context
	To ensure that development and land uses in Newport make a positive contribution to minimising, adapting to or mitigating against the causes and impacts of climate change, by incorporating the principles of sustainable design, changes to travel behaviour, managing the risks and consequences of flooding, and improving efficiency in the use of energy, waste and water. **Objective 6 – Conservation of the Natural Environment** *To protect and enhance the quality of the natural environment, including landscape, protected habitats and species of principal importance for biodiversity in Wales (regardless of greenfield or brownfield status) and the protection of controlled waters.* **SP5 - Countryside** *Development in the countryside (that is, that area of land lying beyond the settlement boundaries shown on the proposal and inset maps) will only be permitted where the use is appropriate in the countryside, respects the landscape character and biodiversity of the immediate and surrounding area and is appropriate in scale and design…* **SP8 – Special Landscape Areas** *Special Landscape Areas are designated as follows within which proposals will be required to contribute positively to the area through high quality design, materials and management schemes that demonstrate a clear appreciation of the area's special features:* *…Caldicot Levels"* **SP9 – Conservation of the Natural, Historic and Built Environment** *The conservation, enhancement and management of recognised sites within the natural, historic and built environment will be*

Legislation	Legislative context
	sought in all proposals. **GP5 – General Development Principles – Natural Environment** *Development will be permitted where, as applicable:* *i. The proposals are designed and managed to protect and encourage biodiversity and ecological connectivity, including through the incorporation of new features on or off site to further the UK, Welsh and/or Newport biodiversity action plans;* *ii. …* *iii. There will be no unacceptable impact on landscape quality;* *iv. The proposal includes an appropriate landscape scheme, which enhances the site and the wider context including green infrastructure and biodiversity networks;* *v. The proposal includes appropriate tree planting or retention where appropriate and does not result in the unacceptable loss of or harm to trees, woodland or hedgerows that have wildlife or amenity value.* **GP6 – General Development Principles – Quality of Design** *Good quality design will be sought in all forms of development. The aim is to create a safe, accessible, attractive and convenient environment. In considering development proposals the following fundamental design principles should be addressed:* *i. Context of the site: all development should be sensitive to the unique qualities of the site and respond positively to the character of the area;* *…*

Legislation	Legislative context
	CE4 – Historic Landscapes, Parks, Gardens and Battlefields Sites included in the Register of Landscapes, Parks and Gardens of Special Historic Interest and identified Historic Battlefields should be protected, conserved, enhanced and where appropriate, restored. Attention will also be given to their setting. **CE10 – Renewable Energy** *Renewable energy schemes will be considered favourably, subject to there being no over-riding environmental and amenity considerations. Small scale micro-generation will be encouraged within the settlement boundary. Large scale proposals may be more appropriately located outside of the defined settlement boundary if no appropriate brownfield sites exist. The cumulative impacts of renewable energy schemes will be an important consideration.*
Monmouthshire County Council Adopted Local Development Plan 2011-21, February 2014 (Ref 11-9)	**S12 – Efficient Resources Use and Flood Risk** *All new development must:* • *Demonstrate sustainable and efficient resource use – this will include energy efficiency/ increasing the supply of renewable energy, sustainable construction materials/ techniques, water conservation/ efficiency and waste reduction…* **S13 – Landscape, Green Infrastructure and the Natural Environment** *Development proposals must:* 1. *Maintain the character and quality of the landscape by:* i. *identifying, protecting and, where appropriate, enhancing the distinctive landscape and historical, cultural, ecological and geological heritage, including natural and man-made elements associated with existing landscape character;*

Legislation	Legislative context
	ii. protecting areas subject to international and national landscape designations; *iii. preserving local distinctiveness, sense of place and setting;* *iv. respecting and conserving specific landscape features, such as hedges, trees and ponds;* *v. protecting existing key landscape views and vistas.* *2. Maintain, protect and enhance the integrity and connectivity of Monmouthshire's green infrastructure network.* *3. Protect, positively manage and enhance biodiversity and geological interests, including designated and non-designated sites, and habitats and species of importance and the ecological connectivity between them.* *4. Seek to integrate landscape elements, green infrastructure, biodiversity features and ecological connectivity features, to create multifunctional, interconnected places that offer opportunities for recreation and healthy activities such as walking and cycling.* **S17 – Place Making and Design** *Development shall contribute to creating high quality, attractive and sustainable places. All development proposals must include and promote high quality, sustainable inclusive design which respects local distinctiveness, respects the character of the site and its surrounding in order to protect and enhance the natural, historic and built environments and to create attractive, safe and accessible places.* **SD1 – Renewable Energy** *Renewable energy schemes will be permitted where:*

Legislation	Legislative context
	1. *There are no unacceptable adverse impacts upon the landscape, townscape and historic features and there is compliance with Policy LC5, with regard to protection and enhancement of landscape character;* 2. *There are no unacceptable adverse impacts on biodiversity;* 3. *There are no unacceptable adverse impacts on the amenities of nearby residents by way of noise, dust, odour or increases in traffic;* 4. *The wider environmental, economic, social and community benefits directly related to the scheme outweigh any potentially adverse impacts; and* 5. *The distinct identity of Monmouthshire will not be compromised.* *For all types of renewable energy, cumulative impacts will be an important consideration where there are other renewable energy schemes currently operating in the area.* *When the technology is no longer operational there is a requirement to decommission, remove the facility and complete a restoration of the site to its original condition.* **LC5 – Protection and Enhancement of Landscape Character** *Development proposals that will impact upon landscape character, as defined by LANDMAP Landscape Character Assessment, must demonstrate through a landscape assessment how landscape character has influenced their design, scale, nature and site selection.* *Development will be permitted provided it will not have an unacceptable adverse effect on the special character or quality of Monmouthshire's landscape in terms of its visual, historic,*

Legislation	Legislative context
	geological, ecological or cultural aspects by: *a. Causing significant visual intrusion;* *b. Causing significant adverse change in the character of the built or natural landscape;* *c. Being insensitively and unsympathetically sited within the landscape;* *d. Introducing or intensifying a use which is incompatible with its location;* *e. Failing to harmonise with, or enhance the landform and landscape; and /or* *f. Losing or failing to incorporate important traditional features, patterns, structures and layout of settlements and landscapes of both the built and natural environment.* *Particular emphasis will be given to those landscapes identified through the LANDMAP Landscape Character Assessment as being of high and outstanding quality because of a certain landscape quality or combination of qualities.* **GI1 – Green Infrastructure** *Development proposals will be expected to maintain, protect and enhance Monmouthshire's diverse green infrastructure network by:* *a. Ensuring that individual green assets are retained wherever possible and integrated into new development. Where loss of green infrastructure is unavoidable in order to secure sustainable development appropriate mitigation and/or compensation of the lost assets will be required;* *b. Incorporating new and /or enhanced green infrastructure of*

Legislation	Legislative context
	an appropriate type, standard and size. Where on-site provision of green infrastructure is not possible, contributions will be sought to make appropriate provision for green infrastructure off-site. **DES1 – General Design Considerations** *All development should be of a high quality sustainable design and respect the local character and distinctiveness of Monmouthshire's built, historic and natural environment. Development proposals will be required to:* *a. ensure a safe, secure, pleasant and convenient environment that is accessible to all members of the community, supports the principles of community safety and encourages walking and cycling;* *b. contribute towards sense of place whilst ensuring that the amount of development and its intensity is compatible with existing uses;* *c. respect the existing form, scale, siting, massing, materials and layout of its setting…* *d. …* *e. respect built and natural views and panoramas where they include historical features and / or attractive or distinctive built environment or landscape;* *f. …* *g. incorporate and, where possible enhance existing features that are of historical, visual or nature conservation value and use the vernacular tradition where appropriate;* *h. include landscape proposals for new buildings and land*

Legislation	Legislative context
	uses in order that they integrate into their surroundings, taking into account the appearance of the existing landscape and its intrinsic character, as defined through the LANDMAP process. Landscaping should take into account, and where appropriate retain, existing trees and hedgerows… **DES2 – Areas of Amenity Importance** *Development proposals on areas of amenity importance will only be permitted if there is no unacceptable adverse effect on any of the following:* *d. the cultural amenity of the area, including places and features of archaeological, historic, geological and landscape importance; and* *e. the nature conservation interest of the area, through damage to, or the loss of, important habitats or natural features (policy NE1 applies).*

Technical Guidance

11.2.4 A summary of the technical guidance for the LVIA is given in **Table 11-5**.

Table 11-5 Technical guidance relevant to the LVIA

Technical guidance document	Context
Guidelines for Landscape and Visual Impact Assessment (Third Edition) (Ref 11-10)	The third edition of this guidance (known as 'GLVIA3') which is produced by the Landscape Institute and Institute of Environmental Assessment is widely regarded by landscape and planning professions as the 'industry standard' together with best practice and professional experience. GLVIA3 provides the framework within which the remaining sections of the PEIR have been undertaken with the detailed

Technical guidance document	Context
	implications for the methodology by which the LVIA has been undertaken being set out in **Section 11.4** and **Appendix 11A**.
Using LANDMAP in Landscape and Visual Impact Assessments (GN46) (Ref 11-11)	This guidance outlines Natural Resources Wales (NRW) advice on how LANDMAP information should be used in LVIAs. It sets out typical search and Study Area extents for a range tall structures and describes the filtering process that should be applied to existing LANDMAP evidence to help focus the detailed assessment of potentially sensitive landscape and visual receptors on the aspect areas most likely to be affected.
Technical Guidance Note 02/21 - Assessing landscape value outside national designations (Ref 11-12)	This technical guidance note provides information and guidance to landscape professionals and others who need to make judgments about the value of a landscape (outside national landscape designations) in the context of the UK Town and Country Planning system.
Visual Representation of Development Proposals (Ref 11-13)	This Technical Guidance Note applies to visual representation of all forms of development.
Technical Information Note 04/2020 – Infrastructure (Ref 11-14)	This Technical Guidance Note provides information on the planning, design and management of infrastructure to support the delivery of major infrastructure projects in the UK. Part 1 of the document explains what infrastructure is, the role of the Landscape Professional and the planning and design process in a major infrastructure project. Part 2 provides technical guidance and resources, introducing documents of relevance to different infrastructure types.

Technical guidance document	Context
Planning guidance for the development of large scale ground mounted solar PV systems (Ref 11-15)	This guidance documents provides guidance on aspects of design for solar developments including general matters relating to landscape and views. Appendix A provide more detailed guidance on the information that should be included within an LVIA although this pre-dates GLVIA3 which is now recognised as the industry standard guidance.
Biodiversity Guidance for Solar Developments (Ref 11-16)	This guidance documents provides advice on the design and management of landscape and ecological features within solar developments such as hedgerows, grassland, woodland and water bodies. It also establishes the expectation that they should be accompanied by a Landscape and Ecological Management Plan (LEMP).

11.3 Assessment Assumptions and Limitations

11.3.1 There are no limitations which affect the robustness of the assessment of the likely significant effects of the Proposed Development.

11.3.2 All assessments have been undertaken from publicly accessible locations, no private access has been secured for the purposes of the assessment.

11.3.3 At this stage, the assessment has considered Proposed Grid Connection Option 2 of the proposed Grid Connection Infrastructure in relation to the location and position of compounds. This is to ensure that the worst case scenario is assessed as this includes the highest number of compounds that are most likely to be visible from publicly accessible locations.

11.4 Stakeholder Engagement

11.4.1 An EIA Scoping Report (**Appendix 1C**) for the Proposed Development and a request

for an EIA Scoping Opinion from the Planning Inspectorate was submitted in December 2024**. Table 11-6** presents a summary of comments provided by the Planning Inspectorate and consultees (**Appendix 1D**) as part of the scoping process and the Applicant's response, highlighting where relevant how these comments have been addressed within this Chapter.

Table 11-6 Main matters raised during consultation

Consultee	Main matter raised	How has the concern been addressed	Location of response in chapter
Planning Inspectorate	Indirect effects upon landscape and visual receptors beyond 5km all phases: This matter is proposed to be scoped out on the basis that indirect effects on landscape and visual receptors are not expected beyond the 5km study area. The Inspectorate notes that the ZTV indicates visibility of the proposed development beyond the 5km study area. Furthermore, insufficient information has been provided on the nature and location of potential receptors beyond the stated study area. As such,	A refined ZTV, using a more detailed DSM has been provided in **Figure 11-6.** This illustrates that significant effects are not likely to occur beyond 1 km, Field observations also established that significant effects will not occur beyond 1km of the PEIR Assessment Boundary. **Figure 11-6** demonstrates that intervisibility with the proposed PV Arrays typically aligns with the edge or canopy's of woodland on higher ground to the north. Any views at ground level are likely to be highly constrained, and at a distance beyond 1km is unlikely to represent a significant effect.	**Figure 11-6** and **Figure 11-7** – ZTV's. **Appendix 11J** Viewpoint Analysis. **Section 11.9** - Assessment

Consultee	Main matter raised	How has the concern been addressed	Location of response in chapter
	the Inspectorate is not in a position to scope this matter out. The ES should provide clear justification for the stated 5km study area including reference to the ZTV and the potential impacts to identified receptors.		
Planning Inspectorate	Cumulative effects beyond 5km – all phases: This matter is proposed to be scoped out on the basis that cumulative effects are not expected beyond the 5km study area. The Inspectorate notes that the ZTV indicates visibility of the proposed development beyond the 5km study area. Furthermore, insufficient information has been provided on the nature and location of cumulative schemes beyond the 5km study	A refined ZTV, using a more detailed DSM has been provided in **Figure 11-6**. This illustrates that significant effects are not likely to occur beyond 1km. Field observations also established that significant effects will not occur beyond 1km of the PEIR Assessment Boundary. **Figure 11-6** demonstrates that intervisibility with the proposed solar arrays typically aligns with the edge or canopy's of woodland on higher ground to the north. Any views at ground level are likely to be highly constrained, and at a	**Figure 11-6 & 7** – ZTV's. **Figure 11J** Viewpoint Analysis. **Section 11.9** – Assessment **Section 11.12** – Cumulative Assessment

Consultee	Main matter raised	How has the concern been addressed	Location of response in chapter
	area. As such, the Inspectorate is not in a position to scope this matter out. The ES should provide clear justification for the stated 5km study area including reference to the ZTV and the potential impacts to identified cumulative schemes.	distance beyond 1km is unlikely to represent a significant effect.	
Planning Inspectorate	Individual residential properties beyond 1km – all phases: This matter is proposed to be scoped out on the basis that limited visual effects are expected on properties beyond 1km. Insufficient information has been provided regarding the nature of these receptors and extent of visibility, therefore the Inspectorate is unable to scope out this matter out at this stage.	Refined ZTV illustrated that significant effects are not likely to occur beyond 5km which served as a starting point, Field observations established that significant effects will not occur beyond 1km of the PEIR Assessment Boundary.	**Figure 11-6** and **Figure 11-7** – ZTV's. **Appendix 11J** Viewpoint Analysis. **Section 11.9** - Assessment

Consultee	Main matter raised	How has the concern been addressed	Location of response in chapter
Planning Inspectorate	Indirect effects on Seascape Character – all Phases: The EIA Scoping Report proposes to scope this matter out on the basis that impacts to Seascape Character from the construction, operation and decommissioning of the proposed development are not expected to occur. Little justification or evidence has been provided to suggest that the proposed development will not have significant effects on seascape character. As such, the Inspectorate is currently not in a position to scope this matter out. The ES should assess any potentially significant impacts to Seascape Character.	Assessment of seascape character included based on: - LCA B1: Severn Estuary (incorporating B1.1: The Welsh Grounds from the Gwent Levels Landscape Character Assessment. - MCA 29: 29 Severn Estuary (Wales) from the National Seascape Assessment for Wales.	**Appendix 11I** – LCA/MCA Assessment **Section 11.6** – Baseline information **Section 11.9** - Assessment

Consultee	Main matter raised	How has the concern been addressed	Location of response in chapter
Planning Inspectorate	Study area: The EIA Scoping Report states that the study area for the Landscape and Visual Assessment is based on professional judgment including an understanding of the local landscape character, the scale of the construction and development activities proposed, and a review of study areas used for similar solar projects. It is the Inspectorate's opinion that the study area should be based on the furthest extent of likely significant effects. This should include consideration of the ZTV.	Refined ZTV has informed the scope of study area and receptors included in the LVIA which was confirmed by field observations.	**Figure 11-6** and **Figure 11-7** – ZTV's. **Appendix 11J** Viewpoint Analysis.

11.5 Assessment Methodology

11.5.1 The generic project-wide approach to the assessment methodology is set out in **Chapter 5: EIA Methodology**. However, whilst this has informed the approach that has been used in this LVIA, it is necessary to set out how this methodology has been applied, and adapted as appropriate, to address the specific needs of this LVIA.

Methodology for predicted landscape and visual effects

11.5.2 The LVIA has been undertaken in accordance with the methodology set out in **Appendix 11A** and conforms to GLVIA3 (314) which is widely accepted throughout the UK as the appropriate approach to use. Other technical guidance set out in **Table 11-7** has also informed the methodology included in **Appendix 11A**.

Significance evaluation methodology

11.5.3 The level of landscape and visual effects is determined with reference to landscape or visual sensitivity and the magnitude of landscape or visual change experienced. For each receptor, the evaluation process is informed by use of a matrix, in **Table 11-7**, that sets out the level of effects and whether this is significant or not significant. Typically effects that are moderate or greater (identified as bold in the table below) are considered to be significant, although professional judgement is applied, as some effects may be moderate but may not be considered significant.

Table 11-7: Guide to the Landscape and Visual Significance of Effect

		Magnitude			
		High	**Medium**	**Low**	**Negligible**
Sensitivity	**High**	Major	Major or Moderate	Moderate	Minor or Negligible
	Medium	Major or Moderate	Moderate	Moderate or Minor	Negligible
	Low	Moderate	Moderate or Minor	Minor	Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible

Defining the Study Area

11.5.4 GLVIA3 recommends *that* *'The level of detail provided should be that which is reasonably required to assess the likely significant effects'.* Paragraph 5.2 also states *that* *'The Study Area should include the site itself and the full extent of the wider landscape around it which the Project may influence in a significant manner'* Current NRW guidance (Ref 11-17) advises that the LVIA study area for structures with a height of less than 25m should extend to a 2km distance. The Study Area is therefore based on professional judgement to capture areas that are potentially and likely to be significantly affected by the Proposed Development. This judgement is based on an understanding of the local landscape character and the scale of the construction and development activities proposed within the PEIR Assessment Boundary as well as a review of Study Areas used for similar solar projects.

11.5.5 As per the scoping consultation process, an initial LVIA Study Area was set out to extend 5km from the PEIR Assessment Boundary of the Proposed Development. This extent is illustrated in **Figure 11-1.** While the maximum height of the Solar Panels will be 3.5m, associated infrastructure such as containers housing substations or transformers could reach up to 9.5m. In line with NRW guidance referenced above, this informed a reduction of the study area from 5km to 2km to enable a more focussed review.

11.5.6 The 5km radius provided a starting point for desk-based analysis, while the 2km extent allowed for targeted fieldwork. However, field observations confirmed that the area where significant effects could potentially arise lies within 1km of the PEIR Assessment Boundary.

