Candwr Solar Farm

Pre Application Consultation

Environmental Statement

Appendix 2.1 EIA Scoping Report

2 July 2026

TotalEnergies

Environmental Impact Assessment Scoping Report.

Candwr Solar Farm on Land at Court Farm, Ponthir, Monmouthshire.

On behalf of Candwr Solar Farm Limited.

Date: 29/09/2025 | Pegasus Ref: P24-2075

Document Management.

Version	Date	Author	Checked/ Approved by:	Reason for revision
Draft v1	28.08.25	HT	IH	Client Comments
Final	29.09.25	HT	IH	/

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1. Introduction

1.1. Overview

1.1.1. This Environmental Impact Assessment (EIA) Scoping Report has been prepared on behalf of Candwr Solar Farm Limited (the "Applicant") in respect of a proposal on land at Court Farm, Ponthir, Monmouthshire (the "Application Site or Site"), which is proposed for an installation and operation of ground mounted solar photovoltaic arrays with all associated works, equipment and necessary infrastructure (the "Proposed Development").

1.1.2. By virtue of its potential generating capacity of between 10MW-350MW, this Proposed Development constitutes a Development of National Significance ("DNS") under section 4 of the Developments of National Significance (Specified Criteria and Prescribed Secondary Consents) (Wales) Regulations 2016 , for the purposes of section 62 (D) of the Planning (Wales) Act 2015 ("the Wales Act").

1.1.3. Provision in the Wales Act came into force in March 2016 which requires the Welsh Minister to determine DNS projects, with applications being made directly to them. The process for applying for a DNS is set out by the Development of National Significance (Procedure) (Wales) Order 2016 and subsequent Regulations. The DNS application process is managed by Planning Inspectorate Wales on behalf of the Welsh Government.

1.1.4. Environmental Impact Assessment (EIA) is not required for all developments. A screening direction request was sent to Welsh Ministers on 7th April 2025. A Screening Direction was issued on 12th June 2025 concluding the Proposed Development is EIA development.

1.1.5. This EIA Scoping Report has been prepared to identify the likely significant environmental effects of the Proposed Development which will need to be assessed in detail in the EIA and reported within the Environmental Statement (ES), which will accompany the DNS planning application.

1.1.6. The EIA Scoping Report seeks to confirm agreement with the Welsh Ministers on the content of the forthcoming ES and provide information to the Welsh Ministers to enable an EIA Scoping Direction to be made under Regulation 33 of the Town and Country Planning (Environmental Impact Assessment) Wales Regulations 2017 (the "EIA Regulations"). The ES will accompany a full DNS planning application to be submitted to the Welsh Ministers. Therefore, this EIA Scoping Report has been submitted to the Welsh Ministers to assist in providing its Scoping Direction for the Proposed Development.

1.1.7. This EIA Scoping Report has been produced on behalf of the Applicant by Pegasus Group. Pegasus is registered to the ISEP EIA Quality Mark, a scheme operated by the Institute of Sustainability and Environmental Professionals (ISEP), formerly known as the Institute of Environmental Management and Assessment (IEMA) which allows consultancies that lead the co-ordination of statutory EIAs in the UK to make a commitment to excellence in their EIA activities and have this commitment independently reviewed.

1.2. Requirements of the Environmental Impact Assessment Process

1.2.1. The Environmental Impact Assessment (EIA) process is the mechanism by which development proposals are appraised in terms of environmental and socio-economic criteria, in addition to the engineering and technical considerations. The EIA process ultimately

assists in assessing the likely significant effects arising from a development (beneficial and adverse) and defines the context of the Proposed Development and its construction/decommissioning, and examines the issues considered pertinent.

1.2.2. The purpose of the EIA is to establish the nature of the existing Application Site and its surroundings (i.e. the baseline) and the nature of the Proposed Development and compare the baseline with the scenario once the proposals are in place, so to identify the likely significant effects that may arise as a result. This requires consideration of effects during construction, including any demolition or enabling works, effects once operational and at the time of decommissioning. The document produced as a result of the EIA process is known as the Environmental Statement (ES).

1.2.3. The ES will be prepared in accordance with Regulation 17 (3) and (4), and Schedule 4 of the EIA Regulations and the advice in Welsh Office Circular 11/99: Environmental Impact Assessment and the Local Planning Authorities Local Development Plan, as relevant to each of the technical disciplines and EIA.

1.3. Purpose of the Scoping Report

1.3.1. The process of identifying the matters to consider within an ES (establishing the scope of the assessment) is known as scoping. Scoping is not a mandatory requirement under the EIA Regulations. However, it is recognised that through the scoping exercise, the key environmental matters are identified at an early stage, which permits subsequent work to concentrate on those environmental topics for which significant effects may arise as a result of a proposed development

1.3.2. This EIA Scoping Report has been prepared to accompany a formal EIA Scoping Request under Regulation 33 of EIA Regulations. The purpose of the EIA Scoping Report is to sets out details of the Proposed Development at land at Court Farm, Ponthir, Monmouthshire, the proposed EIA methodology and the proposed scope of technical assessments, reasoned justification will also be provided within this report on topics which are proposed to be 'scoped out' of the EIA process.

1.3.3. Comments from Welsh Ministers and its consultees regarding the scope of works are invited. The intention of this scoping exercise is to gain agreement from all key parties regarding the proposed methodology and scope of the forthcoming assessments in the ES.

1.3.4. This EIA Scoping Report sets out the views of the Applicant, which have been informed by the advice and supporting assessments of specialist technical consultants, as to the proposed scope of the environmental issues to be considered in the EIA and as to the method by which assessment will be undertaken. This is especially relevant where integral measures as part of the Proposed Development or its construction will reduce adverse impacts, and also in the light of ensuring the ES is proportionate. Separate 'non-ES' reports will however still be undertaken, where necessary, covering those issues considered to be less than significant, outside the EIA process.

1.3.5. This is in line with advice in Welsh Office Circular 11/99: Environmental Impact Assessment, paragraph 82 – ***"Whilst every ES should provide a full factual description of the development, the emphasis of Schedule 4 is on the 'main' or 'significant' environmental effects to which a development is likely to give rise. In many cases, only a few of the effects will be significant and will need to be discussed in the ES in any great depth. Other impacts may be of little or no significance for the particular development in***

question and will need only very brief treatment to indicate that their possible relevance has been considered. While each ES must comply with the requirements of the Regulations, it is important that they should be prepared on a realistic basis and without unnecessary elaboration"

1.3.6. In accordance with Regulation 33 the EIA Regulations this EI Scoping Report contains:

a. a plan sufficient to identify the land;

b. a brief description of the nature and purpose of the development including its location and technical capacity;

c. a description of the likely significant effects of the development on the environment;

d. a statement that the request is made in relation to a development of national significance for the purposes of section 62D of the 1990 Act; and

e. such other information or representations as the person making the request may wish to provide or make

1.4. The Applicant

1.4.1. The Applicant Candwr Solar Farm Limited forms part of the umbrella company TotalEnergies. TotalEnergies is a global integrated multi-energy company that produces and markets energies: oil and biofuels, natural gas and green gases, renewables and electricity.

1.4.2. The Applicant is working in partnership with Welsh Water (Dŵr Cymru) to decarbonise its operations at Court Farm Treatment Works (Gwaith Trin Fferm y Cwrt) as well as the wider operations of the company.

1.5. Structure of the Scoping Report

1.5.1. The remainder of this EIA Scoping Report is divided into the following Sections:

- Section 2: The Site and Project Overview
    - An overview of the Application Site and the Proposed Development.
- Section 3: Legislative Requirements and the General Approach to EIA Process
    - A summary of the relevant EIA legislation and EIA process which will be undertaken, and the proposed structure and format of the ES is set out.
- Section 4: Scope of Assessment
    - A summary of the work undertaken and the environmental topics considered in the Scoping Report.
- Section 5: Topics to be 'Scoped Out'
    - Each environmental topic not proposed to be considered in the ES is discussed in turn.

- Section 6: Topics to be 'Scoped In'
    - Technical topics to be included in the ES with methodologies and approach set out

1.5.2. The Applicant has appointed a team of specialist consultants to consider planning and environmental matters in relation to the Proposed Development and to provide input into the production of this EIA Scoping Report, as listed in **Table 1.1** below. Available technical assessment work undertaken by consultants listed has directly informed the consideration of likely significant effects within their respective disciplines.

Table 1.1 – Consultant Team

Discipline	Company
Planning	Pegasus Group
Environmental Impact Assessment	Pegasus Group
Landscape and Visual	Pegasus Group
Transport	Pegasus Group
Ecology	Avian Ecology
Ground Conditions	RSK
Socio Economics	Pegasus Group
Flood Risk & Drainage	Pegasus Group
Cultural Heritage	Pegasus Group
Noise and Vibration	LFAcoustics
Glint and Glare	Pager Power
Agricultural Circumstances	Kernon Countryside Consultants and Amet Property
Arboriculture	Barton Hyett Associates
Climate Change	Air Quality Consultants (part of Logika Group)

2. The Site and Project Overview

2.1. Site Context

2.1.1. The Site is located at land at Court Farm, Ponthir, Monmouthshire. The Site is illustrated on the enclosed 'Site Location Plan' at **Appendix A** within the red line and has an area of approximately 118.8 hectares ("ha"), incorporating cable routes. The ES Screening Request issued on the 7th April 2025 had a similar Application Site boundary of 118.2ha, a difference of 0.6ha. The Application Site boundary has had some micro adjustments around field boundaries and small increase in area at Dŵr Cymru Welsh Water Court Farm Treatment Works to accommodate access to the proposed Substation. The minor adjustments to the Application Site boundary do not require a re-Screening of the Application Site as the changes will not result in potential significant effects on the environment, over and above those already identified through the EIA Screening Direction issued from PEDW on 12th June 2025.

2.1.2. The Site is comprised of agricultural land across thirteen land parcels which are spread across three Local Authority boundaries including Monmouthshire Council, Torfaen County Borough Council and Newport City Council. The agricultural land parcels which form the Site comprise a roughly 50/50 mixture of arable and pastoral fields bordered by hedgerow vegetation and trees.

2.1.3. The Application Site is located c. 5.2km north-east of the City of Newport, c. 1km east of the village of Ponthir and c. 2.4km north of the town of Caerleon at the closest point (land parcel 12).

2.1.4. The Application Site is located adjacent to the Dŵr Cymru Welsh Water Court Farm Treatment Works. The primary objective for the proposal would be to supply Dŵr Cymru Welsh Water Court Farm Treatment Works with renewable energy via a direct private wire connection. The remainder will be exported to the National Grid via connection to the existing 132kV overhead line at Dŵr Cymru Welsh Water Court Farm Treatment Works. The complete project would provide 100% clean and stable energy directly to the grid for Dŵr Cymru Welsh Water wider estate, helping to meet Government and company targets for carbon neutrality. The partnership with the Applicant will support the delivery of critical national infrastructure within the area by enabling Welsh Water to reduce reliance upon the National Grid and provide protection from fluctuating energy prices. The proposal will assist with mitigating customer bills at a time of high inflation.