11.5.7 Accordingly, the formal Study Area on which the assessment is based has been set at 1km, as shown in **Figure 11-7.** It is important to note that the defined LVIA Study Area does not represent the limit of potential visibility but the limit to which significant effects are anticipated.

11.6 Baseline Conditions

Current Baseline

11.6.1 The Site is located on the northern side of the Severn Estuary between Whitson in

the west and south of Undy in the east within the administrative jurisdiction boundaries of Newport City Council and Monmouthshire County Council. The nearest settlement is Redwick village located 70 metres (m) to the north of the PEIR Assessment Boundary.

11.6.2 The Site occupies a low-lying landscape comprising a mixture of regular, rectilinear and irregular agricultural fields of small-medium scale used for predominantly pasture and some arable use, refer to **Figure 11-5**. These are bordered by a combination of hedgerows, hedgerow trees, linear tree belts and drainage reens, which is a regional term to describe drainage ditches used to drain farmland that form the Gwent levels, and manage water levels. Hedgerows often line reens which, in places have become overgrown, although many are clipped and managed as part of the agricultural management regimes. Lines of electricity transmission pylons and overhead powerlines also cross the area including through parts of the Proposed Development, mainly in the north-west and east, forming prominent vertical elements in the landscape. Individual wind turbines and three existing solar farms are also evident in the landscape surrounding the PEIR Assessment Boundary located between Whitson and Redwick, and west of Whitson.

11.6.3 The area is served by a sparse network of public rights of way (PRoW), although some cross the Proposed Development, predominantly focused around the village of Redwick that have been promoted as the Redwick Circular Walk. The main opportunity for recreation and for people to experience and appreciate the Gwent Levels landscape is from the Wales Coast Path (WCP) which follows the top of the 5 m high sea wall that runs along the southern margins of the Gwent Levels and separates them from the estuary to the south. National Cycle Network (NCN) Route 4 follows local roads through the area to the north of the Proposed Development and passes through Redwick.

11.6.4 The landscape within the 5km Study Area as indicated on **Figure 11-1**, comprising a mixture of agricultural fields, with a number of settlements including Newport, Caldicot and Magor, as well as a network of transport infrastructure including the A4810, the M4/M48, the A48 and the South Wales Main Railway Line. Numerous large-scale industrial buildings associated with the steel works (Tata Steel and Llanwern Works now disused and part of the site subject to redevelopment), Magor

Brewery and Tesco distribution centre, and National Grid Substation, are also visible broadly to the north, set against a backdrop of rounded wooded hills and the extensive wooded slopes that form Wentwood Forest.

Landscape Receptors

National Landscape Character

11.6.5 NRW has divided Wales into 48 National Landscape Character Areas (NLCA) (Ref 11-17). The NRW National Landscape Character Map for Wales (Ref 11-18) is referred to for a strategic understanding of landscape character within the Study Area and is shown on **Figure 11-2.** This outlines the wider setting for the Proposed Development and provides a context for the description of local landscape character. As the information provided is given at a broader, macro scale the NCLA's are not taken further into the assessment.

11.6.6 The host character area containing the Site is **NLCA34 – Gwent Levels** (Ref 11-19) covering the majority of the Study Area. The NLCA34 profile provides the following description:

"This is a distinctive, flat, lowland landscape with a geometric patchwork of watercourses that run between fertile fields. It is remarkable for having been created by reclaiming marshland and inter-tidal areas during successive periods going back to Roman times. In parts, the older patterns have changed almost beyond recognition over the past 150 years, sections having been built over by a major railway line, two motorways, a large steelworks, and a power station. In addition, there has been a rapid growth of once small settlements into dormitory villages, and urban expansion from both Cardiff and Newport.

Yet despite these changes, substantial areas of rural landscape and traditional historic features remain, including in many places the pattern reens, being ditches that manage the water between the fields, and whose size and appearance varies according to the fashion of the period when reclamation work took place. Medieval churches and farmsteads stand on low horizons; the characteristic pollarded willows stand in lines beside the reens, though they are ever-decreasing; and the fertile soils are used for a variety of land uses, including cereal production, dairying, sheep and store cattle rearing and equestrian pursuits".

11.6.7 The Key Characteristics of NLCA34 are identified as:

- *Alluvium – former marsh and inter-tidal areas from the Severn Estuary. Triassic mudstones are beneath.*
- *Reclaimed landscape – drained, improved, enclosed, historical, agricultural landscape.*
- *Divided by the Usk estuary – into two distinct parts: the Wentlooge levels to the west and the Caldicot Level to the east. Collectively they occupy all the coastal levels between Cardiff and the England border by the Severn crossings. The Wye also flows out across the eastern end of this area.*
- *Reens and willows or hedgerows - a network of straight drainage ditches known as reens, acting also as field boundaries; still very extensive patterns but there are only remnant lines of willows on their banks. Hedgerows with less regular field shapes are on the slightly higher ground, reflecting different phases of reclamation and enclosure.*
- *Flood embankment to the sea - The land has been successively reclaimed from the sea and coastal marshes, and is protected from the tides by a sea wall.*
- *Fertile soils and agriculture - supporting a variety of crops including cereal, sheep grazing, dairying, lowland beef production and equestrian husbandry.*
- *Wet pasture - one of the largest areas of reclaimed wet pasture in Britain. The reens support rare aquatic plants are home to a diverse range of invertebrates.*
- *Archeologically important - one of the finest examples of a 'hand crafted' landscape, it is on the Register of Landscape of Outstanding Historic Interest. Some of the drainage and reclamation works still present in today's landscape date from the Roman period, while buried under the alluvium are archaeological deposits of immense potential and spanning the prehistoric to Medieval periods.*
- *Comparatively little settlement - away from the urban fringes, the Levels have comparatively little settlement, with small nucleated and ribbon settlements linked by narrow roads.*

- *Open views between hills in Wales and England – an exposed landscape in places with long views to surrounding areas and (from only areas with slight elevation) to the Severn Estuary and Bristol Channel.*

- *Major developments on fringes – Llanwern Steelworks, a power station and pylons stand out in the flat landscape, while disproportionately large modern factory units outside Newport are also visible for long distances, and main motorways and rail lines are heard. Suburban development has enlarged settlements and urban development has spread from the adjacent Cardiff and Newport areas.*

11.6.8 There are other NLCA's located within and around the northern fringes of the Study Area (listed below) and extents of which are shown on **Figure 11-1** are located beyond 1km. The ZTV in **Figure 11-6** and field observations established that there is little-to-no inter-visibility beyond 1km and therefore between these areas and the Site of the Proposed Development so they will not be taken further into the assessment, these include:

- NLCA32 – Wye Valley and Wentwood (approx. 3.1km to the north east of the Site);
- NLCA35 – Cardiff, Barry and Newport (approx. 4.7km to the north west of the Site); and
- NLCA31 – Central Monmouthshire (approx. 5.7km to the north west of the Site).

Regional Landscape Character

11.6.9 The Living Levels Landscape Partnership (Ref 11-20) is a collective of stakeholders including Newport City Council, Monmouthshire County Council and Cardiff City Council plus a number of other organisations that have an interest in this area from a landscape, ecological or historic perspective. The intention of the Partnership is *to* bring together like-minded stakeholders to work together to collectively recapture, enhance and celebrate the historic area for all to enjoy. Their work covers many aspects to enhance the landscape from natural heritage restoration, improving visitor experience, and working with communities to showcase the incredible heritage this landscape has to offer.

11.6.10 Included as Appendix 1 of the Landscape Conservation Action Plan (Ref 11-121) is the Gwent Levels Landscape Character Assessment (Ref 11-22). Produced as part of a suite of documents prepared to support a bid for the Heritage Lottery Fund's Landscape Partnership programme, this establishes the existing and historic baseline situation for the wider Gwent Levels that can then inform the ongoing management of this landscape. The approach to this character assessment was informed by NRW's LANDMAP information system together with other published studies across the area to provide a bespoke document describing the characteristics and qualities of this landscape at a regional level.

11.6.11 The Gwent Levels Landscape Character Assessment identifies five Landscape Character Types (LCT's) within the Study Area as shown on **Figure 11-2** These are then broken down into ten detailed Landscape Character Area (LCA's) that are described as follows:

"…unique and discrete geographical areas of landscape that share generic characteristics with other areas of the same type, but have their own individual distinctive characteristics/qualities that give the area its particular identity and sense of place."

11.6.12 The Site is located within LCA A2: Caldicot Level, which is described as follows:

"The Caldicot Level forms part of the extensive area of reclaimed marsh and wetlands from Cardiff to Chepstow. Reaching up to 10 metres AOD, the area is characterised by its network of drainage ditches (reens) which vary in form and character. It is a flat, open and exposed historic landscape of reclaimed pasture with a variety of regular and irregular field patterns divided by reens."

11.6.13 The key characteristics of LCA A2: Caldicot Level are identified as:

- *A flat, open and exposed historic landscape of reclaimed pasture;*
- *Variety of field patterns and drainage channels/reens;*
- *Field enclosures generally regular and neat;*
- *More piecemeal field patterns south of Undy and Magor Pill;*

- *Extensive mature overgown trees/hedgerows;*
- *The historic reens, hedgerows and tree lines including pollarded willows are mostly intact;*
- *Part of the M4 corridor, lines of pylons/powerlines and views of the Second Severn Crossing are visually dominant;*
- *Settlement pattern largely confined to linear residential development along the reenside roads and scattered farmsteads; and*
- *Predominantly detached/cottage housing - rendered/painted rubblestone with tiled/slate roofs.*

11.6.14 Within LCA A2: Caldicot Levels the following Sub-Areas host the Site which provide additional historic landscape characteristics identified at a highly granular level that make these areas unique and distinctive. These have been included for information and reference for the consideration of LCA A2: Caldicot Levels, but to ensure proportionality and brevity will not be included independently in the assessment due their small scale in comparison with the scale of the Proposed Development:

- A2.3 Redwick/Magor/Undy – *"irregular landscape" with some dispersed settlement"*
- A2.4 Magor Lower Grange – *"another of Tintern's estates, drained in the mid-thirteenth century".*
- A2.7 Northern Redwick – *"a fairly simple landscape, including Tintern Abbey's estate at Grangefield":*
- A2.8 Redwick Village – *"the best-preserved and only medieval nucleated settlement on the Levels".*
- A2.9 Redwick Broadmead – *"'regular landscape' derived from the Parliamentary enclosure of open-fields".*
- A2.10 Porton – *"'intermediate' type landscape by the coast".*
- A2.11 Whitson – *"unique planned village of Whitson… Initially, a series of long narrow strips were laid out, surrounded by a "fen-bank". These strips were*

subsequently extended a number of times".

11.6.15 South of the Proposed Development and covering the southern areas within the Study Area is a second relevant LCA; B: Estuary – B1: Severn Estuary and sub area B1.1 The Welsh Grounds (approx. 25 m south on the opposite side of the coastal defence wall). This is described as, *an expansive seascape character area comprising the Welsh part of the Estuary… the coastal backdrop of this character area is characterised by its mixture of rural, urban and industrial uses. The two Severn bridges, mainline rail and the M4/M48 corridors, docks, Uskmouth Power Station and vertical industrial structures (including pylons and wind turbines on Caldicot Level and at Avonmouth) form prominent skyline features when viewed from the estuary… despite the influence of industrial and urban coastal development, havens of tranquillity and a sense of wildness are provided by the expansive intertidal saltmarshes, mudflats and shores of the estuary… Large-scale industrial development visually intrudes upon this open and exposed seascape in particular at Sudbrook and Newpark on the Welsh side, and the Severnside Reach along the English coastline. The open coastal character dominates the area, and where it borders the Caldicot and Mathern Levels the flat reclaimed farmed pastures sits in juxtaposition to the estuarine edge.* This LCA also aligns with the broader MCA 29: Severn Estuary (Wales), and the MCA 39: Severn Estuary, see Marine Character below.

10.1.2 Occupying a substantial area within the Study Area to the north of the Proposed Development is LCA E: Built-up Land (Llanwern Steelworks) (contains the existing substation that the Proposed Development will connect to). This is described as, *over the centuries, parts of the historic Gwent Levels around Newport have been lost to industrial development associated with the port and steelworks*. Due to limited intervisibility with the Site as indicated on **Figure 11-7**, and established during field observations significant effects are unlikely to arise as a result of the Proposed Development.

10.1.3 LCA D2: Caldicot Level and Hinterland is formed by a tract of rolling open countryside to the north of A2: Caldicot Level and E: Built Up Areas and forming the lower hills that rise to the Wentwood forest and ridgeline to the north. A locally distinctive feature of this LCA is the wooded profile of Willcrick Hill. As indicated on **Figure 11-7**, there is limited intervisibility with the Site and the LCA.

LANDMAP

10.1.4 LANDMAP, is national landscape resource developed by NRW. It is a GIS-based resource where landscape characteristics, qualities, and influences are evaluated into a nationally consistent dataset. It includes five datasets that cover aspects such as geological landscape, landscape habitats, visual and sensory qualities, historic landscapes, and cultural landscape services.

10.1.5 In the section discussing the Visual and Sensory aspects of the landscape (as per LANDMAP) paragraph 2.6.8 of the Gwent Levels Landscape Character Assessment provides a summary of the key qualities that give it a unique sense of place:

- *The low horizon, level topography and broad skies, often augmented by dramatic cloudscapes, sunsets and sunrises.*
- *Strong linearity and distinctive geometric pattern of enclosure, drainage, watercourses, lanes and historic route-ways.*
- *Distinctive drainage pattern of canalised rivers, drains, reens and ditches, accentuated by lines of pollard willows.*
- *The sea wall, and banks carrying roads/driveways between farmsteads and villages, often form the only upstanding landscape features in some places.*
- *The large assemblages of waterfowl and waders that visit the coastal mudflats and wetlands, and the vast flocks - murmuration's- of starlings gathering on the Levels in autumn and winter forming mesmeric and dramatic aerial displays.*
- *A Sparse settlement pattern related to subtle topographical variations, the simple and utilitarian style of buildings often reflecting the functional nature of the landscape.*
- *In summer, a verdant and fertile landscape with lush vegetation across meadows and along watercourses; this contrasts with the often wild, bleak and sense of remoteness experienced on the Levels in winter.*
- *Vibrant cities and towns around the edge of the Levels reinforce its strong sense of tranquillity, remoteness and wildness away from human occupation in many places.*

10.1.6 When discussing the Cultural Landscape (as per LANDMAP), being the links between landscape and people from the way human activity has shaped or influenced the landscape to the way people interpret or think about it, the Gwent Levels Landscape Character Assessment suggests how various types of change and/or development could be accommodated within this landscape. With regards infrastructure development and improvements (roads and energy) it includes the following key considerations associated with integrating existing and new infrastructure into the landscape setting of the Gwent Levels:

- *Extending existing patterns of tree clumps and belts, where present, with new planting that is carefully designed to screen the abrupt embankment slopes that are associated with new infrastructure such as roads; in open landscapes, it may be more appropriate to avoid screen planting.*

- *Seeking opportunities to create grassland habitats on existing road verges, bare ground and newly constructed embankments, to provide valuable ecological corridors for pollinators and invertebrates through an intensively farmed landscape.*

- *Integrating new road developments or altered alignments with the existing distinctive patterns of roads and driveways as far as possible.*

- *Carefully-sited tree planting using locally appropriate native species alongside new or altered roads in places to reduce the perceived scale of road developments, integrate with the existing network of rectilinear boundaries and add variety to local views.*

- *Environmental compensatory measures to mitigate unavoidable residual adverse impacts of major infrastructure projects, such as the construction of new reens, ditches and reed beds, which can have potential archaeological impacts.*

Marine Character

11.6.16 On behalf of Welsh Government Natural Resources Wales (NRW) commissioned LUC to prepare a National Seascape Assessment for Wales (Ref 11-23) to inform the production of the Welsh National Marine Plan. The seascape assessment covers all parts of Welsh inshore waters where land-sea interaction is focused which

includes the area between the high water mark and 12 nautical miles out to sea. The seascape assessment identified 29no. National Marine Character Areas (NMCAs) around the coastal waters of Wales within this area with a profiled for each describing Key Characteristics, influences and qualities.

11.6.17 In addition, the Marine Management Organisation commissioned a national seascape assessment for England, which included a Seascape Character Assessment for the South West Inshore and Offshore Marine plan (Ref 11-23) . This covers the whole of the Severn Estuary, acknowledging that there is overlap with the above NRW commissioned assessment. To avoid duplication, it is the NRW commissioned assessment that has been referred to in this assessment.

11.6.18 The NMCA relevant to the Proposed Development is MCA 29: Seven Estuary (Wales) and is shown on **Figure 11-2**. The Key Characteristics are identified as:

- *Expansive funnel-shaped Severn Estuary, sitting at the mouth of four major rivers (the Severn, Wye, Usk and Avon).*
- *The immense tidal range of the estuary is second only to the Bay of Fundy in Canada. The status of the tide has a significant bearing on perceived character.*
- *Soft Triassic and Jurassic rocks exposed along the shore, creating a wide rocky intertidal area. Elsewhere the shore is defined by extensive tidal flats.*
- *Mud, sand and gravel sediments deposited in the Holocene period producing a varied sea bed of flats and bars, with associated shallow waters and numerous shoals presenting hazards to navigation.*
- *Flat Holm Island (SSSI and LNR) forms a gateway feature in the west – an outcrop of harder limestone rising out of the surrounding sediments. Steep Holm forms a similar 'twin' feature in English waters to the south.*
- *Estuary important for the interpretation of coastline dynamics and land-forms, and also past changes in sea level, sediment supply, climate and river flow.*
- *Strong tidal streams and turbidity producing biological communities characteristic of the extreme physical conditions of liquid mud and tide-swept sand and rock.*

- *Tidal flats, saltmarshes and the extensive wet grasslands are of international importance for wintering waterfowl and migratory birds.*

- *Some of the richest and most diverse populations of non-exploited fish in the UK –sea lamprey and twaite shad populations considered to be larger than in any other estuary.*

- *MCA's rich natural resources exploited by humans for millennia, with evidence dating back to the earliest hunter-gatherers roaming what was previously a much larger coastal plain (prior to sea level rise around 6,000 BC).*

- *Long history of coastal reclamation, embankments and diches, notably the extensive Gwent and Wentlooge levels*

- *Long-standing strategic importance for international trade and maritime navigation, particularly as ports on both sides of the Bristol Channel expanded from the medieval period onwards. Cardiff, Newport and Barry still retain important port functions.*

- *Numerous shipwrecks found on the sea floor, particularly in the west – including examples mined and sunk during WWII.*

- *Local trawlers catch plaice, turbot, whiting and rays from the MCA's sandbanks. Recreational charters and beach-based fishing are important economic activities.*

- *Salmon, eels and trout fished commercially and recreationally in the rivers feeding the estuary, including through the traditional method of putcher fishing (medieval intertidal fishtraps are located at Goldcliff, West Pill and Caldicott).*

- *Flat coastline backed by the Wales Coastal Path, affording long views into the Bristol Channel. Cars travelling along the M4 via the Severn Bridge also overlook the area. Views to major commercial, port and industrial development at Cardiff and Avonmouth, as well as the two road bridges, contrasting with the open, empty vistas characterising the Gwent Levels*

- *Seascape's open character affording strong intervisibility with the Somerset coastline, including Portishead, Clevedon and Weston-Super-Mare. The higher*

hill summits of the Quantock Hills AONB and Exmoor National Park form a distinctive upland backdrop.

- *Estuary's classic funnel shape and south-west orientation make it susceptible to extreme weather conditions (including storm surges) sweeping in from the east Atlantic.*

Local Landscape Character - LANDMAP

11.6.19 The selection of LANDMAP Aspect Areas to be included in the LVIA has been carried out in accordance with the methodology provided in Using LANDMAP in Landscape and Visual Impact Assessments GN46 (Ref 11-24). The filtering process described within GN46 is set out in **Appendix 11B** which identified the relevant Aspect Areas located within the initial 5km Study Area set out during scoping. This was later reduced to 2km in line with NRW guidance to enable a more focused review and targeted fieldwork. Field observations and the Viewpoint Analysis presented in **Appendix 11J** established that no significant visual effects are likely to occur beyond a distance of 1km. Therefore, the landscape assessment has been rescoped to include only those Aspect Areas which lie within or partially within a 1km buffer of the Proposed Development. This will apply to the Visual and Sensory Aspect Areas (VSAAs) as shown on **Figure 11-3** as this is of greatest relevance to views experienced by people. For the remaining aspects areas that include Historic Landscape Aspect Areas (HLAAs), Geological Landscapes Aspect Areas (GLAAs), Landscape Habitats Aspect Areas (LHAAs) and Cultural Landscape Services Aspect Areas (CLSAAs) significant effects are only likely to arise from direct effects where works or operations associated with the Proposed Development take place. Therefore, for these Aspect Areas only those that lie within or partially within the PEIR Assessment Boundary (also referred to as host Aspect Areas) have been included in the landscape assessment. Baseline descriptions and a landscape sensitivity assessment which considers both value and susceptibility in accordance with GLVIA3 is reported for each Aspect Area included in the LVIA in **Appendix 11C**.

11.6.20 The two Geological Landscapes Aspect Areas (GLAAs) included in **Appendix 11C** and to be considered further in the assessment are as follows:

- Caldicot Level – Goldcliff (NWPRTGL031) - *Host*; and
- Caldicot Moor (MNMTHGL086) - Host.

11.6.21 The three Landscape Habitats Aspect Areas (LHAAs) included in **Appendix 11C** and to be considered further in the assessment are as follows:

- NWPRTLH054 - *Host*;
- NWPRTLH033 – *Host*; and
- MNMTHLH088 - *Host*.

11.6.22 The seven Visual and Sensory Aspect Areas (VSAAs) within and around the 1km Study Area are illustrated on **Figure 11-3** and those included in **Appendix 11C** which are to be considered further in the assessment are as follows:

- Caldicot Level (NWPRTVS037) – *Host*;
- Western Coastal Grassland (MNMTHVS053) – *Host*;
- Llanwern (NWPRTVS044) – *Host*;
- Estuary Mudflats (NWPRTVS007);
- Severn Estuary (NWPRTVS008);
- Western Saltmarsh & Mudbanks (MNMTHVS057); and
- Bedwin Sands (MNMTHVS095).

11.6.23 The six Historic Landscape Aspect Areas (HLAAs) included in **Appendix 11C** and to be considered further in the assessment are as follows:

- Whitson (NWPRTHL019) – *Host*;
- Redwick (NWPRTHL018) – *Host*;
- Caldicot Level (MNMTHHL001 – *Host*;
- East Usk and Llanwern Industrial (NWPRTHL022) – *Host*;
- Nash/Goldcliff Coastal Zone (NWPRTHL017); and
- Peterstone and the Portland Grounds (NWPRTHL047).

10.1.7 The three Cultural Landscape Services Aspect Areas (CLSAAs) included in

Appendix 11C and to be considered further in the assessment are as follows:

- Caldicot Level (NWPRTCLS051) - *Host*;
- Western Coastal Grasslands (MNMTHCLS082) – *Host*; and
- Llanwern (NWPRTCLS061) – *Host*.

Landscape Designations

National Landscape Designations

11.6.24 The entire Caldicot Levels including the whole PEIR Assessment Boundary is designated as part of a Registered Historic Landscape identified as Gwent Levels, as shown on **Figure 11-4**, together with the Wentlooge Levels further to the west on the opposite side of the River Usk that runs through Newport. Policy CE4 of the Newport Local Development Plan (Ref 11-26) states that registered landscapes should be *protected, conserved, enhanced and where appropriate, restored*.

11.6.25 The description given on the Full Reports of Registered Historic Landscapes for Gwent Levels (Ref 11-25) is as follows, where it is registered as *Outstanding*:

> *"The* levels are a landscape of extraordinarily diverse environmental and archaeological potential. Having been reclaimed from the sea at various times during the historic period, the present land surface is a supreme example of a 'hand-crafted' landscape, artificially created and entirely the work of man, preserving clear evidence of distinctive patterns of settlement, enclosure and drainage systems from successive periods of use. There is also a proven, and possibly quite vast, potential for extensive, buried, waterlogged, archaeological and environmental deposits belonging to earlier landscapes. The levels are therefore a uniquely rich archaeological and historical resource in Wales, and certainly of international importance and significance."

11.6.26 As this is primarily a heritage designation it will not be taken further in the assessment as a landscape receptor. However, it is an indicator of the value placed on this landscape so will be considered during the judgement of its sensitivity to the Proposed Development.

Locally Designated Landscapes

11.6.27 The entirety of the Caldicot Levels within the Study Area inside of the Newport City Council administrative boundary including the larger eastern part of the Site is identified as The Caldicot Level Special Landscape Area 5 (SLA) as shown on **Figure 11-4**.

11.6.28 Policy SP8 of the Newport Local Development Plan (Ref 11-26) states that within

Special Landscape Areas, priority will be given to landscape conservation and enhancement. The designation of an SLA does not preclude development, but any proposals must demonstrate that they have been designed to respect the valued characteristics of the recognised landscape. And goes to explain that *developers will be required to ensure that proposals do not impact or affect the intrinsic character, quality, feature or conservation value of the SLA. Designs will be required to be of a high standard, appropriate in scale and massing, integrated sympathetically into the landscape as well as ensuring long term management.*

11.6.29 The Special Landscape Areas Background Paper revised Deposit Plan (Ref 11-26) supports the Local Development Plan sets out *the SLA assessment and final designation proposals for Newport. The Background Paper explains that a Special Landscape Area (SLA) is a non-statutory local landscape designation used by Local Planning Authorities to define areas of high landscape importance.*

11.6.30 The Background Paper is based on a review of SLAs in a report commissioned by Newport City Council and produced in 2009 by TACP Consultants which is included in Appendix 1. Identification of areas for potential inclusion in SLA was based on a review of the evaluation and survey information provided for LANDMAP Aspect Areas. This document identifies seven potential SLA's and provides a profile for each, including SLA 5 Caldicot Levels which describes the following primary landscape qualities and features:

- *Extensive area of reclaimed marsh and wetlands* that extends from Cardiff to Chepstow.
- *Characterised by its network of drainage ditches (reens) which vary in form and character. The eastern edge of the SLA is characterised by a regular, rectilinear pattern, whereas around Whiston and Caldicot the pattern is more sinuous*.
- *The vegetation pattern reflects the differing period of enclosure.* The main lines of vegetation follow the drainage ditches, and these vary from no vegetation through the reeds and scrub to strong lines of trees, primarily willows and oak.
- *The main visual detractors* to the SLA are the interface with the Llanwern Steelworks site on its northern boundary and the cluster of overhead power lines

that focus upon Uskmouth power station.

- *The SLA also covers the intertidal zone on the seaward side of the sea wall. This includes the Welsh Grounds an extensive area of mudflats exposed at low tide.* The interrelationship of the intertidal zone to the inland area is focused upon the protective sea wall.

Sensitivity

11.6.31 Judgements regarding the sensitivity of landscape receptors are made in **Appendices 11C** and **11I** along with a description and/or rationale for how these have been made. The judgement making process follows the LVIA Methodology in **Appendix 11A**, or if different such as with LANDMAP Aspect Areas is set out within **Appendix 11C**. A summary of those sensitivity judgements is provided in **Table 11-8** below.

Table 11-8 Sensitivity of Landscape Receptors

Published LCAs	Landscape Receptor (LCA / LCA Sub-Area / MCA/LANDMAP Aspect Area / SLA)	Sensitivity
Gwent Levels Landscape Character Assessment	LCA A2: Caldicot Level	Medium
	LCA B1 Severn Estuary – Sub-Area B1b1 The Welsh Grounds	High
National Seascape Assessment for Wales	MCA 29: Severn Estuary (Wales) (MCA 39: Severn Estuary- England)	High
LANDMAP Aspect Areas	GLAA: Caldicot Level – Goldcliff (NWPRTGL031) – *Host*	Medium
	GLAA: Caldicot Moor (MNMTHGL086) - *Host*	Medium/Low
	LHAA: NWPRTLH054 – *Host*	Medium
	LHAA: NWPRTLH033 – *Host*	Medium
	LHAA: MNMTHLH088 – *Host*	Medium
	VSAA: Caldicot Level (NWPRTVS037) – *Host*	Medium

Published LCAs	Landscape Receptor (LCA / LCA Sub-Area / MCA/LANDMAP Aspect Area / SLA)	Sensitivity
	VSAA: Western Coastal Grassland (MNMTHVS053) – *Host*	Medium
	VSAA: Llanwern (NWPRTVS044) – *Host*	Low
	VSAA: Estuary Mudflats (NWPRTVS007)	High
	VSAA: Severn Estuary (NWPRTVS008)	High
	VSAA: Western Saltmarsh & Mudbanks (MNMTHVS057)	High
	VSAA: Bedwin Sands (MNMTHVS095)	High
	HLAA: Whitson (NWPRTHL019) – *Host*	High
	HLAA: Redwick (NWPRTHL018) – *Host*	High
	HLAA: Caldicot Level (MNMTHHL001 – *Host*	High
	HLAA: East Usk and Llanwern Industrial (NWPRTHL022) – *Host*	Medium
	HLAA: Nash/Goldcliff Coastal Zone (NWPRTHL017)	High
	HLAA: Peterstone and the Portland Grounds (NWPRTHL047)	High
	CLSAA: Caldicot Level (NWPRTCLS051) - *Host*	Medium
	CSLAA: Western Coastal Grasslands (MNMTHCLS082) – *Host*	Medium
	CSLAA: Llanwern (NWPRTCLS061) – Host	Low
The Special Landscape Areas Background Paper	SLA 5: The Caldicot Level	Medium

Visual Receptors

11.6.32 The visual assessment draws upon the visual receptor baseline informed by the ZTVs as shown on **Figure 11-6 and 11-7**, desk study, field survey and viewpoint analysis. The detailed analysis of viewpoints is used to guide the assessment of visual receptors. The baseline establishes the receptors that are scoped into the assessment, and taken forward to the assessment stage. Field observations

established that visual receptors (people) that have the potential to experience significant effects as a result of the Proposed Development will be restricted to within 1km of the PEIR Assessment Boundary, which is demonstrated through the ZTV indicated on **Figures 11-6** and **11-7**. These suggest that beyond the 1km intervisibility with the Site is limited to areas of woodland on higher ground to the north and that at ground level there is little to no intervisibility. Therefore, the assessment has focused on those receptors potentially subject to effects on views and visual amenity within the 1km Study Area, these are assessed in the following types:

- Views from settlements
- Views from scattered residential properties outside settlements;
- Views experienced whilst travelling through the landscape by road users, walkers, horse riders and cyclists for example; and
- Views from tourist and recreational destinations.

Visual Receptors: Settlements

11.6.33 The only settlement within 1km of the PEIR Assessment Boundary is the hamlet of Redwick. Redwick is a nucleated village focused around St Thomas Church and The Rose Inn, at the point at which South Row turns into the Church Row. **Figure 11-7** shows that the ZTV does not cover the majority of the hamlet. While the ZTV does include some of the properties in the hamlet, this is likely to be as a result of the ZTV software accounting for the heights of the buildings and covering their roofs. Field observations established that views of the Proposed Development at ground level from publicly accessible locations within the village are not available due to the screening provided by the combination of the flat low-lying landscape, intervening buildings and layers of intervening vegetation. This is also likely to be the case for views from the majority of properties within Redwick. Where there are properties on the edge of the village that have the potential for views of the Proposed Development they will be included in the consideration of residential properties below.

11.6.34 As only the properties on the southern edge of the village of Undy are covered by the ZTV they will be included in the consideration of residential properties below. Field observations established that views of the Proposed Development from

publicly accessible locations within Undy are not available due to the combination of the flat low-lying landscape, intervening buildings and layers of intervening vegetation between this location of the Site.

Visual Receptors: Residential Properties

11.6.35 Residential receptors have been broadly grouped to reflect their geographic location and proximity to the Proposed Development as follows:

- **Residential properties to the north-west of the Proposed Development** (this includes residential properties along Whitson Road and Whitson Common Road);
- **Whitson and outlying properties to the south of Whitson and south-west of the Proposed Development** (this includes residential properties along Whitson Common Road, Porton Road, Porton House, and those along the coastline);
- **Outlying properties to the north of the Proposed Development** (this includes Cock Street, Grangefield, Greenfield House, and properties along North Row);
- **Redwick and outlying residential property to the south of the hamlet** along Green Street, South Row and Mead Lane (including Mead Farm, Church Farm and Great House);
- **Summerleaze and outlying residential property surrounding the east of the Proposed Development** along Pill Street, Whitwall, (including Summerleaze Farm, Lower Grange, Magorpill Farm, Pill Farm, Chapel Farm and Pennycloud); and
- **Properties on the southern edge of Undy**.

11.6.36 Generally, people living in residential properties are considered to place great value on their views and the value is considered to be *high*, this is further reinforced by their location within the Gwent Levels Landscape of Historic Interest and many of them are located within, close to, or looking into the Caldicot Level SLA. As residents will be able to enjoy static, long-term views that will be focused on a particular part of the landscape their susceptibility to visual change is also considered to be *High*. When the value of the views is combined with the susceptibility of residents the overall sensitivity of these receptors will be *High*. This is in accordance with the LVIA Methodology in **Appendix 11A**.

Visual Receptors: Recreational Routes and Destinations

11.6.37 The Study Area includes a wide range of visual receptors undertaking outdoor recreational activities where the availability of views and their composition are likely to contribute to receptors' enjoyment of their activity. Recreational receptors within 1km of the Proposed Development and covered by the ZTV have been identified under the following categories:

- Designated long distance footpaths;
- Sustrans National Cycle Network (NCN) Routes;
- Public Rights of Way (PRoWs); and
- Outdoor Recreational Facilities/Destinations.

11.6.38 Field observations established that potential views of the Proposed Development will be contained within 1km of the PEIR Assessment Boundary. Therefore, users of the following recreational routes and destinations will be included in the assessment as visual receptors, as shown on **Figure 11-7 Viewpoint Locations and Recreational Routes/Areas**:

- Wales Coast Path (WCP) - The Wales Coast Path is a 1,400km long distance path following the entire coastline of Wales. Through the 1km study area it runs along the top of the sea defence wall elevated 5m above ground level separating the agricultural landscape of the Caldicot Levels from the Severn Estuary close to the southern boundary of the Proposed Development. Recreational users of the WCP are exposed to 360-degree views across the Caldicot Levels landscape to the north and the Severn Estuary to the south as demonstrated in **Figure 11-10 Wales Coast Path (WCP) Sequential Photos**.
- Redwick Circular Walk (Footpaths 404/3/1, 404/5/1, 392/14/1 and WCP) - The Redwick Circular Route runs out of the village of the village of Redwick south along Footpath 404/5/1 (VP 7) across the Proposed Development to meet the WCP (VP 2) which it follows west until close to Porton House (VP 1). Here if follows Footpath 392/12/1 immediate beyond the western most PEIR Assessment Boundary north to Great Porton (VP 10) where it then runs east and follows agricultural tracks, Footpath 404/3/1 and Green Lane 392/GL5/1 (Mead Lane) across/through the Proposed Development and back to Redwick.

Currently the route crosses agricultural fields, follows agricultural tracks and the WCP along the sea wall.

- NCN Route 4 - The entire NCN Route 4 is 697.8km long between London and Fishguard in Wales. It follows local roads through the 1km study area with those most relevant to the site being Mill Reen road, Pill Street (VP 5), South Row (VP 6), North Row (VP 8), Bowleaze Reen road (VP 9), Parish Reen Road and Broad Street Common.
- Footpath 372/56/1, 372/54/3 and 372/58/3,5,1,7 (VPs 3 and 4) - These PRoW cross the eastern part of the Proposed Development broadly from Pill Street in the north to the WCP to the south, crossing agricultural fields.
- Restricted Byway 372/59/1 / 372/59A/1 (VPs 3 and 4) - These byways follow an agricultural track through the eastern part of the Proposed Development leading from Pill Street in the north to the WCP in the south. It is primarily used to access the surrounding agricultural fields and also provides access to the Magor Sewer Works. It is also potentially used by recreational walkers accessing the WCP. For the majority of its length, it is bound on both sides by hedges and trees (including trees around the sewer works) that are intact with just openings at field gates along the western side bounding Fields 179 and 181 within the Proposed Development, providing good screening but is more gappy to the east allowing for views into Field 504 within the Proposed Development. The hedges at the southern end have been clipped under the agricultural management of Fields 183 and 503 within the Proposed Development on both sides.
- Footpath 392/15/1-392/15A/1 (VP 10) – These footpaths cross the eastern part of the Proposed Development north of Field 210, 208, 19 and 25, crossing agricultural fields.
- Green Lane 392/GL5/1 (Mead Lane) and Green Lane 392/GL3/1 (VP 10, VP 13) – These routes follow agricultural tracks through the western part of the Proposed Development. They are potentially used by the local community accessing surrounding fields but could also be used by recreational walkers. There is a mix of intact boundary hedges with some tree belts, gappy hedges and open/reen field boundaries but there are frequent views of the surrounding agricultural fields along these routes.

- Green Lane 392/GL2/1- is a grassed agricultural track leading from Whitson to the corner of North Row and Bowleaze Reen roads (VP 9). Most likely to be used by the local community accessing agricultural fields but could also be used by recreational walkers moving through the landscape. The western boundaries tend to be well vegetated currently screening an existing solar farm which is only visible as glimpses over and through gaps in the vegetation. The eastern boundaries are a mix with some vegetation although predominantly defined by a reen and generally more open to the agricultural fields.
- Footpaths to west of Whitson (Restricted Byway 392/3/1, Footpaths 392/17/1, 392/18/1, 392/19/1, 392/20/1, 392/21/1) (VP 11, VP 12) - The footpaths to the west of Whitson within the 1km Study Area cross agricultural fields between Whitson Road and Chapel Road further to the west. The nature of views from these footpaths is represented by VP's 11 and 12.

11.6.39 Judgements regarding the sensitivity of visual receptors that have a directly corresponding representative viewpoint have been made in **Appendix 11J**. Generally, as the relevant recreational routes and destinations are located within the Gwent Levels Landscape of Historic Interest and many of them are located within, close to, or looking into the Caldicot Level SLA the value of the views available from these locations is considered to be *High*. As users will be engaged in recreational activities where their attention is likely to be on appreciating views of the surrounding landscape with plenty of opportunity to obtain views their susceptibility to visual change is also considered to be *High*. When the value of the views is combined with the susceptibility of users the overall sensitivity of recreational receptors will be *High*. This is in accordance with the LVIA Methodology in **Appendix 11A**. Where a different sensitivity judgement has been made this will be set out for that specific visual receptor below or in **Appendix 11J**. A summary of the visual receptor sensitivity judgements is provided in **Table 11-5** below.