2.1.5. The Application Site is within an area of open countryside characterised by undulating ridges and valleys. The development is proposed to be situated on relatively high ground utilising the south facing slopes of the valley landscape.

2.1.6. There are no statutory or non-statutory sites designated for nature conservation located within any of the land parcels, within the area surrounding the Site there are the following designations:

- The River Usk which is designated as a Special Area of Conservation (European designation) and a Site of Special Scientific Importance (SSSI) (national designation) located c. 1.4km south at the closest point (land parcel 12). The watercourse is designated as a SAC for the presence of sea lamprey (*Petromyzon marinus*), European river lamprey (*Lampetra fluviatilis*), Brook Lamprey (*Lampetra planeri*), Allis

shad (*Alosa alosa*), Twait shad (*Alosa fallax*), Atlantic salmon (*Salmo salar*), European bullhead (*Cottus gobio*) and Eurasian otter (*Lutra lutra*); and

- Brook Cottage SSSI c. 2.5km north-east of land parcel 3.

2.1.7. Parcels 6, 7, 8, 9 and 12 are located within the Torfaen Special Landscape Area within Landscape Unit (LAU) 59, Countryside East of Cwmbran as defined by the 2021 Sensitivity Capacity Study for Renewable Energy Development. The remainder of the parcels are not located within a designated landscape area.

2.1.8. There are no designated heritage assets located within the Site, within the area surrounding the Site there are the following Scheduled Monuments:

- Scheduled Monument Candwr Camp immediately south of land parcel 10 (reference: MM135);
- Penrhos Camp (civil war earthworks) Scheduled Monument (reference: MM011) c. 500m south-east of land parcel 12;
- Lodge Wood Camp Scheduled Monument (reference: MM023) is c 1.3km south-west of land parcel 12; and
- Cae Camp Scheduled Monument (reference: MM079) c. 1.3km east land parcel 2.

2.1.9. Several Listed Buildings are located within the wider area, largely associated with the following settlements Ponthir, Llantarnam, LLanfrechfa, LLandegveth and Llanddewi Fach. However, the following Listed Buildings have been identified within 1km of the Application Site boundary:

- Grade II Listed Barn at Pen-Twyn Farm (reference: 26129) adjacent to the southeastern boundary of parcel 12;
- Grade II Listed Little Creiggydd (reference: 2674) c. 35m north-east of land parcel 3; and
- Grade II Listed Glansirhowy Farm (reference: 3141) c. 140m south of land parcel 7.

2.1.10. The Application Site is not located within an Air Quality Management Area ("AQMA") the closest to the Application Site is the Caerleon High Street AQMA declared for Nitrogen dioxide located c. 1.6km south of parcel 12.

2.1.11. The Welsh Government Development Advice Map ("DAMs") shows the majority of the Application Site is located within Flood Zone 1; the area is considered to have the lowest probability of flooding. A small area is located within Flood Zone 2 and 3 which lies adjacent to Candwr Brook.

2.1.12. Please see the 'Environmental Designations Plan' (EDP) attached at **Appendix B** for further details of the above environmental opportunities and constraints.

Land Parcel Context

2.1.13. Site description details of the thirteen land parcels comprising the Application Site are detailed below, with their corresponding parcel numbers shown in the 'Fields Reference Plan' **Appendix C**.

2.1.14. Land parcel one:

- Located north-east of the Dŵr Cymru Welsh Water Court Farm Treatment Works in Monmouthshire Council administrative area, covering an area of c. 7.14 ha.
- A road runs through the centre of the land parcel from west to east and a public right of way ("PRoW") Footpath 367 40/1 runs through the southern section of the land parcel in a south-west to north-east direction.
- The land parcel is bounded to the west/south-west by an access track with the waterworks and a reservoir beyond; to the north, east and south the land parcel is bounded by further agricultural fields with an individual farm property located to the east.
- The topography of this land parcel is sloping falling from 70m AOD in the northwestern corner to 60m AOD along the eastern boundary.
- According to Natural Resources Wales Development Advice Map, the land parcel is located within Flood Zone 1 which is considered to be of little risk of fluvial or coastal flooding.
- The Agricultural Land Use and Soil Policy Advisor for the Welsh Government did not recommend a detailed ALC field survey is undertaken for land parcel one and can be considered ALC subgrade 3b (non-BMV) at best.

2.1.15. Land parcel two:

- Located north of land parcel one within Monmouthshire Council administrative area, covering an area of c. 7.68ha.
- There is an unnamed drain located within the centre of the land parcel along the field boundary running in a north to south direction. Another unnamed drain is located along the southern boundary for the field in an east to west direction.
- The land parcel is bounded by agricultural fields to the north, east, south and west.
- The topography slopes from north to south from 50m AOD along the northern boundary to 30m AOD along the southern boundary.
- The land parcel is located within Flood Zone 1 for flooding.
- The Agricultural Land Use and Soil Policy Advisor for the Welsh Government did not recommend a detailed ALC field survey is undertaken for land parcel two and can be considered ALC subgrade 3b (non-BMV) at best.

2.1.16. Land parcel three:

- This is the most northern of the land parcels and is within Monmouthshire Council administrative area, covering an area of c. 16.79ha.
- It is bounded to the south by Candwr Road, and to the north, east and west the land parcel is bounded by agricultural fields with individual farm properties beyond.
- Immediately north-west of this parcel is a Grade II Listed Building (Little Creiggydd).
- An overhead powerline runs through the western section of the land parcel from north to south.
- Adjacent to the northern and western boundaries of this land parcel are two footpaths, Footpath 366 115/1 to the north and Footpath 367 46/1 to the west.
- The topography of this land parcel slopes downwards from the south-eastern boundary from 80m AOD to 50m AOD along the northern boundary.
- The land parcel is located within Flood Zone 1 for flooding.
- The Agricultural Land Use and Soil Policy Advisor for the Welsh Government did not recommend a detailed ALC field survey is undertaken for land parcel three and can be considered ALC subgrade 3b (non-BMV) at best.

2.1.17. Land parcel four:

- Located adjacent to the southern boundary of parcel 3, within Monmouthshire Council administrative area, covering an area of c. 8.65ha.
- To the north the parcel is bounded by an access track, with individual farm properties located adjacent to both the north-western and north-eastern corners, to the east it is bordered by Candwr Road, to the south and south-east by individual farm properties with agricultural fields beyond and to the west by further agricultural fields.
- Adjacent to the southern boundary of this land parcel is Footpath 367 49/1.
- Two unnamed tributaries of Candwr Brook run through the southern section of the Site in a south-west to north-east direction.
- Overhead powerlines run through the northern section of the parcel from the northern to the north-eastern boundary.
- The land parcel is located within Flood Zone 1 for flooding.
- The topography of this land parcel slopes from north to south from 80m AOD to 40m AOD.
- The Agricultural Land Use and Soil Policy Advisor for the Welsh Government did not recommend a detailed ALC field survey is undertaken for land parcel four and can be considered ALC subgrade 3b (non-BMV) at best.

2.1.18. Land parcel five:

- Located adjacent to land parcel four to its west, within Monmouthshire Council administrative area, covering an area of c. 6.88ha.
- This land parcel is bordered to the north, east, and west by agricultural fields with a small, wooded area bordering the south-western boundary, an access track in the north-eastern corner and Candwr Brook borders the southern boundary. The eastern boundary is defined by an unnamed drain and vegetation, separating land parcel four and five.
- Torfaen Special Landscape Area lies adjacent to the western boundary of this land parcel.
- Footpath 367 47/1 runs through the parcel along the north-western boundary of parcel five.
- The topography of this parcel slopes from north to south from 80m AOD to 30m AOD.
- The majority of the parcel is within Flood Zone 1 for flooding; the south-western boundary is located in Flood Zone 2/ 3.
- The Agricultural Land Use and Soil Policy Advisor for the Welsh Government did not recommend a detailed ALC field survey is undertaken for land parcel five and can be considered ALC subgrade 3b (non-BMV) at best.

2.1.19. Land parcel six:

- Located to the west of land parcel five, to the north of Candwr Road, within Torfaen County Borough Council administrative area. The parcel covers an area of c. 4.19ha.
- In the surrounding area are a number of Listed Buildings to the south and west, including Grade II Listed (Glansirhowy Farm) and Grade II* Listed (Church of All Saints).
- This parcel is located within Torfaen Special Landscape Area.
- Bordered to the south-west by Church Road, to the west, north and south by further agricultural fields and to the east by small woodland designated an Ancient Woodland.
- The topography is relatively flat at around 30m AOD across this parcel.
- The majority of the parcel is within Flood Zone 2 for flooding; the south-western boundary is located in Flood Zone 2/3.
- A detailed ALC survey (dated August 2025) for the Site determined land parcel six to be a mixture of subgrade 2 and 3b land (i.e. a mix of BMV and non-BMV land).

2.1.20. Land parcel seven:

- Located to the north of parcel six within Torfaen County Borough Council administrative area, covering an area of c. 6.87ha.

- Grade II Listed Glansirhowy Farm is in close proximity, south-west of this parcel.
- This parcel is located within Torfaen Special Landscape Area.
- Running along the western boundary of this parcel is an access track running in a north to south direction.
- The area surrounding the parcel is comprised of further agricultural land with individual farm properties located to the north, south and east. There is an area of Ancient Woodland located adjacent to the south-eastern corner of the parcel. The Candwr Brook runs adjacent to the south-western boundary of the parcel.
- A PRoW (Footpath 424 34/1) runs through the parcel in a north-south direction, located adjacent to the western boundary of the parcel.
- The topography is undulating ranging from 50m AOD is the north-western corner to 40m AOD in the south-eastern corner of the parcel.
- The majority of the parcel is within in Flood Zone 1 for flooding with a small section in the south-eastern corner within Zone 2.
- A detailed ALC survey (dated August 2025) for the Site determined land parcel seven to be a mixture of subgrade 2 and 3b land (i.e. a mix of BMV an non-BMV land).

2.1.21. Land parcel eight:

- Located to south of the Dŵr Cymru Welsh Water Court Farm Treatment Works and lies within all administrative areas of Monmouthshire Council and Torfaen Council, covering an area of c. 8.86ha.
- A sewage works lies adjacent to the southern/south-western boundary, Dŵr Cymru Welsh Water Court Farm Treatment Works adjacent to the northern boundary and agricultural fields to the west and east. An area of Ancient Woodland lies close by. Parcel eight is located adjacent to land parcel twelve (which is located adjacent to the southern boundary). A Grade II Listed Building is located in close proximity to the south-east of the parcel, Barn at Pen-Twyn Farm.
- The western and southern section of this parcel is located within the Torfaen Special Landscape Area.
- Topography is gently undulating from 50m AOD along the northern boundary to 20m AOD in the southern section of the parcel.
- The majority of the parcel is within Flood Zone 1 for flooding; the southern boundary is Located in Flood Zone 2/3.
- A detailed ALC survey (dated August 2025) for the Site determined land parcel eight to be a mixture of subgrade 2, 3a and non-agricultural land (i.e. a mix of BMV an non-BMV land).