Visual Receptors: Transport Routes

11.6.40 The main transport routes passing through the Study Area include the M4, the Wales Railway Line and the A4810, however, these have been scoped out of the assessment as field observations established that there is no inter-visibility between these routes and the Site. Users of the following local roads and PRoW are within 1km of the PEIR Assessment Boundary, will be included in the assessment as visual

receptors:

- Users of a local road along Chapel Reen - A local road running along the eastern most boundary of the Proposed Development Site leading from The Causeway/Mill Reen road in the north to residential properties and Safehaven Caravan Storage Yard in the south. The eastern boundary of the road is open to the agricultural landscape with a short section defined by a reen. On the western (Site) side the road is bound along its length with a hedge that has been managed and clipped quite low allowing for views into Fields 189, 191, 192 and 195 over the hedge as well as through fields gates.
- Users of Pill Street - A local road running generally east-west to the north of Fields 380 and 381 bound by hedges in various states of management but in the main they are intact. Refer to VP 4 and VP 5.
- PRoW / track from Pill Street to Wales Coast Path - An agricultural track through the eastern part of the Proposed Development leading from Pill Street in the north to the WCP in the south. It is primarily used to access the surrounding agricultural fields and also provides access to the Magor Sewer Works, refer to VP 4 and VP 3. For the majority of its length it is bound on both sides by hedges and trees (including trees around the sewer works) that is intact with just openings at field gates along the western side bounding Fields 179 and 181 within the Proposed Development providing good screening but is more gappy to the east allowing for views into Field 504 within the Proposed Development. The hedges at the southern end have been clipped under the agricultural management of Fields 183 and 503 within the Proposed Development on both sides.
- South Row - A local road running from Pill Street to the north east into Redwick to the south west, to the north west of Fields 365-367 with open or low hedge boundaries to the surrounding agricultural fields, refer to VP 6. This allows for open and direct views across a reen into Fields 366 and 367 where there is no intervening vegetation.
- Sea Street Lane – An unsurfaced track running south from Redwick and South Row to the sea defence wall, this gradually reduces to a farm access track accessing agricultural fields.
- Mead Lane – Extends west from Redwick with open aspects either side, allowing

views of adjacent grazing land, this gradually peters out to provide access to agricultural fields.

- North Row (VP 8)- A local road running generally north west out of Redwick to meet the A4810. The road is fairly open with low or no roadside hedges allowing for views into Fields 68 and 79 but far-reaching views of the wider landscape are curtailed by intervening hedges on the boundaries. As N Row runs east-west towards Bowleaze Reen road there are some trees that appear to be remnants of an old tree line or gappy hedge that allows for views into Field 68.
- Local road along Bowleaze Reen (VP 8 and VP 9) - A local road running northwest-southeast between North Row and Parish Reen Road. The road is bound on both sides by trees that appear to be remnants of an old tree line or gappy hedge that allows for views towards the cable corridor and North Compounds 1, 2 and 3 through gaps.
- Local road along Parish Reen (VP 9) - A local road running northeast-southwest between Bowleaze Renn road and Whitson Road. The road is completely open allowing for 360 degree views of the surrounding landscape including southeast towards the existing substation compound and proposed North Compounds 1, 2 and 3 which will be seen in the context of National Grid Substation on the northern side and pylons on all sides.
- Whitson Road (VP 11) – a continuation of Broad Street Common, extending to the south to Whitson Arch, providing access to a number of farms and dwellings.

11.6.41 Judgements regarding the sensitivity of visual receptors that have a directly corresponding representative viewpoint have been made in **Appendix 11J**. Generally, as the relevant transport routes are located within the Gwent Levels Landscape of Historic Interest and many of them are located within, close to, or looking into the Caldicot Level SLA the value of the views available from these locations is considered to be *High*. As the majority of users will be engaged in the activity of driving where their attention is likely to be on the road and travelling at various speeds through the landscape meaning views will be transient their susceptibility to visual change is considered to be *Low*. When the value of the views is combined with the susceptibility of users the overall sensitivity of recreational receptors will be **Low**. This is in accordance with the LVIA Methodology in **Appendix**

11A. Where a different sensitivity judgement has been made this will be set out for that specific visual receptor below or in **Appendix 11J**. A summary of the visual receptor sensitivity judgements is provided in **Table 11-9** below.

Table 11-9 Sensitivity of Visual Receptors

Visual receptors	Relevant Representative viewpoint	Sensitivity
Residential Properties		
Residential properties to the north-west of the Proposed Development	VP11, VP 12	High
Whitson and outlying properties to the south of Whitson and south-west of the Proposed Development	VP 1, VP 10	High
Outlying properties to the north of the Proposed Development	VP 8, VP 9	High
Redwick and outlying residential property to the south of the hamlet	VP 7	High
Summerleaze and outlying residential property surrounding the east of the Proposed Development	VP 6, VP 5, VP 4	High
Properties on the southern edge of Undy	VP 16	High
Recreational Routes		
Wales Coast Path	VP's 1,2 and 3, plus sequential photos.	High
Redwick Circular Walk	VP's 1,2 (plus sequential photos), 7 and 10.	High
NCN Route 4	VP's 5, 6, 8 and 9.	Medium
Footpath 372/56/1 and 372/54/3	N/A	High
Restricted Byway 372/59/1 / 372/59A/1	N/A	High
Footpath 372/58/3,5,1,7	VP 3 and 4.	High

Visual receptors	Relevant Representative viewpoint	Sensitivity
Footpath 392/15/1-392/15A/1	VP10	High
Green Lane 392/GL5/1 (Mead Lane)	N/A	High
Green Lane 392/GL3/1	N/A	High
Green Lane 392/GL2/1	VP 9	High
Footpaths to west of Whitson	VP's 11 and 12.	High
Transport Routes		
Local road along Chapel Reen	N/A	Low
Pill Street	VP 5.	Low
PRoW / track from Pill Street to Wales Coast Path	N/A	Low
S Row	VP 6.	Low
N Row	VP's 8.	Low
Local road along Bowleaze Reen	VP 9.	Low
Local road along Parish Reen	N/A	Low
Whitson Road	VP 11.	Low

Future Baseline

11.6.42 The Proposed Development will cover a period of approximately 46 years (including construction, operation and decommissioning). The approximate time periods associated with the Proposed Development, and whether they are predominantly long-term or short-term (in accordance with the LVIA Methodology in **Appendix 11A**) are listed as follows:

- Construction: up to 4 years (short-term);
- Operation: up to 40 years (long-term and reversible); and
- Decommissioning: up to 2 years (short-term).

11.6.43 The LVIA also recognises that some elements of the Proposed Development such as access tracks will remain beyond the construction and decommissioning period, although access tracks may re-vegetate over time if left un-used. Although 'long-term', the operational period of up to 40 years is assessed in the LVIA as though it were permanent, whilst noting that the effects of the Proposed Development will be

reversible once decommissioned.

11.6.44 The LVIA considers that during this period of 46 years, the predicted future baseline and evolution of landscape and visual receptors is unlikely to change significantly under the current regime of landscape management and maintenance. However, land management, and consequently landscape character, is dependent on a number of economic and environmental factors including the future effects of climate change and human adaptation which are difficult to predict at a local level and not a matter for this assessment. It is however likely that mitigation and adaptation in response to changing climate and biodiversity pressures will continue to have an influence on this area in the form of increased renewable energy and other environmental changes which are likely to alter the landscape baseline as follows:

- Change resulting from an increased reliance on renewable energy, including solar farm development;
- Change to current land management techniques, which may lead to an increase in vegetation cover;
- Warmer, wetter winters and drier summers or prolonged periods of drought may lead to a change in the hydrology of such a sensitive landscape, leading to changes in agricultural practices or changes to the vegetation patterns; and
- Increase in storms may lead to older trees being pushed over, reducing their presence within the landscape and changing some of the kay characteristics that make the area unique.

11.7 Design, Mitigation and Enhancement Measures

11.7.1 A full description of the Proposed Development is provided in **Chapter 2: Description of the Proposed Development** with the 'embedded environmental measures' discussed in more detail **Chapter 5: EIA Methodology**. The main aspects of the Proposed Development relevant to this Chapter are described below with the embedded mitigation measures that are relevant to sensitive landscape and visual receptors summarised in **Table 11-10**.

11.7.2 The Proposed Development consisting of PV Modules with mounting structures, inverter units, transformers and switchgear equipment will cover an area of 149.18

hectares within a total PEIR Assessment Boundary of 547.69 hectares. The maximum height of the Solar Panels will be 3.5m and there will be approximately 3m gap between rows. Access throughout the solar farm will be via 5.5km of upgraded existing tracks and 22.8km of new access tracks that will require some removal of hedgerow. Low voltage cabling within the site will be above ground or installed in underground trenches and cross drains/reens via cable tray/pipes although some hedge removal will be required. Containers housing transformers and switchgears will have a maximum height of 3.5m and finished in a colour in-keeping with the surrounding environment. The solar farm will be enclosed and broken up into compartments by 37.9km of fencing and will consist of timber and steel wire.

11.7.3 The Proposed Development will be connected to the National Grid Substation to the north west via a cable corridor approximately 1m deep and 1.8m wide, whilst the Grid Connection Corridor covers a wider area allowing for routing decisions to be made. The high voltage cable will be installed underground and where it needs to cross an obstacle will use Horizontal Directional Drilling (HDD). For the purposes of this Landscape and Visual Chapter Proposed Grid Connection Option 2 will be considered which includes the following grid yard compounds:

- Point of Connection 1 – maximum height of building is 6.7m and equipment is 9.5 m located within the National Grid Substation compound.
- North Compound 1 – two buildings with a maximum height of 6.7m within a 2.4m high perimeter palisade fence.
- North Compound 2 – maximum building height of 5.4m and equipment with a maximum height of 6m within a 2.4m high perimeter palisade fence.
- North Compound 3– maximum building height of 5.4m and equipment with a maximum height of 6 m within a 2.4m high perimeter palisade fence.
- South Compound – maximum building height of 5.4m and equipment with a maximum height of 6m within a 2.4m high perimeter palisade fence.

Table 11-10 Embedded Design Mitigation

Sensitive Receptor	Embedded design mitigation
Construction	
All existing landscape features (reens, ditches, hedges, trees etc.) contributing to overall character of LCA's, Aspects Areas and SLA.	All works will be carried out in accordance with an outline Construction Environment Management Plan (oCEMP **Appendix 2A**), outline Landscape and Environmental Management Plan (oLEMP **Appendix 8J**) and the Construction (Design and Management) Regulations 2015.
	A crossing schedule depicted in **Figure 2.29**. The crossing schedule is presented in **Appendix 2C** and includes a crossing methodology for watercourses.
	Existing farm access tracks will be used wherever possible during construction, maintenance and decommissioning including possible widening where required. These will aim to utilise existing hedgerow gaps wherever possible. Any hedgerow lost during the creation of an access will be replaced where possible within the Proposed Development.
	The layout will reflect, where feasible, a preference for the retention and protection of higher value habitats including scrub, mature trees, higher quality grassland and watercourses. Losses of important vegetation will be compensated for through the planting/creation of new habitats.
	Cabling will be directionally drilled below ground to avoid disturbance to above-ground habitat and watercourses for high voltage cables.
	Mature trees will be retained where possible.
	Buffer distances will be maintained from sensitive landscape features: - Veteran Trees = 7m - Site boundary and internal hedgerows = 7m - Reens/Ditches = 7m - Main river = 12.5m
	Following construction, construction compounds will be returned to previous condition as far as reasonably possible.

Sensitive Receptor	Embedded design mitigation
	Core working hours for construction will be 0700 to 1900 Monday to Friday, and 0800 to 1300 on Saturdays, apart from specific circumstanced to be set out and agreed in the oCEMP (**Appendix 2A**).
PRoW	A crossing schedule will be prepared which includes a crossing methodology for each road and PRoW.
	Signage and/or temporary PRoW/footpath diversions will be provided during construction .
Operation	
Visual Receptors and general landscape character of LCA's, Aspect Areas and SLA.	Screening: Implementing physical barriers or vegetation to obstruct the line of sight between the solar farm and sensitive receptors where possible. This is being developed further and will be set out within the ES.
Decommissioning	
All existing landscape features (reens, ditches, hedges, trees) contributing to overall character of LCA's, Aspects Areas and SLA.	A decommissioning plan will be developed prior to the end of the Proposed Development detailing sensitive methods of decommissioning (see **Appendix 2B: outline Decommissioning Environmental Management Plan (oDEMP)**).

11.8 Assessment of Likely Impacts and Effects

Assessment of landscape effects: LANDMAP Aspect Areas

11.8.1 At this stage the preliminary assessment has identified where significant effects are likely to arise in relation to the LANDMAP aspect areas during the operation of the Proposed Development. Construction effects will be temporary and will therefore be of a short duration, effects on the LANDMAP aspect areas are therefore anticipated to be comparable or not greater than those during the Proposed Development's

operation.

11.8.2 Where the term outstanding is used in the LANDMAP aspect area descriptions, this has been interpreted as being High for the purposes of aligning with the methodology as outlined in **Appendix 11A.**

Geological Landscape Aspect Areas

11.8.3 A detailed assessment of the effects upon the two GLAA receptors which have been scoped into the assessment, is set out in **Appendix 11D**. A summary of this assessment is presented in **Table 11-11** which confirms that there will no significant landscape effects.

Table 11-11 Summary of effects: GLAAs (operational phase)

Aspect Area Reference and name	Landscape value	Landscape susceptibility	Overall landscape sensitivity	Magnitude of change	Level of effect
Caldicot Level – Goldcliff (NWPRTGL031) - Host	High	Medium	Medium	Low	Minor and Not Significant
Caldicot Moor (MNMTHGL086) - Host	High	Medium	Medium	Low	Minor and Not Significant

Landscape Habitat Aspect Areas

11.8.4 A detailed assessment of the effects upon the three LHAA receptors which have been scoped into the assessment, is set out in **Appendix 11E: LANDMAP Landscape Habitats Aspect Areas: Assessment of effects**. A summary of this assessment is presented in **Table 11-12**. There will be significant landscape effects and these are highlighted in **bold**.

Table 11-12 Summary of effects: LHAA (operational phase)

Aspect Area Reference and name	Landscape value	Landscape susceptibility	Overall landscape sensitivity	Magnitude of change	Level of effect
NWPRTLH054 - Host	High	Medium	Medium	Medium	**Moderate** and **Significant.**
NWPRTLH033 - Host	High	Medium	Medium	Medium	**Moderate** and **Significant.**
MNMTHLH088 - Host	High	Medium	Medium	Medium	**Moderate** and **Significant.**

Visual and Sensory Aspect Areas

11.8.5 The assessment of effects upon the seven VSAA receptors within the Study Area which have been scoped into the assessment, is set out in the detailed assessment tables in **Appendix 11F**. A summary of the assessment of effects which may arise as a consequence of the Proposed Development, is presented in **Table 11-13**, with significant effects indicated in **bold.**

Table 11-13 Summary of effects: VSAA (operational phase)

Aspect Area Reference and name	Landscape value	Landscape susceptibility	Overall landscape sensitivity	Magnitude of change	Level of effect
Caldicot Level (NWPRTVS037) – *Host*	High	Medium	Medium	Medium	**Moderate** and **Significant.**
Western Coastal Grassland	High	Medium	Medium	Medium	**Moderate** and **Significant.**

Aspect Area Reference and name	Landscape value	Landscape susceptibility	Overall landscape sensitivity	Magnitude of change	Level of effect
s (MNMTHVS053) – *Host*					
Llanwern (NWPRTVS044) – *Host*	Low	Low	Low	Negligible	**Negligible** and **Not Significant**.
Estuary Mudflats (NWPRTVS007)	High	High	High*	No change	**Neutral**
Severn Estuary (NWPRTVS008)	High	High	High	No change	**Neutral**
Western Saltmarsh & Mudbanks (MNMTHVS057)	High	High	High	No change	**Neutral**
Bedwin Sands (MNMTHVS095)	High	High	High	No change	**Neutral**

Note*Outstanding sensitivity is used in LANDMAP however to reflect the methodology **in Appendix 11A**, high has been used for a consistent approach.

Historic Landscape Aspect Areas

11.8.6 The assessment of effects upon the seven HLAA receptors which have been scoped into the assessment, is set out in the detailed assessment tables in **Appendix 11G**. A summary of the assessment of effects which may arise as a consequence of the Proposed Development, is presented in **Table 11-14**, with significant effects indicated in **bold.**

Table 11-14 Summary of effects: HLAA (operational phase)

Aspect Area Reference and name	Landscape value	Landscape susceptibility	Overall landscape sensitivity	Magnitude of change	Level of effect
Whitson (NWPRTHL019) – *Host*	High	High	High	Medium	**Moderate** and **Not Significant**
Redwick (NWPRTHL018) – *Host*	High	High	High	Medium	**Moderate** and **Significant**
Caldicot Level (MNMTHHL001 – *Host*	High	High	High	Low	**Moderate** and **Not Significant**
East Usk and Llanwern Industrial (NWPRTHL022) – *Host*	High	High	Medium	Low	**Minor** and **Not Significant**
Nash/Goldcliff Coastal Zone (NWPRTHL017)	High	High	High	Negligible	**Minor** and **Not Significant**
Peterstone and the Portland Grounds (NWPRTHL047)	High	High	High	Negligible	**Minor** and **Not Significant**

Cultural Landscape Services Aspect Areas

11.8.7 The assessment of effects upon the three CLSAA receptors which have been scoped into the assessment, is set out in the detailed assessment tables in **Appendix 11H: LANDMAP Cultural Landscape Services Aspect Areas: Assessment of effects**. A summary of the assessment of effects which may arise as a consequence of the Proposed Development, is presented in **Table 11-15**, which confirms that there will no significant landscape effects.

Table 11-15 Summary of effects: CLSAA (operational phase)

Aspect Area Reference and name	Landscape value	Landscape susceptibility	Overall landscape sensitivity	Magnitude of change	Level of effect
Caldicot Level (NWPRTCLS051) - *Host*	High	High	Medium	Medium	**Moderate** and **Significant**
Western Coastal Grasslands (MNMTHCLS082) – *Host*	High	High	Medium	Medium	**Moderate** and **Not Significant**
Llanwern (NWPRTCLS061) – *Host*	Low	Low	Low	Negligible	**Negligible** and **Not Significant**

Landscape Receptors

11.8.8 The assessment of effects on landscape character is contained within **Appendix 11I**. The assessment identified effects on the following landscape character areas and designations:

- LCA A2: Caldicot Level
- LCA B1 Severn Estuary (including MCA 29: Severn Estuary (Wales); and
- The Caldicot Level Special Landscape Area (SLA)

LCA2: Caldicot Level

11.8.9 The LCA and the Caldicot Level SLA designation broadly share the same boundaries inland, and the designation contributes to the LCAs value and therefore sensitivity. The LCA will be directly affected by the Proposed Development as the proposed PV Arrays, cabling and grid connection infrastructure/inverters will be located within it.