2.1.22. Land parcel nine:

- Located to south of land parcel six and lies within Torfaen County Borough Council, covering an area of c. 8.76ha.

- Located within Torfaen Special Landscape Area.

- The area surrounding the parcel is comprised of further agricultural land with individual farm properties located to the south, east and west. Candwr Brook defines the eastern boundary. Pant-yr-eos Farm is adjacent to the south-western corner of the parcel. The Grade II* Listed (Church of All Saints) is within close proximity to the south-western boundary of the parcel.

- The majority of the parcel is within Flood Zone 1 for flooding; the eastern boundary is located in Flood Zone 2/3.

- Two PRoW's are in the local vicinity, Footpath 367 50/1 is immediately south of the parcel running in a south-west to north-eastern direction parallel to the southern boundary, Footpath 424 24/1 bisects through the north-western section of the parcel in a north-south direction.

- A detailed ALC survey (dated August 2025) for the Site determined land parcel nine to be a mixture of subgrade 3b and 4 land (i.e. non-BMV land).

2.1.23. Land parcel ten:

- Located to the east of Candwr Road within the administrative area of Monmouthshire Council, covering an area of c. 4.63ha. An 11kv overhead power line bisects in a north-south direction through the centre of the parcel of land.

- The area surrounding the parcel is comprised of further agricultural land with individual farm properties located in all directions. Shaftesbury Farm is immediately south-east of the parcel. An unnamed tributary defines the eastern boundary of the parcel of land. Candwr Road defines the length of the western boundary. Court Farm Reservoir is c.200m east of this parcel of land.

- Immediately south-west is a Schedule Monument, Candwr Camp, separated from the parcel of land by Candwr Road.

- A PRoW (Footpath 367 29/1) runs the length of the northern boundary of this parcel in an east-west direction.

- The entirety of the parcel is within Flood Zone 1 for flooding.

- Topography is relatively flat, steadily increasing from 40m to 50m AOD from the south – north of the parcel of land.

- A detailed ALC survey (dated August 2025) for the Site determined land parcel ten to be subgrade 3b land (i.e. non-BMV land).

2.1.24. Land parcel eleven:

- Located to the south-east of parcel two, within the administrative area of Monmouthshire Council, covering an area of c. 2.07ha.

- The parcel is bounded by agricultural fields to the north, east, south and west. Residential property, Ty-Isaf, is immediately east. An unnamed track bounds the eastern boundary of the parcel of land.

- The entirety of the parcel is within Flood Zone 1 for flooding.

- The topography steadily increases from 10m to 30m AOD from the south – north across this parcel of land.

- A detailed ALC survey (dated August 2025) for the Site determined land parcel eleven to be subgrade 2 land (i.e. BMV land).

2.1.25. Land parcel twelve:

- Located adjacent to parcel eight and to the south of the Dŵr Cymru Welsh Water Court Farm Treatment Works and lies within all administrative areas of Monmouthshire Council, Torfaen Council, and Newport City Council, covering an area of c. 14.37ha.

- A sewage works lies adjacent to the southern/south-western boundary with some dense vegetation adjacent noted as Ancient Woodland. Dŵr Cymru Welsh Water Court Farm Treatment Works is adjacent to the northern boundary and agricultural fields to the west and east. An area of Ancient Woodland is adjacent to the eastern boundary. A Grade II Listed Building is adjacent to the south-east corner of the parcel, Barn at Pen-Twyn Farm.

- The southern section of this parcel is located within the Torfaen Special Landscape Area.

- An overhead 132kV line bisects through the north-eastern corner of the parcel of land in a north-west to south-east direction. A 11kv overhead line bisects through the southern corner in an east-west direction.

- A PRoW bisects through the southern section of the parcel of land in an east to west direction.

- The majority of the parcel is within Flood Zone 1 for flooding; the southern section is located in Flood Zone 2/3.

- The topography steadily increases from 20m to 45m AOD from the south – north across the parcel of land.

- A detailed ALC survey (dated August 2025) for the Site determined land parcel twelve to be a mixture of subgrade 2, 3a, 3b and non-agricultural land (i.e. a mix of BMV an non-BMV land).

2.1.26. Land parcel thirteen:

- Located to south of land parcel nine and lies within Torfaen County Borough Council, covering an area of c. 17.83ha.

- This land parcel is located within Torfaen Special Landscape Area.

- Pant-yr-eos Farm is adjacent to the north-western corner of the parcel. Grade II* Listed (Church of All Saints) is within close proximity, south-west of the parcel.
- An Ancient Woodland is located immediately outside of the eastern boundary of this parcel.
- Two PRoW's are in the local vicinity, Footpath 367 50/1 is immediately north of the parcel running in a south-west to north-eastern direction parallel to the northern boundary, Footpath 424 24/1 bisects through the north-western section of the parcel in a north-south direction.
- The southern boundary of the Parcel is approx. 60m from the northern boundary of Ponthir.
- Candwr Brook sits within established tree belt on part of the eastern boundary of the parcel
- A detailed ALC survey (dated August 2025) for the Site determined land parcel 13 to be a mixture of subgrade 3b and 4 land (i.e. non-BMV land).
- A detailed ALC survey (dated August 2025) for the Site determined land parcel thirteen to be a mixture of subgrade 3b and 4 land (i.e. non-BMV land).

2.2. Project Overview

2.2.1. The Proposed Development is for the installation and operation of ground mounted solar photovoltaic arrays with all associated works, equipment and necessary infrastructure on the Application Site.

2.2.2. The Site extends to a total area of 118.8 ha (incorporating the cable route) and is proposed to have an installed generation capacity of up to 46 MW.

2.2.3. Temporary planning permission is sought for a period of circa 40 years from the date of energisation.

2.2.4. Following cessation of energy generation and exportation of the Proposed Development, the Site would be restored back to full agricultural use with all equipment and below ground connections removed. The exception is the proposed Substation (and ancillary security measures around the substation compound e.g., perimeter fencing, lighting and CCTV equipment) and associated access to the Substation will be retained on a permanent basis as this would remain as part of the essential National Grid distribution network infrastructure. Depending on the depth of the cabling, some may be capped off from the local electricity network and left in-situ rather than removed via trenching. Returning the main solar farm site to its former agricultural use, it is recognised some elements of the landscaping may have to be removed. However, it is assumed the established habitats such as any tree and hedgerow planting, the intention would be retained when handed back to landowners, who would then have the ability to do as they wish (within the restrictions of the planning system) with their land. . It is anticipated that decommissioning of the Proposed Development would be controlled by planning condition.

2.2.5. The Proposed Development is likely to consist of the following elements:

- Photovoltaic ("PV") panels are mounted on a simple metal framework, referred to as a 'table,' to form an array that is pile-driven into the ground, eliminating the need for substantial foundations. These arrays, utilising bifacial technology, will operate with a fixed tilt facing south. The height of the tables between the ground level and the lower edge of the panel can range from a maximum of 3 meters to a minimum of 0.8 meters when using fixed structures with a configuration of two vertical panels and a table tilt angle of between 15-30°. Additionally, the tables will be spaced at approximately a distance range of 3.5 meters from each other;

- A number of string inverters would be installed on the fixed solar module structures (beneath the panels), and 13LV/MV transformers, each with a maximum footprint of 2.5m long, 6m wide, and 3m tall. The inverters and power stations will be placed at various locations around the arrays;

- A new 132kV/33kV HV substation compound is proposed for construction, which will include; either one or two (dependent on final design) main power transformers 33kV to 11kV, with potentially a further auxiliary transformer to feed the on-site HV compound, a primary 11kV switchgear room, control room, reactive power compensator, earthing transformer, DC system backup (battery or diesel generator room), fire detection and suppression systems, lighting and perimeter security fencing. The 132kV/33kV HV substation compound will have an estimated footprint of 70m long, 50m wide and height at a maximum point of 8m. There may be a need for a communication mast to be installed at this location which would have maximum height of 15m. This will be located on land owned by Dŵr Cymru Welsh Water within the Court Farm Water Treatment Works near to the Site (land parcel 8)

- 132kV overhead wires coming from the existing electricity pylon (owned by National Grid Electricity Distribution ("NGED")) to the 132/33kV substation. Further proposed underground cabling will be required between the land parcels to connect the inverters/transformers to the 132/33kV substation;

- Underground cable connection between the parcels and to the National Grid Electricity Distribution point of connection at the Dŵr Cymru Court Farm Water Treatment Works. The underground cabling will be laid via surface dug trenches of approximately 1.1m deep and 50cm wide, and backfilled;

- Perimeter fencing (deer proof) and access gates, enclosing the separate parcels of solar PV arrays are proposed. The proposed perimeter fencing will have a maximum height of 2.4m above ground level with a small gap at the bottom to allow passage for small animals;

- Infrared CCTV system, either pole or fence-mounted, located at strategic points around the Site, maximum height of 4m to ensure optimal coverage while minimising visual or shadow impact over the solar modules;

- Access tracks within the Site (4.5m width) linking the access points with the inverters / transformers (temporary for the duration of the scheme and constructed from permeable materials);

- Relevant communications and monitoring equipment;

- Temporary construction compounds;

- Proposed mitigation measures and dedicated biodiversity enhancement areas;
- Landscaping mitigation and enhancement planting; and
- Access points from the Highway will be used for construction, operation and decommissioning purposes. The proposed access points are from the following field locations: fields 1, 3, 4, 8, 10 and 11.

2.2.6. The Points of Connection ("PoC") for the Proposed Development would consist of an underground cable connection between the parcels to the National Grid Electricity Distribution point of connection at the Dŵr Cymru Court Farm Water Treatment Works within the Site, connecting into the 132kV overhead power lines passing through the Site.

2.2.7. Access to the Proposed Development is proposed through a mix of existing and new access points for each land parcel. The existing site access junctions will be upgraded and reconfigured to reflect the requirements of the local highways authority and ensure that the visibility splays and widths of the access points are suitable for the Proposed Development. The access route will be used for construction vehicles during construction and once in operation periodic visits from maintenance staff. It will also be used for decommissioning purposes once the facility is no longer in operation. Existing farm tracks will be used for internal access within the Site wherever possible. New access tracks, where required, will be formed, normally using a layer of permeable crushed stone.

2.2.8. Generally, infrastructure required for a solar farm typically disturbs less than 5% of the ground and the piles upon which the panels are mounted occupy less than 1% of the land area. Approximately 95% of the site area which accommodates solar panels within the areas enclosed by perimeter fencing will still be accessible for plant growth and potentially for wildlife enhancement and/or complementary agricultural activities such as conservation grazing[1].