11.8.10 The combination of high value as a result of the associated landscape designation and medium susceptibility to change of the type proposed, contribute to a landscape character area that is considered to be of **medium** sensitivity.

11.8.11 The Proposed Development will expand on existing urbanising features within the landscape, and this will represent a change to the perception of landscape character from one that is predominantly rural to one that will be focused on energy production. The removal of some hedgerows to promote the sustained management of the reens and the preservation of others, and retained small copses and hedgerow trees, the perception will be that the impacts will represent a medium scale of change. However, the impacts are repeated over a large area, and the geographic extent of the impacts will be high and are considered permanent. As a result, the level of magnitude of change will be **high**.

11.8.12 During operation the high magnitude of change on a landscape that is of medium sensitivity will result in an effect that is **moderate adverse (significant)**.

11.8.13 As additional hedge planting establishes and boundary hedges are allowed to grow out and gain additional height, the scale of the changes in Year 15 will be slightly reduced and will be medium, however these will remain over a large geographic extent within the character area, and the effects will remain permanent. As a result, the effect on landscape character at year 15 will remain **moderate adverse (significant)**.

11.8.14 During construction, associated activity will be limited in geographical scale as will the size and scale of construction compounds. Work to remove hedgerows where required and erect the PV Arrays and associated infrastructure will arise in localised areas. Initially there will be a low magnitude of change on a landscape that is of medium sensitivity that will result in an effect that is **minor adverse (not**

significant). However, as construction is completed and areas of the character area are established with the Proposed Development, this is likely to increase as the geographical extent continues to broaden. Towards the end of the construction period, the temporary and therefore low duration of the construction activities, medium scale of change combined with an expanded geographical extent considered to be medium, will give rise to a magnitude of change that will increase to high, which on a medium sensitivity landscape will result in **moderate adverse (significant)** effect. The activities will be similar during the decommissioning phase although will not require any further vegetation removal and will be for a shorter duration so effects will be **minor (not significant)**.

LCA B1: Severn Estuary

11.8.15 The LCA and Marine Character Area (MCA) 29: Severn Estuary (Wales) share the same northern boundary, although MCA 29: Severn Estuary covers a much broader area within the vast Severn Estuary. LCA B1: Severn Estuary is also included within the Caldicot Level SLA which has informed the assessment of its associated value. As some of the characteristics are shared, the LCAs have been treated as a single LCA for the purpose of this assessment, with the assessment focusing on the LCA B1: Severn Estuary, as this is more refined in outlining the key characteristics that are aligned with the Study Area.

11.8.16 The combination of high value as a result of the associated landscape designation and high susceptibility to change of the type proposed, contribute to a landscape character area that is considered to be of **high** sensitivity.

11.8.17 There will be no direct changes to the character area as a result of the Proposed Development.

11.8.18 During operation, the negligible scale of change and geographic extent, combined with the permanent nature of effects will give rise to a negligible magnitude of change, which on a landscape that is of high sensitivity will result in an effect that is **negligible (not significant)**.

11.8.19 No additional mitigation measures are proposed. There will be no material change in the perception of the Proposed Development and in year 15, the effects will remain **negligible (not significant)**.

11.8.20 During construction, the screening effects of the sea wall defences and filtering effects of the retained vegetation within the adjacent Caldicot Levels LCA will result in any indirect effects on the Severn Estuary LCA being substantially screened from the northern margins of the adjacent estuary, with the exception of those tallest elements such as cranes or drilling rigs. The magnitude of change will be no greater than negligible for a short-term (temporary), such that effects on a landscape of high sensitivity will be no greater than **minor adverse (not significant)**. The activities will be similar during the decommissioning phase albeit for a shorter duration so effects will be **negligible (not significant)**.

Visual Receptors

11.8.21 Viewpoint photos from throughout the 1km Study Area are included in **Figure 11-9** and a series of sequential photos taken from along the WCP are included in **Figure 11-10**. A corresponding description of typical views within the Study Area is provided in **Appendix 11J** and a sequential visual analysis of the views from the WCP is provided in **Appendix 11K**. The description describes the current baseline situation in each view and sets out the typical sensitivity of the visual receptors that they represent. For each viewpoint a judgement has been made of the typical scale of change that will arise as a result of the Proposed Development during each phase in that particular view. This scale of change judgement is then combined with the extent that it will be experienced (i.e. how long or often is the view available along a footpath) and the duration of the change (i.e. short or long term etc.) when considering of the magnitude of change to visual receptors in the text below. The judgement of the scale of change in each view will be used for visual receptors represented directly by that viewpoint as well as nearby or surrounding visual receptors that will experience a similar view. Where the scale of change to the visual experience of receptors in a certain location overall differs to that given for the specific viewpoint, a new judgement of the scale of effect and resulting effect and its significance is made, and a justification given.

11.8.22 The magnitude of change is then compared with the sensitivity of the visual receptor established in **Section 11.6** and summarised in **Table 11-5** to establish the significance of the effect that is likely to occur as a result of the Proposed Development.

11.8.23 Where the viewpoint analysis demonstrates that there is no view of the Proposed Development or the associated activities during all phases then the corresponding visual receptors will not be taken further into consideration.

Visual Receptors: Residential Properties

11.8.24 Impacts and effects on the occupants of residential receptors have been broadly grouped to reflect their geographic location and proximity to the Proposed Development in line with the baseline descriptions. Only those groups of receptors or where appropriate, individual receptors which are subject to a significant effect have been reported. The groups of residential receptors are as follows:

Residential properties to the north-west of the Proposed Development

11.8.25 No significant visual effects during construction, in Year one or Year 15 have been identified for those receptors as a result of the combined effect of vegetation and built form within the intervening landscape.

Whitson and outlying properties to the south of Whitson and south-west of the Proposed Development.

11.8.26 With the exception of Porton House, no significant visual effects during construction, in Year one or Year 15 have been identified for those receptors as a result of the combined effect of vegetation and built form within the intervening landscape.

11.8.27 Due to its slightly elevated position with some views to the north-west and north-east, the occupants of Porton House will likely have views of construction, comprising of cranes and piling rigs, occurring in nearby fields to the north and extending to the east, although some views will be obscured by buildings and vegetation in the intervening landscape. There is potential for a temporary *high* scale of change and *high* extent of change during construction and decommissioning with the scale of change reducing medium, once construction is complete and during operation, to views with a *high* sensitivity could lead to **major adverse (significant)** during construction and decommissioning, reducing to **moderate adverse (significant)** effects to the visual amenity of Porton House and its grounds during operation.

Outlying properties to the north of the Proposed Development

11.8.28 Due to the combination of the orientation of these properties, the positioning of Solar Panels within the Site and the screening effects of boundary vegetation, distance and screening provided by trees and vegetation on the boundaries of their curtilages, it is unlikely that the Proposed Development will be visible from within the properties or their associated grounds. Therefore, it is considered unlikely that the Proposed Development will cause significant adverse effect to the visual amenity of these residential receptors.

Redwick and outlying residential property to the south of the hamlet

11.8.29 With the exception of Church Farm, no significant visual effects during construction, in Year one or Year 15 have been identified for those receptors as a result of the combined effect of vegetation and built form within the intervening landscape.

11.8.30 The farmhouse within Church Farm is located on the southern edge of Redwick approximately 140 m northwest of Field 129 within the Proposed Development, although approximately 160m from the closest Solar Panels within that field. Views for occupants in a southerly direction will potentially include the top of solar arrays in the middle distance, extending to the south-west. Allowing the boundary hedges of Field 129 to grow out and be managed at a minimum height of 3m will obscure Solar Panels but the potential for views will remain, particularly from first floor windows. The potential views from this location are represented by VP 7, which in **Table 11J-8** in **Appendix 11J** established that there will be a *high* scale of effect and extent of effect during the construction/decommissioning phases and a *medium* scale of effect and high extent of effect during operation. On views of *high* sensitivity this will lead to **major adverse (significant)** during construction and decommissioning, reducing to **moderate adverse (not significant)** effects to the visual amenity as a result of the limited scale of the effect once the Proposed Development is operational.

Summerleaze and outlying residential property surrounding the east of the Proposed Development

11.8.31 The occupants of a number of residential receptors in the area to the north and east of the Proposed Development are likely to have views as a result of their proximity

to the changes and/or a lack of significant vegetation within the intervening landscape.

11.8.32 Chapel Farm and Cherry Tree House which are approximately 125m east, southeast of Field 195 within the Proposed Development. Views from these properties are orientated towards the Proposed Development and whilst there are some trees between the properties and the Site, the open field boundaries in this location means that views of activities and Solar Panels within the fields are likely. There will be a *high* scale of effect and extent of effect during the construction/decommissioning phases and a *medium* scale of effect and high extent of effect during operation. On views of *high* sensitivity this will lead to **major adverse (significant)** during construction and decommissioning, reducing to **moderate adverse (significant)** effects to the visual amenity of Chapel Farm and Cherry Tree House, particularly during the construction/decommissioning phases and in the winter during all phases.

11.8.33 Greenfield is located approximately 120m east of Field 448 within the Proposed Development. Occupants are likely to experience open direct views of Solar Panels located within Field 448 as well as to the rear of Solar Panels within Field 186. Even with a boundary hedge managed at a minimum height of 3m which will offer screening from ground levels, there will still be opportunity for views from first floor windows over the hedge. There will be a *high* scale of effect and extent of effect during the construction/decommissioning phases and a *medium* scale of effect and *high* extent of effect during operation. On views of *high* sensitivity this will lead to **major adverse (significant)** during construction and decommissioning, reducing to **moderate adverse (significant)** effects to the visual amenity of Greenfield during all phases although could be mitigated to some degree during operation.

11.8.34 The Summer House is approximately 15m to the northeast of Field 448 within the Proposed Development, although it is approximately 95m from the closest Solar Panels within the field. A dense row of trees and vegetation exists along the northern boundary of Field 448 and also along Prat Reen that forms the western boundary of the curtilage of these properties. This in combination within the low-lying flat landform will provide effective screening of the activities and Solar Panels within the Proposed Development from nearby properties with the exception of The Summer House. The eastern boundary of Field 448 which is bound by Prat Reen and is

unvegetated therefore will offer the potential for views from the property and from the grounds to the south which abut Field 448. Solar Panels within the field are set back away from the corner closest to The Summer House where a pylon is located that is currently clearly visible and will form the context in which the Solar Panels will be seen. Even with a boundary hedge managed at a minimum height of 3 m, which will offer screening from ground level, there will still be opportunity for views from first floor windows over the hedge. There will be a *high* scale of effect and extent of effect during the construction/decommissioning phases and a *medium* scale of effect and *high* extent of effect during operation. On views of *high* sensitivity this will lead to **major adverse (significant)** during construction and decommissioning, reducing to **moderate adverse (significant)** effects to the visual amenity of The Summer House during all phases although could be mitigated to some degree during operation.

11.8.35 Associated residential property that forms Pill Farm are located approximately 100m north of Field 504 and 160m west of Field 184 within the Proposed Development. Views orientated east will look across agricultural fields and into Field 184 and the neighbouring field over the current low clipped hedge. The boundary hedges around and within the Proposed Development can be allowed to grow out and then be managed at a minimum height of 3 m which will obscure views from ground level, but it is still possible that the Solar Panels will be visible, particularly due to the extent of the Proposed Development that could be visible from this location. There will be a *high* scale of effect and extent of effect during the construction/decommissioning phases and a *medium* scale of effect and *high* extent of effect during operation. On views of *high* sensitivity this will lead to **major adverse (significant)** during construction and decommissioning, reducing to **moderate adverse (significant)** effects to the visual amenity of properties within Pill Farm during all phases although could be mitigated to some degree during operation.

11.8.36 Yew Tree Cottage is neighbouring Field 378 and 380 within the Proposed Development. The grounds of Yew Tree Cottage are contained by quite dense vegetation including trees with the property located at the northern end of the plot where the boundary vegetation is lower. Direct views from first floor windows into the adjacent fields which will contain Solar Panels. There will be a *high* scale of effect and extent of effect during the construction/decommissioning phases and a *medium*

scale of effect and *high* extent of effect during operation. On views of *high* sensitivity this will lead to **major adverse (significant)** during construction and decommissioning, reducing to **moderate adverse (significant)** effects to the visual amenity of Yew Tree Cottage during all phases.

Properties on the southern edge of Undy

10.1.8 Due to the combination of the orientation of these properties, the positioning of Solar Panels within the Proposed Development and the screening effects of boundary vegetation, distance and screening provided by trees and vegetation on the boundaries of their curtilages, it is unlikely that the Proposed Development will be visible from within the properties or their associated grounds. Therefore, it is considered unlikely that the Proposed Development will cause significant adverse effect to the visual amenity of these residential receptors.

Visual Receptors: Recreational Routes and Destinations

Users of the Wales Coast Path (VP's 1, 2, 3 and sequential VP's A-G)

11.8.37 Direct views into the southern part of the Proposed Development are from the entire length of this section of the WCP as it passes close to the southern extent of the PEIR Assessment Boundary.

11.8.38 The sequential visual analysis concluded that the overall scale of change during construction will be *high*. This will be experienced over a *moderate extent* of this section of the WCP, although activities will not be taking place within every field and will be for a *short-term*, resulting in a *Medium* magnitude of change. When compared to the *High* sensitivity the level of significance will be **Moderate Adverse (significant).**

11.8.39 During operation the largest scale of change to views will arise at the eastern end of the Proposed Development where the Solar Panels will be located across the full extent of the fields in which they are located including close to the southern boundary of the Site. Across the rest of the southern part of the Proposed Development the Solar Panels will be set back into the field, so will not be positioned so close to the southern boundary. There is also a section towards the centre of Proposed Development where there are a number of fields that will remain open for ecological mitigation. The presence of Solar Panels will be visible from these locations either

set back into fields or in adjacent fields, but they will not appear as prominent than at the eastern end of the WCP. While the visual analysis concluded that the overall scale of change will be *high,* the scale of effect along some of the central sections of the route will reduce to *low*. Overall, this will be experienced over a *moderate extent* of the route for a *long-term (permanent but reversible)*, however these short central sections, passing open fields will break up the expanse of the solar farm and offer respite from views of Solar Panels. Therefore, this will result in a *Medium* magnitude of change. When compared to the *High* sensitivity the level of significance during operation will be **Moderate Adverse (significant)**.

11.8.40 The sequential visual analysis concluded that the overall scale of change during decommissioning will be *high*. This will be experienced over a *moderate extent* of the route although activities will not be taking place within every field and will be for a *short-term*, resulting in a *Medium* magnitude of change. When compared to the *High* sensitivity the level of significance will be **Moderate Adverse (significant)**.

11.8.41 A full description of the existing views and the scale of change that will arise from the Proposed Development are provided in **Table 11K-2** in **Appendix 11K**, where viewpoints are shared with the broader visual assessment, baseline descriptions and assessment are cross referenced to **Tables 11J-2** to **Table 11-J4** in **Appendix 11J**.

Users of Redwick Circular Route (VP's 1, 2, 7 and sequential VP's A and B)

11.8.42 During construction some of the current footpath routes that cross the agricultural fields will be diverted around the edge of fields rather than crossing them, making use of some of the internal tracks to be created for the Proposed Development and utilising more of Mead Lane. It is understood that the route will still be accessible during construction. Users will have direct, open views of construction activities in close proximity for the majority of this route. This will cause a *high* scale of change, over a *high* geographical extent of the route for a *short-term*, resulting in a *Medium* magnitude of change. When compared to the *High* sensitivity the level of impact will be **Moderate Adverse (significant)**.

11.8.43 During operation the overriding visual experience of almost the entire route will be of walking through or close to a solar farm, following diverted routes and newly

created access tracks in places rather than through an agricultural landscape. An existing solar farm is already visible from the agricultural track leading east out of Great Porton. This will cause a *high* scale of change, over a *high* geographical extent of the route for a *long-term (permanent but reversible)*, resulting in *High* magnitude of change. When this is compared to the *High* sensitivity the level of impact will be **Major (significant)**.

11.8.44 During decommissioning users will continue to follow diverted routes with direct, open views of activities in close proximity for the majority of this route. This will cause a *high* scale of change, over a *high* geographical extent of the route for a *short-term*, resulting in a *Medium* magnitude of change. When compared to the *High* sensitivity the level of impact will be **Moderate Adverse (significant)**.

11.8.45 A full description of the existing views included from outside of the PEIR Assessment Boundary and the scale of change that will arise from the Proposed Development is given in **Tables 11J-2, Tables 11J-3, and Tables 11J-8** in **Appendix 11J** and **Table 11-K2** in **Appendix 11K**.

Users of Other Footpaths/PRoW crossing through the Proposed Development (VP's 3, 4 and 10)

11.8.46 This includes Footpath 372/56/1, 372/54/3 and 372/58/3,5,1,7 (VPs 3 and 4). It is understood that the routes will still be accessible during construction. Users will have direct, open views of construction activities in close proximity for a large proportion if not the majority of these routes including temporary compounds located within Fields 179 and 504. This will cause a *high* scale of change, over a *high* geographical extent of the routes for a *short-term*, resulting in a *Medium* magnitude of change. When compared to the *High* sensitivity the level of impact will be **Moderate Adverse (significant)**.

11.8.47 Space has been allowed to accommodate these routes during operation where the overriding visual experience of a large proportion of these routes will be of walking through or close to a solar farm, following newly created access tracks in some places rather than through an agricultural landscape. This will cause a *high* scale of change, over a *high* geographical extent of the route for a *long-term (permanent but reversible)*, resulting in *High* magnitude of change. When this is compared to the

High sensitivity the level of impact will be **Major Adverse (significant)**.

11.8.48 During decommissioning, users will again have direct, open views of activities in close proximity for a large proportion if not the majority of these routes. This will cause a *high* scale of change, over a *high* extent of the route for a *brief term*, resulting in a *Low* magnitude of change. When compared to the *High* sensitivity the level of impact will be **Moderate Adverse but not significant**.

11.8.49 Footpath 392/15/1-392/15A/1 (VP 10) crosses the eastern part of the Proposed Development, north of Field 210, 208, 19 and 25 where the cable corridor will leave the PV Arrays, towards National Grid Substation. During the site visit, access to the route crossing the Proposed Development was restricted by electric fencing for a horse paddock. It is possible that users will follow an alternative route along Hare's Lane and a publicly accessible track to meet Footpath 392/15A/1 further to the east which forms part of the Redwick Circular Route.

11.8.50 During construction, there will be direct views of the installation of the high voltage cable through the field to the north of Field 210, and views of the activities associated with the installation of Solar Panels in the neighbouring fields on either side when continuing along almost the entire route. This will include the presence of temporary construction compounds and the installation of the South Compound. This will cause a *high* scale of change, over a *high* geographical extent of the route for a *short-term*, resulting in a *Medium* magnitude of change. When compared to the *High* sensitivity the level of impact will be **Moderate Adverse (significant)**.