2.2.9. A solar farm is a temporary and can be fully reversible use, unlike housing for example, with all equipment removed from site at the end of the installation's operational life (approximately 40 years). The methods used in construction (limited concrete) mean that remediation works following the removal of the panels and associated infrastructure are relatively minor and will return the site to its previous greenfield character

2.2.10. An Indicative Site Layout Plan (**Appendix D**) is included within the Scoping Report to show the likely configuration of the Site. However, the plan is illustrative and subject to change for the intended DNS planning application as further environmental assessments progress alongside receiving consultation feedback from statutory and non-statutory consultees.,

[1] https://files.bregroup.com/bre-co-uk-file-library-copy/filelibrary/pdf/Brochures/NSC-Biodiversity-Guidance.pdf

3. Legislative Requirements and the General Approach to EIA Process

3.1. Legislative Requirements

3.1.1. The EIA process will be undertaken in accordance with the requirements of the Town and Country Planning (Environmental Impact Assessment) Wales Regulations 2017, which are referred to in this document as the 'EIA Regulations'. Specifically, Schedule 4 (Regulation 17 (3)), sets out the information for inclusion in ES's and is summarised as follows:

1. *Description of the development, including in particular—*

(a) a description of the location of the development;

(b) a description of the physical characteristics of the whole development, including, where relevant, requisite demolition works and the land-use requirements during the construction and operational phases;

(c) a description of the main characteristics of the operational phase of the development (in particular any production process), for instance, energy demand and energy used, nature and quantity of the materials and natural resources (including water, land, soil and biodiversity) used;

(d) an estimate, by type and quantity, of expected residues and emissions (such as water, air, oil and subsoil pollution, noise, vibration, light, heat, radiation) and quantities and types of waste produced during the construction and operational phases.

2. *A description of the reasonable alternatives (for example in terms of development design, technology, location, size and scale) studied by the applicant or appellant which are relevant to the proposed development and its specific characteristics and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects.*

3. *A description of the relevant aspects of the current state of the environment (baseline scenario) and an outline of the likely evolution thereof without implementation of the development as far as natural changes from the baseline scenario can be assessed with reasonable effort on the basis of the availability of environmental information and scientific knowledge.*

4. *A description of the factors specified in regulation 4(2) likely to be significantly affected by the development: population, human health, biodiversity (for example fauna and flora), land (for example land take), soil (for example organic matter, erosion, compaction, sealing), water (for example hydromorphological changes, quantity and quality), air, climate (for example greenhouse gas emissions, impacts relevant to adaptation), material assets, cultural heritage, including architectural and archaeological aspects, and landscape.*

5. *A description of the likely significant effects of the development on the environment resulting from, inter alia—*

(a) *the construction and existence of the development, including, where relevant, demolition works;*

(b) *the use of natural resources in particular land, soil, water and biodiversity, considering as far as possible the sustainable availability of these resources;*

(c) *the emission of pollutants, noise, vibration, light, heat and radiation, the creation of nuisances and the disposal and recovery of waste,*

(d) *the risks to human health, cultural heritage or the environment (for example due to accidents or disasters);*

(e) *the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources;*

(f) *the impact of the project on climate (for example the nature and magnitude of greenhouse gas emissions) and the vulnerability of the project to climate change;*

(g) *the technologies and the substances used.*

The description of the likely significant effects on the factors specified in regulation 4(2) should cover the direct effects and any indirect, secondary, cumulative, transboundary, short-term, medium-term and long-term, permanent and temporary, positive and negative effects of the development. This description should take into account the environmental protection objectives established at European Union level as they were immediately before IP completion day (including in particular those established under Council Directive 92/43/EEC and Directive 2009/147/EC) or at national level].

6. *A description of the forecasting methods or evidence used to identify and assess the effects on the environment, including details of difficulties (for example technical deficiencies or lack of knowledge) encountered compiling the required information and the main uncertainties involved.*

7. *A description of the measures envisaged to avoid, prevent, reduce or, if possible, offset any identified significant adverse effects on the environment and, where appropriate, of any proposed monitoring arrangements (for example the preparation of a post-project analysis). That description should explain the extent, to which significant adverse effects on the environment are avoided, prevented, reduced or offset, and should cover both the construction and operational phases.*

8. *A description of the expected significant adverse effects of the development on the environment deriving from the vulnerability of the development to risks of major accidents and/or disasters which are relevant to the project concerned. Relevant information available and obtained through risk assessments pursuant to [assimilated] law such as any law which implemented] Directive 2012/18/EU of the European Parliament and of the Council or Council Directive 2009/71/Euratom or relevant assessments carried out pursuant to national legislation may be used for this purpose provided that the requirements of [any law which implemented] the Directive are met. Where appropriate, this description should include measures envisaged to prevent or mitigate the significant adverse effects of such events on the environment and details of the preparedness for and proposed response to such emergencies.*

9. *A non-technical summary of the information provided under paragraphs 1 to 8.*

10. *A reference list detailing the sources used for the descriptions and assessments included in the environmental statement.*

3.2. Structure of the Environmental Statement

3.2.1. The ES will report the findings of the EIA and will address the requirements of Schedule 4 of the EIA Regulations, as set out above.

3.2.2. The ES is anticipated to include 3 volumes:

- Volume 1 - Main Text and Figures: sets out the findings to each of the environmental disciplines and figures (i.e. plans/drawings) supporting the main assessments;
- Volume 2 - Technical Appendices: supports the main assessments within Volume 1 with accompanying technical reports;
- Non-Technical Summary (NTS) would also be provided as a separate document

3.2.3. The anticipated structure and content of Volume 1 (and Volume 2where applicable) of the ES is likely to be as follows:

- Chapter 1 Introduction
- Chapter 2 EIA Assessment Scope and Methodology
- Chapter 3 The Application Site
- Chapter 4 Proposed Development and Alternatives
- Chapter 5 Landscape and Visual
- Chapter 6 Ecology
- Chapter 7 Glint and Glare
- Chapter 8 Agricultural Circumstances
- Chapter 6 Summary
- A separate Non-Technical Summary will also be provided

3.2.4. It is relevant to acknowledge the extent of the environmental information that has previously been provided in relation to the Site which has assisted in determining what the potential likely significant effects of the Proposed Development may be, and in turn, what matters need to be considered as part of the EIA.

3.3. Overarching EIA Methodology

3.3.1. The first four chapters of the ES would be introductory and provide essential information for the subsequent technical chapters. Further information on these chapters is set out below.

Chapter 1 - Introduction

3.3.2. This chapter of the ES will provide an introduction to the document and present details of the ES's structure and context, in addition to how consultees and members of the public can comment on the document or obtain additional copies.

Chapter 2 - EIA Scope and Methodology

3.3.3. This chapter provides a summary of the agreed scope of assessments to be considered within the ES, with reference to consultation responses and explains the general methodology used to prepare the technical chapters, including reference to the general approach in determining significance. Information in relation to cumulative impacts is also set out within this chapter, along with any limitations or assumptions used throughout the ES.

3.3.4. Each topic chapter will provide bespoke details of the methodology for baseline data collection, approach to the assessment of effects and limitations and assumptions. Each identified environmental topic will be considered by a specialist in that area. The identification and evaluation of effects will take into account relevant topic-specific guidance where available.

Environmental Baseline Conditions Methodology

3.3.5. The existing and likely future environmental conditions in the absence of the project are known as 'baseline conditions'. Each topic based chapter will include a description of the current (baseline) environmental conditions. The baseline conditions at the Site and within the study area form the basis of the assessment, enabling the likely significant effects to be identified through a comparison with the baseline conditions.

3.3.6. The baseline for the assessment of environmental effects will primarily be drawn from existing conditions during the main period of the EIA work. Consideration will also be given to any likely changes between the time of survey and the future baseline for the construction and operation of the project. In some cases, these changes may include the construction or operation of other planned developments in the area. Where such developments are built and operational at the time of writing and data collection, these will be considered to form part of the baseline environment.

3.3.7. Where sufficient and robust information is available, such as expected traffic growth figures, other future developments will be considered as part of the future baseline conditions. In all other cases, planned future developments will be considered within the assessment of cumulative effects.

3.3.8. The consideration of future baseline conditions will also take into account the likely effects of climate change, as far as these are known at the time of writing. This will be based on information available from the UK Climate Projections project (UKCP18), which provides information on plausible changes in climate for the UK (Environment Agency and Met Office, 2018) and on published documents such as the UK Climate Change Risk Assessment 2017 (Committee on Climate Change, 2016)

Assessment of Effects

3.3.9. Generically, the significance of an environmental effect is determined by the interaction of magnitude and sensitivity, whereby the effects can be positive or negative. Generic criteria

to be used in carrying out this process are detailed below. Some technical chapters will use discipline specific criteria with their own terms for magnitude, sensitivity and significance. This will be explained in the relevant chapter.

General Criteria for Receptor Sensitivity

3.3.10. Receptors are defined as the physical resource or user group that would be affected by a proposed development. The baseline studies will identify potential environmental receptors for each topic and will evaluate their sensitivity to the proposed development. The sensitivity or importance of a receptor may depend, for example, on its frequency or extent of occurrence at an international, national, regional or local level. **Table 1.2** below sets out the general methodology for determining the sensitivity of a receptor

Table 1.2 – General Criteria Matrix for Receptor Sensitivity

Significance Criteria	Description of Criteria
High	The receptor / resource has little ability to absorb change without fundamentally altering its present character or is of international or national importance.
Medium	The receptor / resource has moderate capacity to absorb change without significantly altering its present character or is of high and more than local (but not national or international) importance.
Low	The receptor / resource is tolerant of change without detrimental effect, is of low or local importance.
Negligible	The receptor / resource can accommodate change without material effect, is of limited importance.

General Criteria for Magnitude of Change

3.3.11. Impacts are defined as the physical changes to the environment attributable to the project. For each topic, the likely environmental impacts will be identified, and the magnitude of change is a consideration of how much the impact alters the baseline condition. The magnitude of the impact will be described using defined criteria within each topic chapter. **Table 1.3** below sets out the general methodology for determining the magnitude of change.

Table 1.3 - General Criteria Matrix for Magnitude of Change

Significance Criteria	Description of Criteria
High	Total loss or major/substantial alteration to elements / features of the baseline (pre-development) conditions such that the post development character / composition / attributes will be fundamentally changed.
Medium	Loss or alteration to one or more elements / features of the baseline conditions such that post development character / composition / attributes of the baseline will be materially changed.
Low	A minor shift away from baseline conditions. Change arising from the loss/alteration will be discernible / detectable, but the underlying character / composition / attributes of the baseline condition will be similar to the pre-development.
Negligible	Very little change from baseline conditions. Change not material, barely distinguishable or indistinguishable, approximating to a 'no change' situation.

Significance of Effect

3.3.12. The significance of the effect is determined by cross referencing the sensitivity of the receptor with the magnitude of change on the receptor. **Table 1.4** below sets out the general methodology for determining the significance of effect. The shading indicates those significance ratings that are deemed to be 'significant' effects i.e. 'Major' and 'Moderate'.

Table 1.4 -General Significance of Effect Matrix

Magnitude of Change	Sensitivity of Receptor				
		High	**Medium**	**Low**	**Negligible**
	High	Major	Major	Moderate	Negligible
	Medium	Major	Moderate	Minor to Moderate	Negligible
	Low	Moderate	Minor to Moderate	Minor	Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible

Nature of Impact

3.3.13. The categorisation of the impact may take into account the following four factors:

- Extent;
- Duration;
- Frequency; and
- Reversibility.

3.3.14. Impacts will be defined as either adverse or beneficial. Depending on discipline, they may also be described as:

- Direct: Arise from activities associated with the project. These tend to be either spatially or temporally concurrent;
- Indirect: Impacts on the environment which are not a direct result of the project, often produced away from the project site or as a result of a complex pathway.

3.3.15. Impacts will be divided into those occurring during the construction, operational and decommissioning phase. Often construction and decommissioning phase impacts are assessed as similar in nature. Where appropriate, some chapters may refer to these as temporary and permanent impacts.

Mitigation Measures and Residual Effects

3.3.16. The EIA Regulations require that where significant effects are identified *'a description of any features of the proposed development, or measures envisaged in order to avoid, prevent or reduce or, if possible, offset likely significant adverse effects on the environment'* should be included in the ES.

3.3.17. The development of mitigation measures is part of an iterative EIA process. Therefore, measures will be developed throughout the EIA process in response to the findings of initial assessments. The project that forms the subject of the DNS planning application will include a range of measures designed to reduce or prevent significant adverse environmental effects arising, where practicable. In some cases, these measures may result in enhancement of environmental conditions. The assessment of effects will therefore take into account all measures that form part of the project and to which the Applicant are committed.

3.3.18. The topic chapters will therefore take into account all measures that form part of the Proposed Development, including:

- Measures included as part of the integrated project design (referred to as embedded mitigation); and
- Measures to be adopted during construction to avoid and minimise environmental effects, such as pollution control measures. These measures would be implemented through the Construction Environmental Management Plan (referred to as additional mitigation)

3.3.19. In some cases, monitoring measures may be appropriate, for example, to ensure that proposed planting becomes established. Where appropriate, monitoring measures will be set out.

3.3.20. Any residual effects following the implementation of mitigation measures will be determined accordingly. The residual effects represent the overall likely significant effect of the Proposed Development on the environment having taken account of practicable/available mitigation measures.

Cumulative and In-combination Effects

3.3.21. The ES will respond to the requirement in the Regulations to assess the cumulative effects of the Proposed Development which will specifically consider two types of effect:

- Cumulative Effects: The combined effects of development schemes which may, on an individual basis be insignificant but, cumulatively, have significant effect; and
- In-combination effects: The combined effect of individual effects (for example noise, airborne dust or traffic) on a single receptor where deemed potentially significant.

3.3.22. With respect to cumulative effects, the EIA Regulations state that consideration should be given to *"the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources"* (Schedule 4, 5e).

3.3.23. Regard will therefore be had to relevant *"existing and/or approved projects",* which alongside the development of the proposals and the Application Site, could potentially result in cumulative significant effects (discussed further below). It is relevant to note however that not all these projects will necessarily have the potential for cumulative impacts.

3.3.24. It is also acknowledged that there may be other proposals which are considered as *"reasonably foreseeable"* as referred to within the European Guidance[2] in relation to the definition of cumulative impacts. It is important to recognise that it is not the role of the ES to assess all these types of potential developments and a staged approach in identifying which 'other sites' are relevant to consider is appropriate.

3.3.25. A preliminary review has therefore been undertaken of relevant *"existing and/or approved projects"* and also other potential developments which have been subject to planning applications (generally these are major applications within 6km of the Site, with existing and approved planning applications in the last 5 years (August 2020)). The search was undertaken via the interactive search facilities on the Torfaen County Borough Council, Newport City Council and Monmouthshire County Council websites. Additionally, a search was undertaken on the PEDW website to identify any other Developments of National Significance that may interact with the Proposed Development. Major application projects are developments that are one or more of the following:

"a) the winning and working of minerals or the use of land for mineral-working deposits;

[2] European Commission (EC) 1999 – Adapted from Guidelines for the Assessment of Indirect and Cumulative Impacts as well as Impact Interactions

(b) waste development;

(c) the provision of dwellinghouses where—

(i) the number of dwellinghouses to be provided is 10 or more; or

(ii) the development is to be carried out on a site having an area of 0.5 hectares or more and it is not known whether the development falls within sub-paragraph (c)(i);

(d) the provision of a building or buildings where the floor space to be created by the development is 1,000 square metres or more; or

(e) development carried out on a site having an area of 1 hectare or more."[3]

3.3.26. Projects that fall outside the above criteria will only be included in the assessment if specifically identified by stakeholders and agreed as material to the ES.

3.3.27. Each has been considered in relation to how certain the development is in coming forward as per UK Planning Inspectorate (PINS) 2024 – Guidance. Nationally Significant Infrastructure Projects: Advice on Cumulative Effects Assessment; although specific to Nationally Significant Infrastructure Projects, is also of relevance to the best practice approach of cumulative effects assessment in DNS Applications.

3.3.28. The following categories of certainty levels include - 'certain' (development under construction), 'likely' (permitted applications not under construction), 'potential' (undetermined applications which are identified in relevant local plan) or 'uncertain' (undetermined applications with no other status). The assessment determines whether certainty levels may influence the baseline or have the potential for significant cumulative effects with the Proposed Development; thus, identifying what 'other developments' are considered appropriate to consider in any cumulative scenario within the resultant ES. This review is set out in the table below.

3.3.29. Where developments are already operational, these will be included in the baseline; and those which are currently under construction but likely to be completed prior to the Proposed Development (and sufficient environmental information known) will be considered as part of the future baseline for the non-cumulative effects assessment for each discipline chapter. The non-cumulative assessment of effects will have full regard to the presence of such schemes when arriving at any conclusions.

3.3.30. As such, the additional schemes that would form part of the assessment of cumulative effects will be major projects that have either been granted planning consent but have not yet been constructed and major projects for which a planning application is awaiting determination

3.3.31. Whilst this EIA Scoping Report seeks to identify relevant schemes to be considered, it is to be acknowledged that the extent to which schemes need to be considered within each

[3] The Town and Country Planning (Development Management Procedure) (Wales) Order 2012

environmental discipline will inevitably vary. Each topic author will review the overall list of cumulative developments and identify those relevant to their topic.

3.3.32. The forthcoming ES will not include a separate cumulative effects chapter, instead each topic chapter will consider the potential for significant cumulative effects with other proposed developments.

3.3.33. The below **Table 1.5** summarises the above process and sets out the indicative potential 'cumulative other sites' that the team are aware of and whether these are considered appropriate to assess and in what manner.

Table 1.5 - Potential Other Cumulative Sites Subject to Planning Applications in relation to Cumulative Effects Assessment

Application Reference	**Description**	**Location**	**Distance from Proposed Development**	**Status**	**Certainty and relevance to consider in cumulative assessment**	**How considered** (existing baseline, future baseline, cumulative scenario or N/A)
22/P/0446/OUT Torfaen County Borough Council's (TCBC)	Outline Application - Proposed Mental Health Specialist Inpatient Services Unit and associated highway, drainage and landscape infrastructure.	Located at Grange University Hospital, Caerleon Road, Llanfrechfa	Approx. 800m north-west of Parcel 9 of the Site	Granted 02.06.23	Likely: Permission granted subject to S106 agreement in June 2023 and is yet to be constructed.	Cumulative scenario - To be considered as part of the cumulative assessment section of technical ES chapters.
DNS/3239190 DNS	DNS Application – Pentre Bach Solar Farm, Ground mounted photo voltaic solar farm and energy storage facility, together with associated equipment, infrastructure and ancillary works.	Land at Pentre Bach, Torfaen; Tir ym Mhentre Bach, Torfaen.	Approx 3.8km south-west of Parcel 13 of the Site	Examination (correct as of September 2025)	Uncertain: Undetermined application.	Cumulative scenario - To be considered as part of the cumulative assessment section of technical ES chapters as there is potential for this to be considered a 'reasonably foreseeable' project.
DNS/3276725 DNS	DNS Application – Mynydd Maen Wind Farm Wind farm of up to 13 turbines along with an improved site	Land at Mynydd Maen, between Newbridge and Cwmbran	Approx 6.3km north-west of Parcel 7 of the Site	Examination (correct as of	Uncertain: Undetermined application.	Cumulative scenario - To be considered as part of the cumulative assessment section of technical ES chapters as there is potential for this

	entrance, new and improved access tracks, crane hardstandings, control building and substation compound, electricity transformers, underground cabling, and drainage works.			September 2025)		to be considered a 'reasonably foreseeable' project.
DNS/3279787 DNS	DNS Application - Craig y Perthi Solar Farm Erection of a solar farm comprising ground mounted, fixed position solar panels, with a combined installed generating capacity of up to 99.9 MW, underground cabling, grid connection, associated infrastructure, landscaping and environmental enhancements, for a period of up to 40 years.	Land between the M4 Motorway and the South Wales Main Line Railway, near Llanwern, Underwood and Bishton	Approx 6.4km south-east of Parcel 12 of the Site	Examination (correct as of September 2025)	Uncertain: Undetermined application.	Cumulative scenario - To be considered as part of the cumulative assessment section of technical ES chapters as there is potential for this to be considered a 'reasonably foreseeable' project.

3.3.34. As demonstrated within the above table four schemes have been identified which are appropriate to consider at this stage and may give rise to cumulative effects with the Proposed Development. However, this is an iterative process which will be updated as the proposals and the planning application progresses. The four listed cumulative sites at **Table 1.5** are visually presented at **Appendix F.**

3.3.35. Comments are invited on the content of this list and the extent to which allocations from neighbouring authorities may need to be considered. It is noted, however, that the Scoping Direction issued by PEDW on 12th June 2024 did not refer to any additional potential cumulative developments required to be assessed and concluded "although there is the potential for cumulative and future land use impacts, I do not consider these to be significant to warrant EIA, although this will be a consideration for the planning decision maker."

Chapter 3 - Application Site

3.3.36. This chapter will describe the Application Site's location, context, existing use and features.

Chapter 4 - Proposed Development and Alternatives

3.3.37. This chapter will provide a comprehensive description of the Proposed Development, including the construction process, and any relevant details on assumed timescales and phasing.

3.3.38. The EIA will be based upon a set of defined parameters, which will identify the extent of different land use areas (e.g. residential, open space, roads etc), maximum heights of buildings/ equipment and proposed ground levels and key landscape mitigation proposals integral to the scheme.

3.3.39. The parameters approach ensures that subsequent approvals and/or reserved matters will remain the same as that assessed within the ES. These parameters and controls define those aspects of the Proposed Development capable of having significant effects, as defined in the EIA Regulations. This ensures that key elements are assessed accordingly, however allows some flexibility for detail post submission.