11.8.51 During operation, there will be views of the rear of Solar Panels in the adjacent fields to the south seen over the intervening boundary hedge. Solar Panels within Field 245 to the north will be largely concealed by intervening trees/vegetation on the boundary although there may be glimpses through gaps. The building and equipment within the South Compound will be visible above the intervening vegetation. Over time the boundary hedges will be managed at a minimum height of 3 m which will effectively obscure the Solar Panels although views of the top of the building and equipment at the South Compound will remain visible above the hedge. This will cause a *high* scale of change that will reduce to *medium* as vegetation grows out, over a *high* geographical extent of the route for a *long-term (permanent but reversible)*, resulting in a *High* magnitude of change reducing to *Medium* over

time. When compared to the *High* sensitivity the level of impact will be **Moderate Adverse (significant)**. Although significant effects have been identified this will be to these specific footpaths that as described above appear to be subject to minimal use with an alternative route likely to be used which will not experience the same effects.

11.8.52 During decommissioning the activities will be similar to the construction phase although with more screening provided by the taller hedge. This will cause a *medium* scale of change, up to a *high* extent of the route for a *brief term*, resulting in a *Low* magnitude of change. When compared to the *High* sensitivity the level of impact will be **Moderate Adverse but not significant**. If the South Compound is not removed, then a **Moderate Adverse (significant)** effect will remain.

Users of Restricted Byway 372/59/1-372/59A/1

11.8.53 Construction activities will be visible predominantly through field gates and gaps in the hedge into Field 504 including a temporary construction compound. Also, some glimpses through and above the vegetation into Fields 179, 181 and 183 on the western side. This will cause a *high* scale of change to up to a *low* geographical extent of the route restricted by boundary vegetation for a *short-term*, resulting in a *Low* magnitude of change. When this is compared to the *High* sensitivity the level of impact will be **Moderate Adverse** but **not significant**.

11.8.54 During operation the Solar Panels within Field 504 will be visible through the larger gaps in the hedge while there may be some glimpses of Solar Panels within Field 179 and 181 through field gates. Solar Panels within Fields 183 and 503 will be well screened by the hedges. Over time supplementary planting will fill gaps in the hedge and all hedges will be managed to a minimum height of 3 m which will effectively screen the Solar Panels from view, only allowing for glimpses through field gates. This will cause a *medium* scale of change, to a *low* geographical extent of the route that will reduce to a *negligible* extent for a *long-term (permanent but reversible)*, resulting in a *Moderate* magnitude of change reducing to *Low*. When this is compared to the *High* sensitivity the level of impact will be **Moderate Adverse** but **not significant**.

11.8.55 During decommissioning the activities will be similar to the construction phase

although with more screening provided by the supplemented, taller hedges. This will cause a *high* scale of change, to a *negligible* extent of the route for a *brief term* in that location, resulting in a *Negligible* magnitude of change. When compared to the *High* sensitivity the level of impact will be **Minor Adverse (not significant)**.

Users of Green Lanes

11.8.56 During construction users of Green Lanes 392/GL5/1 (Mead Lane) and 392/GL3/1 will have direct views of construction activities in close proximity through and over field boundaries for the majority of this route. This stage is also likely to include improvements to the track itself giving it a more urbanised feel. This will cause a *high* scale of change, over a *high* geographical extent of the route for a *short-term*, resulting in a *Medium* magnitude of change. When compared to the *High* sensitivity the level of impact will be **Moderate Adverse (significant)**.

11.8.57 During operation the overriding visual experience of almost the entire route will be of walking through a solar farm rather than through an agricultural landscape. An existing solar farm is already visible from the agricultural track leading east out of Great Porton. New and supplementary hedge planting along the northern side of reens on field boundaries managed at a minimum height of 3m will reduce the visibility and prominence of Solar Panels although they are not likely to be screened completely along the entire route, certainly with views through field gates. This will also enclose the route changing the visual experience although this is not completely out of keeping with the surrounding area so will not appear unusual. This will cause a *high* scale of change reducing to a *medium*, over a *high* geographical extent of the route reducing to *medium* for a *long-term (permanent but reversible)*, resulting in *High* magnitude of change reducing to *Medium*. When this is compared to the *High* sensitivity the level of impact will be **Moderate (significant)**.

11.8.58 During decommissioning users will continue to follow routes which will be more enclosed where activities will still be visible through field gates and over hedges in some locations. This will cause a *high* scale of change, over a *medium* extent of the route for a *short-term*, resulting in a *Medium* magnitude of change. When compared to the *High* sensitivity the level of impact will be **Moderate Adverse (significant)**.

11.8.59 The proposed Grid Connection Corridor broadly follows Green Lane 392/GL2/1

although cuts across it and the surrounding agricultural fields where the green lane winds around field boundaries. Therefore, activities involved with installation of the high voltage cable underground will be visible within the neighbouring fields to the east from along the northern section of the route. This will result in a *high* scale of change, over a *medium* geographical extent of around a third of the route for a *brief term* as the works to install the cable is likely to take less than a year, resulting in a *Low* magnitude of change. When compared to the *High* sensitivity the level of impact will be **Moderate Adverse** but **not significant**.

11.8.60 Initially, during the early stages of operation there may some evidence of the work, but this will quickly be reinstated so will not be apparent after a very short time. This will result in a *low* scale of change reducing to *No effect*, over a *medium* extent of the route for a *long-term (permanent but reversible)*, resulting in **no impact** on the visual amenity of the route.

11.8.61 During decommissioning the activities will be similar to the construction phase and viewed in the same way. This will cause a *high* scale of change, to a *medium* extent of the route for a *brief term* in this location as the removal of the cable is likely to take less than a year, resulting in a *Low* magnitude of change. When compared to the *High* sensitivity the level of impact will be **Moderate Adverse** but **not significant**.

Users of Footpaths to the west of Whitson (VPs 11 and 12)

11.8.62 Views of the main Proposed Development including the Grid Connection Corridor are obscured by the combination of the flat, low-lying landscape and layers of intervening vegetation. Therefore, any effects to the visual amenity will be as a result of the proposed North Compounds 1, 2 and 3 where the ZTV presented on **Figure 11-8 which** illustrates that the tallest elements within these compounds, will only be glimpsed from very limited sections of these footpaths due to the screening provided by the existing layers of intervening vegetation.

11.8.63 During construction this will cause a *low* scale of change, to a *low* geographical extent of these footpaths for a *brief term* as the construction activities in this location will be for less than a year, resulting in a *Negligible* magnitude of change. When compared to the *High* sensitivity the level of significance will be **Minor Adverse (not**

significant).

11.8.64 During operation only the tallest elements within North Compounds 1, 2 and 3 will be glimpsed and seen in the context of the existing substation associated with the existing solar farm and pylons leading to the National Grid Substation. This will cause a *negligible* scale of change, to a *low* extent of these footpaths for a *long-term (permanent but reversible)*, resulting in a *Negligible* magnitude of change. When compared to the *High* sensitivity the level of significance will be **Minor Adverse (not significant)**.

11.8.65 If North Compounds 1, 2 and 3 were to be removed the decommissioning activities will be similar to the construction activities resulting in a **Minor Adverse (not significant)** impact during this temporary period. Should the substation North Compounds 1, 2 and 3 remain the **Minor Adverse (not significant)** level of significance will remain permanently.

Users of the National Cycle Network (NCN) Route 4 (VPs 5, 6, 8 and 9)

11.8.66 Where construction activities are visible, they will cause a *high* scale of change to views. These views will be available where there are low or no roadside hedges allowing for direct views towards where installations of Solar Panels are taking place in fields closest to the road including temporary compounds in Fields 365 and 68. New access track will also be created joining South Row and North Row and crossing the adjacent agricultural fields. This will occur for short, dispersed sections of the route along Pill Street, South Row and North Row. The activities around the installation the high voltage cable and Point of Connection 1 and 2 within National Grid Substation and North Compounds 1, 2 and 3 will be visible through gaps in vegetation along Bowleaze Reen Road and in the open views from Parish Reen Road. In the context of following the NCN route through the 1km study area this will be a *Low* geographical extent and for a *short-term*, resulting in a *medium* magnitude of change. When this is compared to the *Medium* sensitivity the level of significance will be **Moderate Adverse (significant)**.

11.8.67 Initially during operation, the Solar Panels will be visible in the same locations within Fields 380 and 381 from Pill Street, Fields 366 and 367 from South Row and Fields 67, 68, 75 and 79 from North Row. In the main this will be of the rear and side of the

Solar Panels. There will also be the presence of the new access tracks joining South Row and North Row and crossing the adjacent fields towards the solar farm. Hedges on the boundaries of the Proposed Development that have been allowed to grow out during the construction phase and new planting that will have started to establish will provide some screening or softening of the appearance of the Solar Panels .The scale of change arising from this will be *Medium* although over time, as the hedges are managed at a minimum height of 3 m, this will reduce to *Low* or even *Negligible*. Experienced over a *Low* geographical extent and for a *long-period (permanent but reversible)*, this will result in a *Low* magnitude of change. The collection of North Compounds 1, 2 and 3 will remain visible in open views from Parish Reen Road resulting in a *medium* scale of change, over a short *negligible* extent of the overall route for a *long-term (permanent but reversible)*, resulting in a *Low* magnitude of change. When this is all compared to the *Medium* sensitivity the level of significance will be **Minor Adverse (not significant)**.

11.8.68 The decommissioning activities will be similar to those at construction although more screening will be provided by the hedge on the boundaries of the Proposed Development that will have been managed at a minimum height of 3 m. This will have a *medium* scale of change, over a *low* extent of the route for a *short-term*, resulting in a *Low* magnitude of change. When this is compared to the *Medium* sensitivity the level of impact will be **Minor Adverse**. If North Compounds 1, 2 and 3 are not removed, then a **Minor Adverse (not significant)** significance of effect will remain permanently.

Visual Receptors: Transport Routes

Users of Chapel Reen road

11.8.69 Construction activities will be visible within these fields including works to existing field gates and new tracks for access to the Proposed Development. This will have a *high* scale of change, to a *high* geographic extent of around half the route for a *short-term*, resulting in a *Medium* magnitude of change. When this is compared to *Low* sensitivity the level of significance will be **Minor Adverse (not significant)**.

11.8.70 During operation the tops of Solar Panels could be visible over the hedge along with views through field gates of Solar Panels and the new access tracks. Where hedges

are allowed to grow out during the construction period and managed at a minimum height of 3 m they will effectively screen the Solar Panels. This will reduce the extent of visibility to just through field gates. The scale of change will be *high* but to a *negligible* geographic extent of the route for a *long-term (permanent but reversible)*, resulting in a *Low* magnitude of change. When this is compared with the *Low* sensitivity the level of significance will be **Minor Adverse (not significant)**.

11.8.71 The decommissioning activities will be similar to those at construction although more screening will be provided by the hedge on the boundary having been managed at a minimum height of 3 m, although tall elements such as a crane may still be visible. This will have a *high* scale of change, over a *high* geographic extent of the route for a *brief term* (less than a year in this location), resulting in a *Low* magnitude of change. When this is compared to the *Low* sensitivity the level of significance will be **Minor Adverse (not significant)**.

Users of Pill Street (VP 5)

11.8.72 During construction the scale of change will be *medium*, to a short section of the road being a *low* geographic extent for a *short-term*, resulting in a *Medium* magnitude of change. When this is compared to the *Low* sensitivity the level of impact will be **Minor Adverse (not significant)**.

11.8.73 During operation the scale of change will be *low*, with views limited to through a single field gate being a *negligible* geographic extent for a *long-term (permanent but reversible)*, resulting in a *Low* magnitude of change. When this is compared to the *Low* sensitivity the level of significance will be **Minor Adverse (not significant)**.

11.8.74 At decommissioning the scale of change will be *low*, limited to a *negligible* geographic extent of the route for a *brief term* (less than a year in this location), resulting in a *Negligible* magnitude of change. When compared to the *Low* sensitivity the level of significance will be **Negligible (not significant)**.

11.8.75 A full description of the existing views towards the Proposed Development and the scale of change that will arise from the Proposed Development is given in **Tables 11J-6** in Appendix **11J.**

Users of track from Pill Street to WCP

11.8.76 Construction activities will be visible predominantly through field gates and gaps in the hedge into Field 504 including a temporary construction compound. Also, some glimpses through and above the vegetation into Fields 179, 181 and 183 on the western side. This will cause a *high* scale of change to a *low* geographic extent of the route restricted by boundary vegetation for a *short-term*, resulting in a *Low* magnitude of change. When this is compared to the *Low* sensitivity the level of significance will be **Minor Adverse (not significant)**.

11.8.77 During operation the Solar Panels within Field 504 will be visible through the larger gaps in the hedge while there may be some glimpses of Solar Panels within Field 179 and 181 through field gates. Solar Panels within Fields 183 and 503 will be well screened by the hedges. Over time supplementary planting will fill gaps in the hedge and all hedges will be managed to a minimum height of 3m which will effectively screen the Solar Panels from view, only allowing for glimpses through field gates. This will cause a *medium* scale of change, to a *low geographic* extent of the route that will reduce to a *negligible* extent for a *long-term (permanent but reversible)*, resulting in a *Moderate* magnitude of change reducing to *Low*. When this is compared to the *Low* sensitivity the level of significance will be **Minor Adverse (not significant)**.

11.8.78 During decommissioning the activities will be similar to the construction phase although with more screening provided by the supplemented, taller hedges. This will cause a *high* scale of change, to a *negligible* geographic extent of the route for a *brief term* in that location, resulting in a *Negligible* magnitude of change. When compared to the *Low* sensitivity the level of significance will be **Negligible (not significant)**.

Users of South Row (VP 6)

11.8.79 During construction, activities will be visible in Fields 366 and 367 as well the improvement/creation of an access and track. This will cause a *high* scale of change, to a *medium* geographic extent of the road as it passes these fields for a *short-term*, resulting in a *Medium* magnitude of change. When this is compared to the *Low* sensitivity the level of significance will be **Minor Adverse (not significant)**.

11.8.80 During operation the scale of change will be *medium* reducing to *negligible* after new hedge planting on the boundary of the Proposed Development has matured and is managed at a minimum height of 3 m, to a *medium* geographic extent of the route for a *long-term (permanent but reversible)*, resulting in a *Low* magnitude of change. When this is compared to the *Low* sensitivity the level of significance will be **Minor Adverse (not significant)**.

11.8.81 At decommissioning the activities will be obscured by the hedge so the scale of change will be *low*, to a *medium* geographic extent of the route for a *brief term* (less than a year in this location), resulting in a *Low* magnitude of change. When compared to the *Low* sensitivity the level of significance will be **Minor Adverse (not significant)**.

11.8.82 A full description of the existing representative view towards the Site and the scale of change that will arise from the Proposed Development is given in **Tables 11J-7** in **Appendix 11J**.

Users of *North* Row (VP 8)

11.8.83 During construction, activities will be visible in Fields 68 and 75/79 including the temporary compound and creation of an access and track within Field 68 connecting to North Row. This will cause a *high* scale of change, to a *medium* geographic extent of the road as it passes these to the north and east fields for a *short-term*, resulting in a *Medium* magnitude of change. When this is compared to the *Low* sensitivity the level of significance will be **Moderate Adverse and significant**.

11.8.84 During operation the scale of change will be *medium* reducing to *low* after new hedge planting on the boundary of the Proposed Development has matured and is managed at a minimum height of 3m, to a *medium* geographic extent of the route as it passes the fields to the north and east for a *long-term (permanent but reversible)*, resulting in a *Medium* magnitude of change. When this is compared to the *Low* sensitivity the level of significance will be **Minor Adverse (not significant)**.

11.8.85 At decommissioning the activities will be obscured by the hedge but may still be visible, particularly tall elements such as a crane, so the scale of change will be *medium*, to a *medium* geographic extent of the route as it passes the fields to the north and east for a *brief term* (less than a year in this location), resulting in a *Low*

magnitude of change. When compared to the *Low* sensitivity the level of significance will be **Minor Adverse (not significant)**.

11.8.86 A full description of the existing representative view towards the Site and the scale of change that will arise from the Proposed Development is given in **Tables 11J-9** in **Appendix 11J.**

Users of Bowleaze Reen road (VP 9)

11.8.87 A representative view that picks up some of the nature of the existing view and the scale of change that will arise from the Proposed Development is given in **Tables 11J-10** in **Appendix 11J** which is elaborated on below.

11.8.88 During construction, activities within the Grid Connection Corridor including the installation of the high voltage cable using HDD and the development of North Compounds 1, 2 and 3 will be visible. At the southern end the installation of the cable will be see close to the road but then at more of a distance as the corridor turns to the north west towards National Grid Substation. The works at the substation compounds will be seen beyond intervening vegetation but tall elements will be visible above seen in the context of the existing substation in this location. This will cause a *high* scale of change, to the length of this road but restricted to through gaps in the roadside vegetation being a *medium* geographic extent of the road for a *short-term*, resulting in a *Medium* magnitude of change. When this is compared to the *Low* sensitivity the level of significance will be **Moderate Adverse and significant**.

11.8.89 During operation any evidence of the cable installation is not likely to be visible when passing in vehicles along the road. There will now be a collection of substation compounds where the tops of buildings and taller elements of the equipment will be visible above the intervening vegetation which will be seen in the existing context of energy infrastructure including a number of pylons. This will cause a *medium* scale of change to the length of this road but restricted to through gaps in the roadside vegetation being a *medium* geographic extent of the route for a *long-term (permanent)*, resulting in a *Medium* magnitude of change. When this is compared to the *Low* sensitivity the level of significance will be **Minor Adverse (not significant)**.

11.8.90 During decommissioning the activities will be similar to the construction phase. This will cause a *high* scale of change, to a *medium* geographic extent of the route for a

brief term in this location, resulting in a *Low* magnitude of change. When compared to the *Low* sensitivity the level of significance will be **Minor Adverse (not significant)**. Should the North Compounds 1, 2 and 3 be retained the **Minor Adverse** impact arising from operation will remain permanently

Users of Parish Reen road (VP 9)

11.8.91 During construction, development of North Compounds 1, 2 and 3 will be visible albeit obscured within the Proposed Development to some degree by intervening vegetation and seen in the context of the existing substation. This will cause a *high* scale of change, to up to half the length of this road being a *high geographic* extent for a *short-term*, resulting in a *Medium* magnitude of change. When this is compared to the *Low* sensitivity the level of significance will be **Moderate Adverse and significant**.

11.8.92 During operation there will now be a collection of substation compounds, North Compounds 1, 2 and 3 where the tops of buildings and taller elements of the equipment will be visible above the intervening vegetation which will be seen in the existing context of energy infrastructure including a number of pylons. This will cause a *medium* scale of change to up to half the length of this road being a *high* geographic extent for a *long-term (permanent)*, resulting in a *Medium* magnitude of change. When this is compared to the *Low* sensitivity the level of significance will be **Moderate Adverse but not significant** given the surrounding context.

11.8.93 During decommissioning the activities will be similar to the construction phase. This will cause a *high* scale of change, to a to up to half the length of this road being a *high* geographic extent for a *brief term* in this location, resulting in a *Low* magnitude of change. When compared to the *Low* sensitivity the level of significance will be **Minor Adverse (not significant)**. Should North Compounds 1, 2 and 3 be retained the **Moderate Adverse** impact arising from operation will remain permanently which is considered to be **not significant** given the surrounding context.