3.3.40. The chapter will also provide a description of the reasonable alternatives (for example in terms of development design, technology, location, size and scale) studied by the developer, which are relevant, and an indication of the main reasons for selecting the chosen option.

Discipline Specific Chapters

3.3.41. Each discipline will be covered in an individual chapter further information on disciplines to be included and assessment methodologies are provided below in Section 6.

3.3.42. Within each of the assessment chapters the main structure of the information presented, although not exclusively, will be as per the following headings in **Table 1.6** below:

Table 1.6 – Technical Chapter Format and Content

Sub Heading	Content
Introduction	This section will introduce the assessment discipline and the purpose for which it is being undertaken.
Assessment Approach	This section will provide an explanation of methods used in undertaking the technical study with reference to published standards, guidelines and best practice. The application of significance criteria will also be discussed. It will also outline any limitations and assumptions encountered in compiling the required information. A summary of national, regional and local policies of relevance to the environmental discipline and assessment will be provided. Where applicable, relevant legislation will also be summarised.
Baseline Conditions	This will include a description of the environment as it is currently (2025) and as it is expected to change given the project were not to proceed (i.e. 'do-nothing' scenario). The method used to obtain baseline information will be clearly identified. Baseline data will be collected in such a way that the importance of the particular subject area to be affected can be placed in its context and surroundings so that the effects of the proposed changes can be predicted.
Assessment of Likely Significant Effects	This section will identify the likely significant effects on the environment resulting from the construction, operational and decommissioning phases of development.
Mitigation, Enhancement and Residual Effects	Adverse effects will be considered for mitigation and specific mitigation measures put forward, where practicable. Mitigation measures considered may include modification of the project, compensation and the provision of alternative solutions (including alternative technology) as well as pollution control, where appropriate. The extent of the mitigation measures and how these will be effective will be discussed. Where the effectiveness is uncertain or depends upon assumptions about operating procedures, data will be introduced to justify the acceptance of these assumptions. Clear details of when and how the mitigation measures will be carried out will be given. When certainty of impact magnitude and/or effectiveness of mitigation over time exists, monitoring programmes will be proposed to enable

	subsequent adjustment of mitigation measures, as necessary. The opportunity for enhancement measures will also be considered, where appropriate. Information will be included on the mechanism by which the mitigation will be secured (e.g. by planning condition) with outline arrangements for monitoring and responsibilities for doing so, where necessary. The residual effects, i.e. the effects of the proposed development assuming implementation of proposed mitigation, will be determined. The residual effects represent the overall likely significant effect of the development on the environment having taken account of practicable/available mitigation measures.
Cumulative and In-Combination Effects	The cumulative effects of the proposed development and the identified committed developments will be assessed. The in-combination effects of multiple environmental effects from the Proposed Development that could cause a potential significant effect on the same receptor or resource will be assessed.
Summary	A summary of the assessment and conclusions will be provided at the end of each technical chapter.

Summary Chapter and Non-Technical Summary

3.3.43. A chapter summarising of the above discipline findings will be presented. A separate Non-Technical Summary will also be provided in accordance with the EIA Regulations.

3.4. Preparation of the ES

3.4.1. In accordance with the Regulations, the ES will be prepared by "competent experts", as listed at the outset of this report. A statement outlining the relevant experience of the experts who have undertaken the assessment and drafted the technical chapters within the ES will be provided. It is also noted the Regulations now require decision makers to ensure they have 'necessary skills in house'.

4. Scope of Assessment

4.1. Work Undertaken to Date

4.1.1. The following studies have been undertaken or are currently ongoing in relation to the Proposed Development.

Ecology

4.1.2. In regard to Ecology, a number of biodiversity and species specific surveys have and /or are being undertaken in 2025. This includes wintering bird, breeding bird, great crested newts, bat activity, water vole and otter, badger, fungi surveys and a UK Habitat Classification survey. A preliminary summary of ecological survey information undertaken so far is provided below. Some ecology survey work is still ongoing to complete the seasonal survey window with analysis of results to be completed in Autumn/Winter 2025.

UK Habitat Classification

4.1.3. The Site is primarily located within fields of modified and neutral grassland with rotational cattle grazing recorded. Hedgerow networks and some pockets of woodland field boundaries throughout. Watercourses and ditch networks predominantly follow hedgerows and woodland edges throughout with connectivity to the Afon Lwyd to the south of the Site.

Great Crested Newt

4.1.4. Results so far confirm the eDNA surveys undertaken in June 2025 of surveyed ponds within 250m of the Site Boundary with access returned a negative great crested newt result. Out of the 26 ponds identified for assessment, 16 were unable to be assessed due to landowner permission for access.

Breeding Birds

4.1.5. A number of breeding birds have been recorded onsite including species listed under Schedule 1 of the Wildlife and Countryside Act (red kite, hobby and kingfisher) and species listed in the Environment (Wales) Act Section 7 (skylark) with surveys continuing through Autumn and Winter 2025.

Non Breeding Birds

4.1.6. Non-breeding species include Schedule 1 species (red kite and peregrine) and Section 7 species (skylark, herring gull etc) have been recorded onsite.

Bat Activity

4.1.7. Bat Species recorded during static and transects surveys to date: Commo pipistrelle; Soprano pipistrelle; Nathusius' pipistrelle; Noctule; Leisler's; Serotine; Brown long-eared; Lesser horseshoe; and Myotis spp, with surveys continuing through Autumn 2025.

Water Vole and Otter

4.1.8. To date, no evidence or signs of water vole or otter have been recorded. Watercourses surveyed to date are suitable to support commuting and foraging otter.

Badger

4.1.9. An initial badger survey of the Site searching for badger fields (setts, latrines, footprints etc.) was completed as part of the extended habitat survey in April/May 2025. Habitats on Site were found to have suitability for both badger sett creation and badger foraging. Evidence of badger activity, including a potential setts were identified during these surveys. Camera trap surveys of the potential setts were undertaken in 2025. The design of the Proposed Development will ensure a 30m exclusion zone around identified badger setts will be implemented.

Fungi

4.1.10. Surveys to be completed Autumn 2025.

Agriculture

4.1.11. A detailed Agricultural Land Classification (ALC) Assessment (dated August 2025) at **Appendix G** of this report has been undertaken across the Site. The land assessed is graded as follows:

- Non-BMV on the Predictive Map: 49.3ha
- Grade 2: 13.8ha
- Grade 3a: 5.4ha
- Grade 3b: 36.2ha
- Grade 4: 6.2ha
- Non- Agricultural: 2.6ha

4.1.12. Accordingly, 19.2ha (16.9%) of the Site is determined as Best and Most Versatile (BMV) land, and 94.3ha (83%) of the Site is non-BMV land.

4.1.13. The 49.3ha of determined 'Non- BMV on the Predictive Map' relates to areas of the Site that have been determined by the Welsh Governments Agricultural Land Use & Soil Policy Advisor (correspondence dated 20.12.2022) that land parcels 1-5 are very likely to be 'Gradient Limited' to Subgrade 3b at best and are therefore not considered BMV land. It was recommended by the Welsh Governments Agricultural Land Use & Soil Policy Advisor that no detailed ALC field surveys need to be undertaken for these parcels.

Heritage

4.1.14. Pegasus Group prepared a Heritage Appraisal in March 2025 followed by a draft Heritage Desk Based Assessment (HDBA) in June 2025. The HDBA addresses the known and potential archaeological resource of the Site and the potential impacts of the Proposed Development thereupon; as well as proximate designated historic assets that have the potential to have their setting and therefore their significance affected by the Proposed Development.

4.1.15. The HDBA baseline and assessments are based on a review of Cadw data, Heneb (Glamorgan Gwent) Historic Environment Record data, National Monuments Record of Wales data, historic mapping and other archival material, as well as observations made during a Site walkover survey and visits to selected outlying assets and other locations from which both the Site and assets may be covisible.

4.1.16. The HDBA identifies the likely level of significance of known and potential historic assets ('heritage receptors') and assesses them in accordance with the requirements of the Historic Environment (Wales) Act 2023, Chapter 6 of Planning Policy Planning Policy Wales, Edition 12; Wales, Technical Advisor Note 24: The Historic Environment (TAN24) 24, Future Wales – The National Plan 2040 (2021) and heritage-related policies in local planning policy and relevant sector guidance.

4.1.17. Headland Archaeology carried out an archaeological geophysical survey of the Site across two mobilisations, in May and July 2025. The survey was carried out in accordance with a Written Scheme of Investigation submitted to and approved by the Archaeological Advisor at Heneb prior to commencement. The survey report was completed in August 2025.

Landscape

4.1.18. A preliminary desk based, Landscape and Visual Appraisal of the Proposed Development area was prepared in November 2022. The appraisal established the existing baseline conditions and likely sensitive landscape and visual receptors that would be affected by the Proposed Development. A preliminary Landscape and Visual Assessment update is currently underway to account for change to the site boundary since this 2022 appraisal.

4.1.19. The Landscape and Visual Assessment seeks to identify the likely significant effects on a range of landscape and visual receptors and is undertaken in line with the relevant guidance and best practice, principally Guidelines for Landscape and Visual Impact Assessment 3rd Edition (GLVIA 3).

4.1.20. A review of relevant published landscape character assessments, both at the national and local level, alongside reference to planning policy and guidance as it relates to landscape and visual matters and renewable energy development has been undertaken to ensure a thorough understanding of likely sensitive receptors, and relevant policy. This includes LANDMAP character assessment, National Landscape Character Area reports and reference to the relevant local and national development plans, including Planning Policy Wales Edition 12 and Future Wales – The National Plan 2040.

Flood Risk

4.1.21. A desk based assessment of flood risk on Site was conducted in March 2025 to feed into the design of the Site. The design of the Site has since been developed taking account of key flood risk areas, as defined by Natural Resources Wales (NRW) Flood Map for Planning. This approach will ensure that the Site remains safe from flooding over its lifetime and has a minimal impact on flood risk elsewhere.

4.1.22. Watercourse easements have also been incorporated into the design of the Site following consultation with Monmouthshire County Council as Lead Local Flood Authority. These easements will ensure the Proposed Development does not impede maintenance access to watercourses onsite. To date, Caerphilly Country Borough Council (working collaboratively

with Torfaen County Borough Council) have not provided a comment of watercourse easement requirements.

4.1.23. Pegasus Group have been in consultation with the Sustainable Drainage Approving Body (SAB) to determine the infiltration testing requirements on site. Infiltration testing is expected to be conducted on Site in Autumn 2025 and will be used to inform the Site's surface water drainage strategy. Further SAB consultation will be complete following drafting of the proposed surface water drainage strategy.