11.9 Additional Mitigation and Enhancement Measures

11.9.1 A buffer of 7m has been employed from all Site boundaries, internal hedgerows, reens/ditches and veteran trees. This will ensure that these distinctive features and their contribution to the character of the area are retained, as well as their ability to

contain the Proposed Development. However, vegetation removal will be required within and throughout the Site to accommodate cable trenches/bridges and access tracks. Each section of vegetation removal for a trench/bridge crossing will have an average length of 5-6m requiring an overall length of 2040 m to be removed. Each section of vegetation removal for an access track will have an average length of 16-17m requiring and overall length of 2610m. Therefore, the total overall amount of vegetation removal required will be 4650m. In most cases this removal will be in individual locations although there are some instances of quite extensive removal of up to 100-200m of vegetation. This will be replaced where possible after construction is complete however much of it will be permanent removal to allow for ongoing access and maintenance during operation. It is also proposed to reduce/remove vegetation from the southern side of reens where there are double hedges to improve the condition of the reen habitat (see **Chapter 8: Ecology**). The specific extent and location of this removal is not currently known. This will be over and above the removal required for cable trenches/bridges and access tracks but may coincide in places.

11.9.2 Additional hedgerow planting along boundaries of proposed Solar Panels within fields contained within the PEIR Assessment Boundary to screen views from sensitive visual receptors. Such as to the north of Solar Panels within Fields 366 and 367 and to the east of Solar Panels within Fields 68 and 79.

11.9.3 Supplementary planting in gaps within existing hedges where required across the Proposed Development and general management of hedgerows throughout at a minimum of 3m high – only applies on the northern side of reens due to ecological objectives.

11.9.4 A buffer is to be provided to accommodate an underground sewer along the majority of the southern edge of the Proposed Development closest to the WCP, with the exception of four fields in the eastern part of the Site. This is to be utilised as an ecological corridor including a ‘Bee Highway’ (see **Chapter 8: Ecology**) offering habitat enhancement for species found to inhabit the Site. There is potential for characteristic landscape features to be incorporated into this corridor such as Willow (pollarded) and Poplar trees, so long as they do not conflict with operation and ecological objectives. While this will not offer substantial screening of the Proposed

Development it will introduce additional characteristic features that have been identified as being in decline. They will break up the expanse of the Solar Panels within views from along the WCP while also introducing tall features into the foreground of views from the WCP that will serve to divert attention away from vertical structures that are already present in the landscape. These will be strategically placed through detailed design so as not to significantly prevent or obstruct views across the Levels landscape to the hills in the background.

11.9.5 Additional new hedge planting on the northern/eastern side of reens that form the PEIR Assessment Boundary (planting will be located outside of but adjacent to the PEIR Assessment Boundary) will ensure the Proposed Development is screened from sensitive visual receptors and that it is contained within the surrounding landscape. – such as Fields 184, 186, 187 and 48. This will be considered and potentially included in the final mitigation planting strategy that will be set out in the ES.

11.9.6 A detailed landscape strategy will be required to identify areas of existing hedge removal, existing hedge management and new planting as detailed in **Table 11-10**. A outline Landscape Ecological Management Plan (oLEMP **Appendix 8J**) has been prepared to support this PEIR. An oLEMP will be produced for the ES.

11.10 Residual Effects and Conclusions

11.10.1 Significant effects arising from extent and scale of the Proposed Development requiring vegetation removal – potential for replacement is not known at this stage. Otherwise, it is well contained within the landscape due to combination of flat, low-lying landform of the Levels landscape within the intervening existing vegetation on field and reen boundaries where the existing field pattern will be retained – enhanced by management of hedges on perimeter and internal boundaries of the Proposed Development. Whilst the scale of effects on landscape character are typically low or medium, the geographic extent of the Proposed Development is extensive and therefore considered high. As a result, the magnitude of change on the landscape directly impacted will typically be medium on a highly sensitive landscape, this will result in a significant effect on Caldicot Levels LCA and the Caldicot Levels SLA. This will arise at the conclusion of the construction phase and remain during the operation of the Proposed Development.

11.10.2 Local residents typically place great value to their views, and are highly susceptible to change, making them highly sensitive. A relatively minor change to views will result in medium or greater magnitude of change, which on sensitive receptors will potentially give rise to a moderate or greater adverse effect, which is considered a significant effect. Those residential properties that are in close proximity to the Proposed Development or with views within which the Proposed Development will become an extensive element are therefore predicted to experience a significant effect.

11.10.3 Significant effects are anticipated on the visual amenity to users of WCP due to elevated position along the seawall, close to southern boundary, which will experience views for an extensive period (min 2 hours of walking) – although the extent of Solar Panels will be broken up by open fields and positioned further back within fields, particularly for a central section. In addition, footpaths/PRoW that pass through the Proposed Development including Redwick Circular Route will be subject to significant effects. There will be a fundamental change to the overriding character and visual experience of routes from agricultural fields to renewable energy generation. Users of these PRoW are considered to be highly sensitive, whereby a medium or high magnitude of change, arising as a result of medium or high scale and geographic extent, will result in significant effects.

11.10.4 A summary of significant effects and those landscape and visual receptors predicted to be subject to a moderate adverse or greater effects are outlined below in **Table 11-16** to **Table 11-19**.

Table 11-16 Summary of Significant Residual Effects (Construction)

Receptor	Description of Impact	Significance of effect without mitigation	Mitigation/Enhancement measure	Residual effect after mitigation
Landscape Receptors				
LCA A2: Caldicot Level	Low magnitude of change increasing	Minor increasing to Moderate Adverse	None	Minor increasing to Moderate

Receptor	Description of Impact	Significance of effect without mitigation	Mitigation/Enhancement measure	Residual effect after mitigation
	to high on medium sensitivity landscape.			Adverse (not significant)
The Caldicot Level Special Landscape Area	Low magnitude of change increasing to high on medium sensitivity landscape.	Major Adverse	None	Major Adverse (significant)
Visual				
Residential Properties				
Porton House (within grouping of Whitson and outlying properties to the south of Whitson and south-west of the Proposed Development)	High scale and geographic extent on sensitive views	Major Adverse	N/A	Major Adverse (significant)
Church Farm (within grouping of Redwick and outlying residential property to the	High scale and geographic extent on sensitive views	Major Adverse	N/A	Major Adverse (significant)

Receptor	Description of Impact	Significance of effect without mitigation	Mitigation/Enhancement measure	Residual effect after mitigation
south of the hamlet)				
Summerleaze and outlying residential property surrounding the east of the Proposed Development	High scale and geographic extent on sensitive views	Major Adverse	N/A	Major Adverse (significant)
Recreational Routes and Destinations				
Wales Coast Path	Medium magnitude of change on high sensitivity users	Moderate Adverse	N/A	Moderate Adverse (significant)
Redwick Circular Route	Medium magnitude of change on high sensitivity users	Moderate Adverse	N/A	Moderate Adverse (significant)
Users of Other Footpaths/PRoW crossing through the Proposed Development	Medium magnitude of change on high sensitivity users	Moderate Adverse	N/A	Moderate Adverse (significant)

Receptor	Description of Impact	Significance of effect without mitigation	Mitigation/Enhancement measure	Residual effect after mitigation
Footpath 372/58/3,5,1,7	Medium magnitude of change on high sensitivity users	Moderate Adverse	N/A	Moderate Adverse (significant)
Users of Green Lanes	Medium magnitude of change on high sensitivity users	Moderate Adverse	N/A	Moderate Adverse (significant)
Users of the National Cycle Network (NCN) Route 4	Low magnitude of change on medium sensitivity users	Moderate Adverse	N/A	Moderate Adverse (significant)
Transport Routes				
Users of North Row	Medium magnitude of change on low sensitivity users	Moderate Adverse	N/A	Moderate Adverse (significant)
Users of local road Bowleaze Reen	Medium magnitude of change on low	Moderate Adverse	N/A	Moderate Adverse (significant)

Receptor	Description of Impact	Significance of effect without mitigation	Mitigation/Enhancement measure	Residual effect after mitigation
	sensitivity users			
Users of local road along Parish Reen	Medium magnitude of change on low sensitivity users	Moderate Adverse	N/A	Moderate Adverse (significant)

Table 11-17 Summary of Significant Residual Effects (Operation Year 1)

Receptor	Description of Impact	Significance of effect without mitigation	Mitigation/Enhancement measure	Residual effect after mitigation
Landscape Receptors				
LCA A2: Caldicot Level	High magnitude of change, on medium sensitivity landscape.	Moderate Adverse	Implement detailed planting strategy to include reinforcement of existing hedgerows, gapping up and management of existing hedgerows to grow out and improve screening along the southern boundary of the Proposed Development. Mitigation effects will be felt once so established so are considered at Year 15 below.	Moderate Adverse (significant)

Receptor	Description of Impact	Significance of effect without mitigation	Mitigation/Enhancement measure	Residual effect after mitigation
The Caldicot Level Special Landscape Area	High magnitude of change, on medium sensitivity landscape.	Major Adverse	None	Major Adverse (significant)
Visual Receptors				
Residential Properties				
Porton House (within grouping of Whitson and outlying properties to the south of Whitson and south-west of the Proposed Development)	High scale and geographic extent on sensitive views	Major Adverse	Implementing management of hedgerows to improve screening Supplementary planting of replacement hedges and gapping up. Mitigation effects will be felt once so established so are considered at Year 15 below.	Major Adverse (significant)
Church Farm (within grouping of Redwick and outlying residential property to the south of the hamlet)	High scale and geographic extent on sensitive views	Major Adverse	Implementing management of hedgerows to improve screening Supplementary planting of replacement hedges and gapping up. Mitigation effects will be felt once so established so are considered at Year 15 below.	Major Adverse (significant)

Receptor	Description of Impact	Significance of effect without mitigation	Mitigation/Enhancement measure	Residual effect after mitigation
Summerleaze and outlying residential property surrounding the east of the Proposed Development	High scale and geographic extent on sensitive views	Major Adverse	Implementing management of hedgerows to improve screening Supplementary planting of replacement hedges and gapping up. Mitigation effects will be felt once so established so are considered at Year 15 below.	Major Adverse (significant)
Recreational Routes and Destinations				
Wales Coast Path	Medium magnitude of change on high sensitivity users	Moderate Adverse	N/A	Moderate Adverse (significant)
Redwick Circular Route	High magnitude of change on high sensitivity users	Major Adverse	Implementing management of hedgerows to improve screening Supplementary planting of replacement hedges and gapping up. Mitigation effects will be felt once so established so are considered at Year 15 below.	Major Adverse (significant)

Receptor	Description of Impact	Significance of effect without mitigation	Mitigation/Enhancement measure	Residual effect after mitigation
Users of Other Footpaths/PRoW crossing through the Proposed Development	High magnitude of change on high sensitivity users	Major Adverse	Implementing management of hedgerows to improve screening Supplementary planting of replacement hedges and gapping up. Mitigation effects will be felt once so established so are considered at Year 15 below.	Major Adverse (significant)
Users of Green Lanes	Medium magnitude of change on high sensitivity users	Moderate Adverse	Implementing management of hedgerows to improve screening Supplementary planting of replacement hedges and gapping up. Mitigation effects will be felt once so established so are considered at Year 15 below.	Moderate Adverse (significant)

Table 11-18: Summary of Significant Residual Effects (Operation Year 15)

Receptor	Description of Impact	Significance of effect without mitigation	Mitigation/Enhancement measure	Residual effect after mitigation
Landscape Receptors				
LCA A2: Caldicot Level	High magnitude of change, on medium sensitivity landscape.	Moderate Adverse	Detailed planting strategy to include reinforcement of existing hedgerows, gapping up and management of existing hedgerows to grow out and improve screening along the southern boundary of the Proposed Development.	Moderate Adverse (significant)
The Caldicot Level Special Landscape Area	High magnitude of change, on medium sensitivity landscape.	Major Adverse	None	Moderate Adverse (significant)
Visual Receptors				
Residential Properties				
Porton House (within grouping of Whitson and outlying properties to the south of Whitson and south-west of the Proposed Development)	Medium scale and high geographic extent on sensitive views	Moderate Adverse	Manage hedgerows to improve screening Supplementary planting of replacement hedges and gapping up	Moderate Adverse (significant)

Receptor	Description of Impact	Significance of effect without mitigation	Mitigation/Enhancement measure	Residual effect after mitigation
Church Farm (within grouping of Redwick and outlying residential property to the south of the hamlet)	Medium scale and high geographic extent on sensitive views	Moderate Adverse	Manage hedgerows to improve screening Supplementary planting of replacement hedges and gapping up	Moderate Adverse (significant)
Summerleaze and outlying residential property surrounding the east of the Proposed Development	Medium scale and high geographic extent on sensitive views	Moderate Adverse	Manage hedgerows to improve screening Supplementary planting of replacement hedges and gapping up	Moderate Adverse (significant)
Recreational Routes and Destinations				
Wales Coast Path	Medium magnitude of change on high sensitivity users	Moderate Adverse	Detailed planting strategy to include reinforcement of existing hedgerows, gapping up and management of existing hedgerows to grow out and improve screening along the southern boundary of the Proposed Development. Additional landscape features within the ecological buffer along the southern	Moderate Adverse (significant)

Receptor	Description of Impact	Significance of effect without mitigation	Mitigation/Enhancement measure	Residual effect after mitigation
			boundary of the Proposed Development.	
Redwick Circular Route	High magnitude of change on high sensitivity users	Major Adverse	Manage hedgerows to improve screening Supplementary planting of replacement hedges and gapping up	Major Adverse (significant)
Users of Other Footpaths/PRoW crossing through the Proposed Development Site	High magnitude of change on high sensitivity users	Major Adverse	Manage hedgerows to improve screening Supplementary planting of replacement hedges and gapping up	Major Adverse (significant)
Users of Green Lanes	Medium magnitude of change on high sensitivity users	Moderate Adverse	Manage hedgerows to improve screening	Moderate Adverse (significant)

Table 11-19: Summary of Significant Residual Effects (Decommissioning)

Receptor	Description of Impact	Significance of effect without mitigation	Mitigation/Enhancement measure	Residual effect after mitigation
Landscape Receptors				
LCA A2: Caldicot Level	High magnitude of change	Moderate decreasing	Management of hedgerows to retain screening remains	Moderate decreasing to Minor

Receptor	Description of Impact	Significance of effect without mitigation	Mitigation/Enhancement measure	Residual effect after mitigation
	decreasing to low, on medium sensitivity landscape.	to Minor Adverse		Adverse (not significant)
The Caldicot Level Special Landscape Area	High magnitude of change decreasing to low, on medium sensitivity landscape.	Major Adverse	None	Major Adverse (significant)
Visual Receptors				
Residential Properties				
Porton House (within grouping of Whitson and outlying properties to the south of Whitson and south-west of the Proposed Development)	High scale and geographic extent on sensitive views	Major Adverse	Manage hedgerows to retain screening	Major Adverse (significant)
Church Farm (within grouping of Redwick and outlying	High scale and geographic extent on	Major Adverse	Manage hedgerows to retain screening	Major Adverse (significant)

Receptor	Description of Impact	Significance of effect without mitigation	Mitigation/Enhancement measure	Residual effect after mitigation
residential property to the south of the hamlet)	sensitive views			
Summerleaze and outlying residential property surrounding the east of the Proposed Development	High scale and geographic extent on sensitive views	Major Adverse	Manage hedgerows to retain screening	Major Adverse (significant)
Recreational Routes and Destinations				
Wales Coast Path	Medium magnitude of change on high sensitivity users	Moderate Adverse	Manage hedgerows to retain screening	Moderate Adverse (significant)
Redwick Circular Route	Medium magnitude of change on high sensitivity users	Moderate Adverse	Manage hedgerows to retain screening	Moderate Adverse (significant)
Users of Other Footpaths/PRoW crossing through the DCO Proposed	Low magnitude of change on high	Moderate Adverse	Manage hedgerows to retain screening	Moderate Adverse (significant)

Receptor	Description of Impact	Significance of effect without mitigation	Mitigation/Enhancement measure	Residual effect after mitigation
Development Site	sensitivity users			
Users of Green Lanes	Medium magnitude of change on high sensitivity users	Moderate Adverse	Manage hedgerows to retain screening	Moderate Adverse (significant)

11.11 Cumulative Effects

11.11.1 Cumulative effects, or inter-project cumulative effects, can occur as the interaction and combination of environmental effects of the Proposed Development and other developments (projects that are reasonably foreseeable) affecting the same sensitive receptor, identified within this PEIR. An example could include existing residential properties within the Study Area experiencing changes in views due to a cumulative increase visual detractors from the Proposed Development and other Committed Developments.

11.11.2 Cumulative effects have been considered for the those Committed Developments that could result in significant inter-project effects due their presence within the landscape and visual zone of influence. The developments which have informed the LVIA cumulative assessment are all located within 1km from the PEIR Assessment Boundary and are set out in **Table 11-20** below. These are all considered developments that will be perceived within shared views from sensitive receptors, or which will potentially result in a material change to the landscape context.

11.11.3 It was recognised that with regards to landscape effects, the two developments considered in the assessment will deliver changes within the Local Character Area (LCA) in which they are located, and which may be experienced cumulatively with the Proposed Development. During the Construction Phase, additional construction activities and built form will be visible and audible within the respective LCA. These

changes are assessed to materially increase the magnitude of landscape change during the Operational Phase from moderate adverse to major/moderate adverse (significant) on LCA A2: Caldicot Level, refer to **Table 11-21**. It is assumed that the two developments (Rush Wall Solar Park Ltd (Ref NS/3220457) and Magor Net Zero (Ref CAS-01960-J2H3X5)) will be constructed in the same period as the Proposed Development in order to consider a worst case scenario.

11.11.4 With respect to visual effects, it is anticipated that visual receptors in the vicinity may experience the changes brought about by cumulative developments in combination with the Proposed Development. However, these changes are assessed not to materially increase the magnitude of visual change during the Construction Phase or the Operational Phase of the Proposed Development, refer to **Table 11-21** and are presumed to be present during decommissioning. Committed Developments will not result in any additional visual effects, and it is therefore considered that no additional mitigation is required. Accordingly, no likely significant cumulative visual effects will occur as a result of these Committed Developments.

Table 11-20 Cumulative Developments

Number	Name	Development summary	Scoped in/out
NS/3220457	Rush Wall Solar Park Ltd	Installation of Solar Farm with an approximate design capacity of 75 MW and ancillary electrical equipment, infrastructure, access tracks, security fencing and CCTV monitoring. Status: Examination (Anticipated hearing in early 2026)	Potential for cumulative effects to arise as a result of the location, proximity and nature of the proposed developed – Scoped in
CAS-01960-J2H3X5	Magor Net Zero	Renewable Energy & Green Hydrogen Production Facility including ground-mounted solar PV, wind turbine, hydrogen electrolysers, hydrogen and	Potential for cumulative effects to arise as a result of the location, proximity and nature of

Number	Name	Development summary	Scoped in/out
		energy storage and ancillary and associated infrastructure and cabling. Status: Scoping	the proposed developed – Scoped in
25/0176	Llanwern Works 4 no. Commercial (Reserved Matters)	Reserved matters application relating to layout, scale, appearance, access and landscaping for 4 no. Commercial units (use class b1, b2, b8) pursuant to outline planning permission 06/0471 for a mixed use regeneration of the former Llanwern steelworks and partial discharge of conditions. Status: Approved with Conditions	Location is outside of the ZTV therefore potential for significant effects is low – Scoped out
24/0301	Llanwern Works mixed use urban extension (Reserved Matters)	Reserved matters application for phase 5e(1) relating to layout, scale, access, appearance and landscaping pursuant to outline planning permission 06/0471 for a mixed use urban extension. Status: Withdrawn	Location is outside of the ZTV therefore potential for significant effects is low – Scoped out
25/0052	Llanwern Works storage and distribution facility (Reserved Matters)	Retention of engineering works and use of land as an open storage and distribution facility, with ancillary staff welfare/security/office place, along with the laying of roads/marshalling areas, the erection of new fencing and lighting and associated ground,	Location is outside of the ZTV therefore potential for significant effects is low – Scoped out

Number	Name	Development summary	Scoped in/out
		drainage, engineering and landscaping works. Status: Granted with Conditions	
25/0177	Llanwern Works 3 no. Commercial units (Reserved Matters)	Reserved matters application relating to layout, scale, appearance, access and landscaping for 3 no. Commercial units (use class b1, b2, b8) pursuant to outline permission 06/0471 for a mixed use regeneration of the former Llanwern steelworks. Status: At Recommendation and / or Committee	Location is outside of the ZTV therefore potential for significant effects is low – Scoped out
DM/2025/00147	Land Off Norton Lane	Agricultural building for storage of plant and farm machinery. Status: At Recommendation and / or Committee	Nature of the proposed development is unlikely to give rise to a cumulative effect – Scoped out
DM/2022/01490	Magor Pill Farm	Change of use of 2 no. bays from agricultural to B2/B8 uses. Status: Approved	Nature of the proposed development is unlikely to give rise to a cumulative effect – Scoped out
DM/2023/00161	Lower Grange Farm	Commencement of building works to convert barn into annex ref DM/2017/00923. Status: Approved	Nature of the proposed development is unlikely to give rise to a cumulative effect – Scoped out

Table 11-21: Cumulative Effects

Receptor	Sensitivity	Effect resulting from the Proposed Development	Cumulative schemes with potential to combine with effects of the Proposed Development	Cumulative Assessment	Cumulative Effect
LCA A2: Caldicot Level (incl Caldicot Level SLA)	Medium	Construction: minor adverse increasing to moderate adverse (not significant) Operation (Yr 1): moderate adverse (significant) Operation (Yr 15): moderate adverse (significant)	Rush Wall Solar Park Ltd Magor Net Zero	**Rush Wall Solar Park Ltd:** The Proposed Development has been assessed as having a moderate adverse (significant) level of effect at both construction and operation. Rush Wall Solar Park Ltd did not assess LCA A2: Caldicot Level. The combined presence of two large-scale solar array developments within a flat, low-lying landscape, characterised by small to medium-scale regular and irregular agricultural fields, will	**Rush Wall Solar Park Ltd:** The combined level of effect will be **major/moderate adverse (Significant)**.

Receptor	Sensitivity	Effect resulting from the Proposed Development	Cumulative schemes with potential to combine with effects of the Proposed Development	Cumulative Assessment	Cumulative Effect
				result in an incongruous shift in landscape character from a predominantly rural setting to one with semi-industrial qualities. While the underlying field pattern and structural landscape elements may remain physically intact, the visual and perceptual impact of extensive solar infrastructure, including arrays, fencing, access tracks, and highway entrances, will significantly alter the perception of landscape pattern and character across the landscape.	**Magor Net Zero:** The combined level of effect will **be moderate adverse (Significant).**

Receptor	Sensitivity	Effect resulting from the Proposed Development	Cumulative schemes with potential to combine with effects of the Proposed Development	Cumulative Assessment	Cumulative Effect
				Magor Net Zero: The Proposed Development has been assessed as having a moderate adverse (significant) level of effect at both construction and operation. The combined presence of two large-scale solar array developments within a flat, low-lying landscape, characterised by small to medium-scale regular and irregular agricultural fields, will result in an incongruous shift in landscape character from a predominantly rural	

Receptor	Sensitivity	Effect resulting from the Proposed Development	Cumulative schemes with potential to combine with effects of the Proposed Development	Cumulative Assessment	Cumulative Effect
				setting to one with semi-industrial qualities. While the underlying field pattern and structural landscape elements may remain physically intact, the visual and perceptual impact of extensive solar infrastructure, including arrays, fencing, access tracks, and highway entrances, will significantly alter the perception of landscape pattern and character across the landscape.	
LCA B1 Severn Estuary	High	Construction: minor adverse (not significant)	Rush Wall Solar Park Ltd	**Rush Wall Solar Park Ltd:** The Proposed Development has been assessed as having	**Rush Wall Solar Park Ltd:**

Receptor	Sensitivity	Effect resulting from the Proposed Development	Cumulative schemes with potential to combine with effects of the Proposed Development	Cumulative Assessment	Cumulative Effect
(inc. MCA: 29 Severn Estuary (Wales) and Caldicot Level SLA)		Operation (Yr 1): negligible (not significant) Operation (Yr 15): negligible (not significant)		a minor adverse (not significant) effect at the end of the construction period and at operation on the Caldicot Level SLA but not in relation to the LCA B1 Severn Estuary. Rush Wall Solar Park Ltd have assessed the magnitude of impact from their development to be medium; the level of effect will be moderate adverse at its worst case. The combined impact of two large-scale solar array developments will adversely affect a substantial portion of the inland area of the Special	The combined level of effect will be **moderate adverse (Significant).**

Receptor	Sensitivity	Effect resulting from the Proposed Development	Cumulative schemes with potential to combine with effects of the Proposed Development	Cumulative Assessment	Cumulative Effect
				Landscape Area (SLA) however this does not extend into the adjacent intertidal area and therefore would not undermine its distinctive character and valued qualities. The introduction of industrial-scale infrastructure into this rural setting would not therefore erode the uniqueness and integrity of the landscape.	
Users of the Wales Coast Path	High	Construction: moderate adverse (significant) Operation (Yr 1):	Rush Wall Solar Park Ltd	**Rush Wall Solar Park Ltd:** The construction and operation of the Proposed Development will introduce a substantial and incongruous built element into	**Rush Wall Solar Park Ltd:** Due to their being no visual impact from the Rush Hall Solar Park Ltd,

Receptor	Sensitivity	Effect resulting from the Proposed Development	Cumulative schemes with potential to combine with effects of the Proposed Development	Cumulative Assessment	Cumulative Effect
		moderate adverse (significant) Operation (Yr 15): moderate adverse (significant)	Magor Net Zero	a predominantly rural landscape which is becoming increasingly influenced by solar infrastructure. While the landscape retains its distinctive pattern of rectangular and sinuous fieldscapes defined by reens, hedgerows, and field boundary trees, the introduction of new PV Arrays and their associated infrastructure will intensify the shift away from its traditional rural character. Although the area is already affected by existing pylons and other solar schemes, the Proposed	is assessed that **No Significant cumulative visual effects** will occur as a result of this development.

Receptor	Sensitivity	Effect resulting from the Proposed Development	Cumulative schemes with potential to combine with effects of the Proposed Development	Cumulative Assessment	Cumulative Effect
				Development alongside Rush Wall Solar Park Ltd will contribute to a generalised transformation, reinforcing a semi-industrialised perception of the landscape. At the worst case, the Proposed Development has been assessed as having a moderate adverse (significant) effect on users of the Wales Coast Path (VP's 1, 2, 3). Rush Wall Solar Park Ltd have assessed the magnitude of impact to have no change, the	**Magor Net Zero:** Due to the location of the scheme it is assessed that **No Significant cumulative visual effects** will occur as a result of this development.

Receptor	Sensitivity	Effect resulting from the Proposed Development	Cumulative schemes with potential to combine with effects of the Proposed Development	Cumulative Assessment	Cumulative Effect
				level of effect will being neutral (Rush Hall VP 12). **Magor Net Zero:** The construction and operation of the Proposed Development will introduce a significant built feature into an area that is primarily rural, though increasingly influenced by solar infrastructure. While the landscape still displays its characteristic pattern of rectangular and sinuous fields delineated by reens, hedgerows, and boundary trees, the addition of new solar	

Receptor	Sensitivity	Effect resulting from the Proposed Development	Cumulative schemes with potential to combine with effects of the Proposed Development	Cumulative Assessment	Cumulative Effect
				arrays and related infrastructure will further alter its traditional rural character. Although existing pylons and other solar installations have already impacted the region, the Proposed Development in conjunction with Magor Net Zero will contribute to a broader transformation, reinforcing a perception of semi-industrialisation within the landscape. At the worst case, the Proposed Development has been assessed as having a moderate adverse (significant) effect on users of	

Receptor	Sensitivity	Effect resulting from the Proposed Development	Cumulative schemes with potential to combine with effects of the Proposed Development	Cumulative Assessment	Cumulative Effect
				the Wales Coast Path (VP's 1, 2, 3). It is unlikely that the Magor Net Zero project will be visible in combination with the Proposed Development due to the distance away from the receptor and the intervening vegetation.	
Residents of Redwick	High (worst case scenario)	Construction: major adverse (significant) Operation (Yr 1): moderate adverse (significant)	Rush Wall Solar Park Ltd Magor Net Zero	**Rush Wall Solar Park Ltd:** At the worst case, the Proposed Development has been assessed as having a moderate adverse (significant) effect on residents of Redwick (closest representative is VP 7). Rush Wall Solar Park Ltd	**Rush Wall Solar Park Ltd:** Due to the location of the developments it is unlikely that residential receptors of Redwick will see both developments in combination and therefore

Receptor	Sensitivity	Effect resulting from the Proposed Development	Cumulative schemes with potential to combine with effects of the Proposed Development	Cumulative Assessment	Cumulative Effect
		Operation (Yr 15): moderate adverse (significant)		have assessed the magnitude of impact as low and the level of effect to be negligible adverse on residents of Redwick (Rush Hall VP 4). The Proposed Development is expected to have a greater influence on receptors situated on the southern and western edges of Redwick, while Rush Hall Solar Park is expected to have a greater influence on receptors situated to the northeast along Green Street. **Magor Net Zero:**	it is assessed that **No Significant cumulative visual** effects will occur as a result of this development. **Magor Net Zero:** Due to the location of the developments it is unlikely that residential receptors of Redwick will see both developments in combination and therefore it is assessed that **No Significant cumulative visual effects** will occur as

Receptor	Sensitivity	Effect resulting from the Proposed Development	Cumulative schemes with potential to combine with effects of the Proposed Development	Cumulative Assessment	Cumulative Effect
				At the worst case, the Proposed Development has been assessed as having a moderate adverse (significant) effect on residents of Redwick (closest representative is VP 7). The Proposed Development is expected to have a greater influence on receptors situated on the southern and western edges of Redwick. Magor Net Zero is situated to the north east of Redwick, where distance and intervening vegetation is likely to diminish any potential views. Due to the location of the	a result of this development

Receptor	Sensitivity	Effect resulting from the Proposed Development	Cumulative schemes with potential to combine with effects of the Proposed Development	Cumulative Assessment	Cumulative Effect
				developments it is unlikely that residential receptors of Redwick will see both developments in combination and therefore it is assessed that no significant cumulative visual effects will occur as a result of this development.	

11.12 Summary and Next Steps

11.12.1 The information provided in this PEIR is preliminary; the final assessment of potential significant effects will be reported in the ES. This section concludes the preliminary findings of this PEIR assessment and describes the further work to be undertaken to support the landscape and visual assessment presented in the ES.

11.12.2 The Study Area for the initial desktop study was set at 5km radius while the 2km extent allowed for targeted field work. However, field observations established that significant effects to the landscape character and visual amenity were unlikely to occur beyond 1km. While the initial ZTV was produced using DSM data this was reproduced and refined using more detailed DSM data that generated a more realistic ZTV that reflected what was observed on the ground during the field work. Therefore, for the purposes of the PEIR landscape and visual assessment the study area was re-scoped to focus on 1km of the PEIR Assessment Boundary.

11.12.3 A Seascape Character Assessment was included in the PEIR which found that there will be no significant effects to LCA B1: Severn Estuary (incorporating B1.1L The Welsh Grounds) from the Gwent Levels Landscape Character Assessment or MCA 29: 29 Severn Estuary (Wales) from the National Seascape Assessment for Wales.

11.12.4 The main conclusions to be drawn at this stage of the assessment is that the Proposed Development may significantly adversely impact on:

- LCA A2: Caldicot Level
- The Caldicot Level Special Landscape Area
- Residents of Porton House (within the grouping of Whitson and outlying properties to the south of Whitson and south-west of the Proposed Development)
- Residents of Church Farm (within the grouping of Redwick and outlying residential property to the south of the hamlet)
- Residents of Summerleaze and outlying residential property surrounding the east of the Proposed Development
- Users of the Wales Coast Path (within the 1km study area)
- Users of the Redwick Circular Route
- Users of Other Footpaths/PRoW crossing though the Proposed Development Site

- Users of Green Lanes

11.12.5 Additionally, during the construction phase the Proposed Development may significantly adversely impact on the following receptors albeit for a short-term duration:

- Users of Footpath 372/58/3, 5, 1, 7;
- Users of the National Cycle Network (NCN) Route 4 (within the 1km study area);
- Users or North Row;
- Users of local road Bowleaze Reen; and
- Users of local road along Parish Reen.

11.12.6 The judgements made take account of all embedded mitigation measures incorporated into the Proposed Development. Significant effects arise as a result of the scale of the Proposed Development across a broad geographic extent in the receiving landscape. However, when considering the scale of the Proposed Development, impacts will typically be well contained inside of and within the immediate vicinity of the PEIR Assessment Boundary due to the presence of existing hedgerows within a flat landscape.

11.12.7 A final conclusion of significance for all identified receptors at all phases will be made in the ES. Additional mitigation measures will also be explored if necessary to potentially reduce the significant effects further.

11.13 References

Ref 11-1 National Assembly for Wales. (2015). Well-being of Future Generations (Wales) Act 2015. (Online). Available at: https://www.legislation.gov.uk/anaw/2015/2 [Accessed November 2025].

Ref 11-2 Welsh Government. (2024). Planning Policy Wales, Edition 12. (Online). Available at: Planning Policy Wales - Edition 12 [Accessed November 2025].

Ref 11-3 National Assembly for Wales. (2016). Environment (Wales) Act 2016. (Online). Available at: https://www.legislation.gov.uk/anaw/2016/3/contents/enacted [Accessed November 2025].

Ref 11-4 Department for Energy Security and Net Zero (2024) *Overarching National Policy Statement for Energy (EN-1)*. Available at: https://www.gov.uk/government/publications/overarching-national-policy-statement-for-energy-en-1 [Accessed November 2025].

Ref 11-5 Department for Energy Security and Net Zero (2024) *National Policy Statement for Renewable Energy Infrastructure (EN-3)*. Available at: https://www.gov.uk/government/publications/national-policy-statement-for-renewable-energy-infrastructure-en-3 [Accessed November 2025].

Ref 11-6 Welsh Government. (2021). Future Wales - The National Plan 2040. (Online). Available at: https://gov.wales/future-wales-national-plan-2040-0 [Accessed November 2025].

Ref 11-7 Newport City Council. (2015). Local Development Plan up to 2026. (Online). Available at: LDP-Adopted-Plan-January-2015 [Accessed November 2025].

Ref 11-8 Monmouthshire County Council. (2014). Local Development Plan up to 2021. (Online). Available at: Adopted-Local-Development-Plan-with-PDF-tags.pdf [Accessed November 2025].

Ref 11-9 Landscape Institute and the Institute of Environmental Management and Assessment, (2013). Guidelines for Landscape and Visual Impact Assessment. 3rd edition. London. Routledge [Accessed November 2025].

Ref 11-10 Natural Resources Wales. (2021). Using LANDMAP in Landscape and Visual Impact Assessments GN46. (Online). Available at: https://naturalresourceswales.gov.uk/guidance-and-advice/business-sectors/planning-and-development/evidence-to-inform-development-planning/using-landmap-in-landscape-and-visual-impact-assessments-gn46/?lang=en [Accessed November 2025].

Ref 11-11 Landscape Institute (2021). Technical Guidance Note 02/21 - Assessing landscape value outside national designations. (Online). Available at: https://www.landscapeinstitute.org/publication/tgn-02-21-assessing-landscape-value-outside-national-designations/ [Accessed November 2025].

Ref 11-12 Landscape Institute. (2019). Technical Guidance Note 06/19 Visual Representation of Development Proposals. London. Landscape Institute. (Online). Available at: https://www.landscapeinstitute.org/visualisation/ [Accessed November 2025].

Ref 11-13 Landscape Institute (2020). Technical Information Note 04/2020 – Infrastructure. (Online). Available at: https://landscapewpstorage01.blob.core.windows.net/www-landscapeinstitute-org/2018/01/LI-Infrastructure-TGN-FINAL-200924.pdf [Accessed November 2025].

Ref 11-14 Building Research Establishment (BRE) National Solar Centre, (2013). Planning guidance for the development of large-scale ground mounted solar PV systems. (Online). Available at: KN5524_Planning_Guidance_reduced.pdf [Accessed November 2025].

Ref 11-15 Building Research Establishment (BRE) National Solar Centre. (2014). Biodiversity Guidance for Solar Developments. (Online). Available at: NSC-Biodiversity-Guidance.pdf [Accessed November 2025].

Ref 11-16 Natural Resources Wales. National Landscape Character Areas (NLCA). (Online). Available at: Natural Resources Wales / National Landscape Character Areas (NLCA). [Accessed November 2025].

Ref 11-17 Natural Resources Wales. National Landscape Character Areas (NLCA) Map. (Online) Available at: nlca-map-and-names.pdf. [Accessed November 2025].

Ref 11-18 Natural Resources Wales. National Landscape Character profile NLCA34 – Gwent Levels. (Online). Available at: NLCA34 Gwent Levels. [Accessed November 2025].

Ref 11-19 Living Levels Landscape Partnership. Website. (Online). Available at: Living Levels: Recapturing, enhancing and celebrating The Gwent Levels. [Accessed November 2025].

Ref 11-20 Living Levels Landscape Partnership. (2017). Landscape Conservation Action Plan. (Online). Available at: LL_Part_1_Introduction+and+Executive+Summary_Web.pdf. [Accessed November 2025].

Ref 11-21 Chris Blandford Associates. (2017). Gwent Levels Landscape Character Assessment. (Online). Available at:

Appendix+1+Landscape+Character+Assessment.pdf. [Accessed November 2025].

Ref 11-22 LUC. (2015). MCA 29 – Severn Estuary, National Seascape Assessment for Wales. (Online). Available at: Marine Character Areas 29. [Accessed November 2025].

Ref 11-23 Natural Resources Wales. (2021). Using LANDMAP in Landscape and Visual Impact Assessments GN46. (Online) Available at: Natural Resources Wales / Using LANDMAP in Landscape and Visual Impact Assessments GN46. [Accessed November 2025].

Ref 11-24 Cadw (Welsh Government). (2021). Full Reports of Registered Historic Landscape – Gwent Levels. (Online) Available at: Historic Landscapes - Full Report - HeritageBill Cadw Assets - Reports. [Accessed November 2025].

Ref 11-25 Newport City Council. (2013). Special Landscape Areas Background Paper Revised Deposit Plan. (Online). Available at: Special-Landscape-Area-June-2013. [Accessed November 2025].

Ref 11-26 Newport.gov.uk. (2025). *Local Development Plan | Newport City Council*. [online] Available at: https://www.newport.gov.uk/planning/planning-policy/local-development-plan [Accessed November 2025].