Transport

4.1.24. A Site visit was conducted in January 2025 to review the nature and condition of the local highway network within the vicinity of the Site. This has informed the draft Construction Traffic Routing Plan to be provided for construction and delivery vehicles associated with the scheme. This draft Construction Traffic Routing Plan was included as a presentation board at a non-statutory public consultation event held on 11 July 2025 at Ponthir Village Hall, which was attended by a member of the Pegasus Group Transport team.

4.1.25. Work is currently being progressed on a Construction Traffic Management Plan (CTMP) which will support the DNS application. The CTMP will provide a review of the local highway network, highway safety within the vicinity of the Site, and an assessment of potential impacts of nearby committed developments. A detailed access strategy for the site will be provided and this will incorporate the Routing Plan and details on the number and type of delivery vehicles. Due to the rural nature of the highway network and constraints on the site, a number of temporary traffic management measures may be proposed. This could include the use of escort vehicles to assist arriving/departing vehicles, banksmen at site access points, temporary signals at constrained off-site junctions and a delivery timetable.

4.1.26. Highways pre-application planning advice will be sought from the local highway authorities of Newport City Council, Monmouthshire County Council and Torfaen County Borough Council, which will seek to agree the extent of the transport work that will be prepared to support the planning submission. It is anticipated that there will be ongoing dialogue throughout the preparation of the transport documents.

Environmental Topics

4.1.27. **Table 1.7** lists the environmental topics specified within the EIA Regulations as to potentially be considered as part of the EIA process. The table also summarises whether these topics are considered relevant to include within the EIA process, and where such topics will be considered within the ES where applicable. Where a topic has been scoped out, the reasoning is fully explained within Section 5.

Table 1.7- Environmental Topics as per EIA Regulations

EIA Topic	**Scoped In / Out**	**Where Addresses with ES** (if applicable)
Population	Scoped out	No significant impacts likely and therefore not proposed to be considered within the ES.

Human Health	Scoped out	No significant impacts likely and therefore not proposed to be considered within the ES.
Biodiversity (e.g. flora and fauna)	Scoped in	To be considered within 'Chapter 6 – Ecology'
Land (e.g. geology)	Scoped out	No significant impacts likely and therefore not proposed to be considered within the ES.
Soil	Scoped in	To be considered within 'Chapter 8 – Agricultural Circumstances'
Water	Scoped out	No significant impacts likely and therefore not proposed to be considered within the ES.
Air	Scoped out	No significant impacts likely and therefore not proposed to be considered within the ES.
Climate	Scoped out	No significant impacts likely and therefore not proposed to be considered within the ES.
Noise and Vibration	Scoped out	No significant impacts likely and therefore not proposed to be considered within the ES.
Risk of Major Accident and Disaster	Scoped out	No significant impacts likely and therefore not proposed to be considered within the ES.
Material Assets	Scoped out	No significant impacts likely and therefore not proposed to be considered within the ES.
Traffic and Transport	Scoped out	No significant impacts likely and therefore not proposed to be considered within the ES.
Waste	Scoped out	No significant impacts likely and therefore not proposed to be considered within the ES.
Cultural Heritage	Scoped out	No significant impacts likely and therefore not proposed to be considered within the ES.
Landscape	Scoped in	To be considered within 'Chapter 5 – Landscape and Visual'
Glint and Glare	Scoped in	To be considered within 'Chapter 7 – Glint and Glare'

Interrelationship between above factors	Scoped In	Within each topic chapter and / or in Summary chapter

5. Topics to be 'Scoped Out'

5.1. Population

5.1.1. Significant changes in population as a result of the proposals are unlikely, due to the nature of the proposals being for a solar farm it would not involve significant or intensive labour requirements in either the construction, operation or decommissioning phases. During construction and decommissioning there would be a temporary increase in employment through the creation of construction jobs and indirect effects on local shops and services, however, this is likely to be a minor beneficial effect and would not involve the relocation of workers to the area on a permanent basis.

5.1.2. Given the nature of the Proposed Development, there will be no increased demand on local services, such as primary healthcare provision or education facilities, as no additional population will be generated.

5.1.3. The impacts during the construction phase will be subject to a separate Economic Benefits Statement submitted alongside the DNS application, which will also consider the impacts generated once the Proposed Development is operational (including permanent employment and business rates revenue). On this basis, it is proposed to scope population out of the ES.

5.2. Human Health

5.2.1. During the construction phase there would be potential for some minor pollution or nuisance consistent with construction works, i.e. lighting of external works, dust / noise from vehicles / construction processes, surface water run-off from bare earth / stockpiles, plant noise etc. However, the activities are anticipated to be short term, limited in scale and it should be emphasised that construction activities would be appropriately controlled to an acceptable level through the adoption of Construction Environmental Management Plan (CEMP) and appropriate safety measures.

5.2.2. The development relies on well-established and safe modern technology. Operators of the Site will ensure the correct health and safety signage will be displayed on Site, to warn of the potential risk from working near electrical equipment and to prevent illegal access and trespass.

5.2.3. Risk of contamination from soil is considered low and unlikely due to the nature of the Proposed Development with no impacts anticipated.

5.2.4. The nature of the Proposed Development will displace primary fossil fuel derived electricity and the consequent greenhouse gases and other pollutants released during fossil fuel combustion and would result in a beneficial effect on human health. The Proposal will have no direct significant adverse environmental effect on air quality. Associated traffic movements during all phases of the Proposed Development are expected to not cause any significant effect on air quality as experienced by the nearest receptors located in the vicinity of the Site.

5.2.5. Given the nature of the Proposed Development, there will be no increased demand on local services, such as primary healthcare provision or education facilities, as no additional

population will be generated. Humans as a receptor and the effects on human health will be considered, as appropriate, within relevant chapters of the ES.

5.2.6. Consequently, there are no processes or potential impacts proposed that are considered to give rise to any significant adverse effects in relation to human health. Given the nature of the Proposed Development, along with its location to limited receptors, it is not considered these issues need to be assessed in isolation within the resultant ES.

5.3. Ground Conditions and Land

5.3.1. The Site comprises agricultural land and has no known history of contamination onsite. Although it is deemed unlikely for any contamination to be present on Site, it will be controlled during construction through standard best practice measures which would be outlined within a Construction Environmental Management Plan (CEMP). Most of the soil will not be physically impacted from the Proposed Development.

5.3.2. The Site will be designed to be capable of enabling sheep grazing during its operational life, and therefore it is anticipated that energy and agriculture will remain in a co-use across the site. The Proposed Development is fully reversable, and the agricultural potential of the Site can be fully restored following decommissioning. Although the Application Site is 118.8ha, the footprint of the developable area of the Scheme is smaller and the proposals are temporary in nature. Furthermore, appropriate construction techniques will be implemented to reduce below ground, intrusive works and therefore impacts on the quality of the soil resource are limited.

5.3.3. The baseline conditions in relation to ground conditions have been determined from a preliminary review of online information available from the British Geological Survey (BGS) and Natural Resource Wales (NRW). The available records indicate that the geology of the Site is predominantly Raglan Mudstone Formation (mudstone and sandstone), with some superficial deposits in the south of the Site of alluvium. The Site is not located within a Mineral Safeguarding Area.

5.3.4. A detailed ALC survey of the has been undertaken to identify the distribution of ALC grades across land parcels 6-13 of the Application Site, at a density of 1 auger bore per hectare. Consultation was undertaken with the Welsh Governments Agricultural Land Use & Soil Policy Advisor who advised (correspondence dated 20.12.2022) that land parcels 1-5 are very likely to be 'Gradient Limited' to Subgrade 3b at best and are therefore not considered best and most versatile ('BMV') land. It was recommended by the Welsh Governments Agricultural Land Use & Soil Policy Advisor that no detailed ALC field surveys need to be undertaken for these parcels.

5.3.5. The ALC Survey (dated August 2025) at **Appendix G** of this report confirms 19.2ha (16.9%) of the Site is determined as Best and Most Versatile (BMV) land, and 94.3ha (83%) of the Site is non-BMV land. The ALC survey will be sent to be independently verified by the Welsh Government Land Quality Advice Service (LQAS). It is intended that Agricultural Circumstances and the assessment of soils and agricultural land quality will be assessed in a forthcoming ES chapter; details of the proposed methodology of the chapter is set out in Section 6 below.

5.3.6. Overall, the land will not be irreversibly developed and will remain in agricultural use as grazing of sheep will be possible whilst the solar arrays are in place and as such no likely significant lasting adverse effects on ground conditions and land is expected. Due to the limited

intrusion into the ground during panel installation, with there being no deep excavations or foundations required, there is unlikely to be any disturbance to geological features. Therefore, effects on ground conditions and land are not considered to be complex or significant and would not require further consideration through the EIA process. A Phase 1 Geo-Environmental Site Investigation (Preliminary Risk Assessment) will be prepared and submitted alongside the DNS application.

5.4. Water Environment

5.4.1. The majority of the Site is located within Flood Zone 1 for Rivers according to the Flood Map for Planning for Rivers by Natural Resource Wales and therefore has a low probability of flooding from rivers (less than 1 in 1,000 year). A small area of parcels 5, 6, 7, 9 and 12 is located within Flood Zone 2 and 3 which lies adjacent to the Candwr Brook and River Lwyd Main Rivers. Parcel 12 alongside the River Lwyd shows the largest area of Flood Zone 2 and 3. The Flood Map for Planning for Seas by Natural Resource Wales does not predict the Site to be at risk. There are therefore no tidal flood risk mitigation measures recommended onsite. The Flood Map for Planning for Surface Water and Small Watercourses by Natural Resource Wales shows that the Site is generally located in Flood Zone 1 and has a predominantly low risk of flooding from surface water and small watercourses (less than 1 in 1,000 year). Surface water flow paths are noted across the Site predicting small areas of the Site to be at risk of flooding from surface water and/or small watercourses (Flood Zone 2 and 3).

5.4.2. No built form is proposed within Flood Zone 2 or 3 for rivers or surface water and small watercourses and an appropriate buffer to the top of the bank of the watercourses will be applied to all watercourses onsite to ensure continued access for maintenance. At this stage a 7m watercourse buffer has been included in the Site design.

5.4.3. With a suitable surface water drainage strategy in place, the proposals are not considered to exacerbate flood risk onsite or for the area surrounding the Site. The solar panels would be elevated on a framework to allow water to flow freely below and will be located within Flood Zone 1 only for rivers and surface water a small watercourse (see above). There will be very limited areas of hardstanding associated with this type of development. All proposed internal tracks will be constructed of a permeable material (e.g. stone); therefore, there would be no increase in runoff from these areas. A surface water drainage strategy will be implemented on Site to manage runoff from the Proposed Development. Furthermore, there is a potential beneficial effect from improved water infiltration as a result of a change in agricultural practices. Therefore, the Proposed Development would not impede any surface water flow paths or displace any ponding of surface water.

5.4.4. There is potential for increase in surface run off from soil compaction during construction, however, impacts would very localised and given the rural nature of the Site any increased runoff effects would be short term and not significant in the context of the wider catchment.

5.4.5. Similarly, there are no significant sources of pollution in an operational solar farm, again reduction in the intensity of agricultural practices i.e. reduced use of fertilizer, pesticides and winter crop rotations, can improve water quality. Given the greenfield nature of the Site, it is considered unlikely that contamination is present onsite and therefore the potential for remobilisation of contamination to controlled waters (groundwater and surface water) is considered to be unlikely. A Construction Environmental Management Plan (CEMP) would be used to avoid pollution of local water resources.

5.4.6. Likely significant effects from the Proposed Development on groundwater or surface water interruption affecting local abstractions are not anticipated. This is because any piling at the site will be shallow and small in footprint and therefore, if a local abstraction is within close proximity to the site, the impact of piling interruption to the supply of water to these abstractions would not be significant.

5.4.7. A Flood Consequence Assessment (FCA) will be prepared and submitted alongside the DNS application. The FCA will be undertaken to ensure that the Proposed Development is safe and that it will not increase flood risk elsewhere. The FCA will include mitigation measures (where necessary) to ensure that there are no significant adverse effects on flood risk as a result of the Proposed Development. Provision for Sustainable Drainage Systems (SuDS) to mitigate will incorporated, in accordance with pre-app advice from the SAB. , Solar panels do not have a significant effect on runoff volumes, peaks or time to peak, if grass cover is well-maintained underneath panels and between rows. Therefore, it is proposed to locate grass cover beneath the solar panels to prevent areas of bare ground and erosion occurring. Post-consent of the application, the Proposed Development will require approval from the SuDS Approving Body

5.4.8. Therefore, it is not considered this would warrant further consideration in isolation within the ES. It is also noted that the Screening Direction issued from PEDW dated 12th June 2025 states that "Given the appropriate conditions, and mitigation, significant effects on water resources and ancient woodland are unlikely".

5.5. Transport and Access

5.6. The Proposed Development is situated approximately three kilometres to the north of Junction 25 of the M4 Motorway. The most direct routes between the motorway junction and the Proposed Development are summarised below:

- A4042, B4236, Candwr Road, Unnamed Roads; and
- B4596, B4236, Candwr Road, Unnamed Roads.

5.7. Another construction traffic route to the Site is also being considered, from the north, although it is less direct. This route would bring traffic via Usk from the A449, the A472 and Unnamed Roads.

5.8. The solar farm components will be transported to the Site by Heavy Goods Vehicles (HGV), the largest of which will be a 16.5 metre articulated HGV. The smallest possible vehicle for each delivery type will be used where possible. At this stage it is anticipated that there will be two main construction compounds located within the Site. HGVs will deliver to these compounds, where the loads will be decanted. Smaller vehicles (anticipated to be a tractor and trailer) will then transport the plant and materials across the Site.

5.9. The construction phase of the Proposed Development would involve changes to traffic movements on the local highway network (e.g. HGVs associated with the site). However, these will be limited to the construction period limited to circa 24 months and are temporary in nature. Appropriate street works notices will be secured as necessary and suitable traffic management measures may be implemented to reduce disruption to background traffic on the local highway network, which will be agreed as appropriate with the local highway authorities in advance of the temporary construction phase. Suitable mitigation measures could include the use of escort vehicles to assist arriving/departing

vehicles, banksmen at site access points, temporary signals at constrained off-site junctions and a delivery timetable.

5.10. As part of the proposals new site access points may need to be created but wherever possible existing agricultural accesses will be upgraded to accommodate HGVs. Visibility splays typically suggested for new access points serving new developments (with permanent daily traffic movements) may not be achievable at existing or proposed access points in this location. However, this is to be reasonably expected considering the rural nature and steep topography of the local highway network within the vicinity of the Site and given the temporary and/or infrequent permanent use in the future for the scheme. Suitable temporary traffic management solutions will be proposed within the CTMP as appropriate. These will be agreed with the highway authorities prior to the temporary construction phase.

5.11. Although the exact number of vehicle movements during the construction phase is still to be determined, based on our experience elsewhere we expect during the peak period of the construction phase there could be around 30 HGV movements (i.e. 15 arrivals and 15 departures) per day on average. These movements will be spread across the whole site and will be lower during other points of the construction phase. The movements will include both HGVs and tractors & trailers and the movements by tractors and trailers will be distributing materials around the site; and it is also understood that vehicles of this size/type are already present on the local highway network indicating their size can be accommodated. The total number of movements is low in real terms and will not have a material safety or operational impact on the operation of the local highway network.

5.12. Once operational the only trips associated with the Site would be occasional maintenance vehicles, anticipated to consist of a 4x4 or van type vehicle. It is anticipated that there would be one maintenance trip every two weeks. The vehicle movements associated with these visits would also not be considered to have a material impact on the operation of the local highway network.

5.13. A CTMP which will support the DNS application which will provide a review of the local highway network, highway safety within the vicinity of the site, and an assessment of potential impacts of nearby committed developments. A detailed access strategy for the site will be provided and this will incorporate the Routing Plan produced for the public consultation and details on the number and type of delivery vehicles. Due to the rural nature and constraints of the site, a number of temporary traffic management measures, as set out above, will be proposed. The CTMP will be prepared further to scoping discussions with the local highway authorities.

5.14. It is therefore considered that the topic of transport, including for construction, decommissioning and operation can be scoped out of the ES due to the low number of vehicle movements in real terms that could be associated with the Site on a daily basis. The temporary impacts of the scheme on the local highway network will be adequately addressed through the submission of separate standalone technical reports which will accompany the DNS planning application. Significant environmental impacts are unlikely to arise from the Proposed Development, and a Transport and Access Chapter is deemed not to be required within the ES.

5.15. Air Quality

5.15.1. The Site is not located within an Air Quality Management Area (AQMA). The closest AQMA to the Application Site is the Caerleon High Street AQMA declared for Nitrogen dioxide located c. 1.6km south of parcel 12.Nevertheless, the anticipated traffic generation from the Proposed Development during construction is expected to be limited and would be short term and temporary, and is not expected to lead to an increase in traffic flows that would breach thresholds set out by the Institute for Air Quality Management (IAQM) Planning for Air Quality Guidance. Whilst there may be some dust generated during construction, this can be reduced through the use of construction management measures in CEMP. The solar farm infrastructure is not associated with hazardous substances or toxic emissions to air. Therefore, it is considered unlikely that the proposals will have a significant effect on air quality during the construction of the development and would therefore not require further assessment within an ES.

5.15.2. Due to the nature of the development, once operational there would be no emissions generated by the development. The solar farm infrastructure is not associated with hazardous substances or toxic emissions to air. Once the development is operational the only vehicle movements to the Site would be from the occasional maintenance vehicle which would not give a significant rise to emissions to local air quality. More widely, the electricity the Proposed Development will produce will potentially displace primary fossil fuel derived electricity that relies on thermal combustion and the consequent release of GHGs and other pollutants into the atmosphere consequently, the proposal is considered to have a beneficial effect on air quality. As such no significant impacts on Air Quality are considered likely and would not warrant assessment in isolation within the resultant ES.

5.16. Noise and Vibration

5.16.1. The noise environment is rural in character, with low levels of road traffic from intersecting minor, local roads.

5.16.2. The primary operational noise sources associated with the Proposed Development are the solar panel inverters, transformers, and substations. The above sources do not generate any substantial levels of vibration since this is controlled at source as part of the plant design.

5.16.3. Construction noise and vibration during the construction phase of the Proposed Development will be minimised by appropriate controls on working hours, specification of appropriate plant and methods and standard best practice measures which would be outlined and secured within a Construction Environmental Management Plan (CEMP). Noise and vibration during the decommissioning phase are assumed to be similar to the construction phase and to be controlled via the CEMP.

5.16.4. As mentioned above, the local noise climate is likely dominated by local traffic noise which is broadband in nature. Solar inverter units are typically similar in nature and thus are unlikely to contain any distinct, perceptible acoustic characteristics. The level of noise emitted can be readily controlled via layout, orientation, and acoustic mitigation where required. If required, the Noise Assessment will determine whether any mitigation is required to enable noise limits to be met.

5.16.5. Due to the nature of the Proposed Development, it is not expected to give rise to significant levels of vibration during its construction and operational phases and therefore a vibration assessment is not considered to be required.

5.16.6. As outline above, a Noise Assessment will be undertaken separate to the EIA process and will be submitted in support of the DNS planning application. Initial noise modelling has already been undertaken to predict the likely worst case noise levels attributable to the operation of the solar farm. The initial noise modelling results indicate that the noise levels attributable to the operation of the plant would be low and would be unlikely to exceed a low threshold of 35 dB LAeq,T, described as low within the IOA/ ANC technical guidance[4] which accompanies BS 4142. The potential for adverse noise impacts is therefore considered to be low. A full BS 4142 assessment will be prepared and presented in the forthcoming Noise Assessment to include baseline noise surveys at a number of positions around the Proposed Development, where the highest predicted noise levels have been identified and thus the nearest sensitive receptors potentially most likely to be affected by noise from the operation of the solar farm. The baselines survey results would be subsequently analysed to derive the typical background noise levels for the early morning, daytime and evening periods, (when the solar farm would be operational), as no noise would be generated during hours of darkness.

5.16.7. As such no significant impacts on noise and vibration are considered likely and would not warrant assessment in isolation within the resultant ES.

5.17. Climate

5.17.1. Climate change is a global, transboundary issue. It is acknowledged that new developments must both mitigate and adapt to, climate change. Climate change is a multi-disciplinary issue affecting several technical disciplines proposed to be scoped into the EIA process including ecology and landscape and visual. Consideration of climate change will be provided in the introductory chapters of the ES, summarising and cross-referencing other ES chapters and reports submitted in support of the DNS application, with particular consideration of proposed mitigation measures (both inherent and additional) to ensure the Proposed Development is resilient to a changing climate.

5.17.2. It is acknowledged that construction of the Proposed Development will result in the release of carbon as well as other emissions associated with the use of HGV vehicles and other plant / machinery. Although, considering the temporary nature of the development and the low level of physical construction work required, it is considered that these emissions are unlikely to be complex or significant and would not require further assessment with the ES.

5.17.3. The current baseline for land that would be taken by construction of the Proposed Development is the existing agricultural land-use. However, installing solar panels above ground on agricultural land will not cause any disturbance to significant soil or vegetation carbon stocks GHG emissions from the existing land-use are not therefore considered further

5.17.4. Once operational the facility will be supporting 'green' energy from renewable sources and will displace primary fossil fuel derived electricity and the consequent GHG emissions and other pollutants released during fossil fuel combustion. Therefore, the development will contribute positively to the climate through reducing the reliance on fossil fuel-based energy production facilities and helping to support carbon sequestration On this basis, Climate Change as a standalone ES Chapter is proposed to be scoped out of the ES.

[4] BS 4142:2014+A1:2019 Technical Note (March 2020) ANC Working Group.

5.17.5. It is the intention that a Climate Change Greenhouse Gas (GHG) and Resilience Assessment will be undertaken separate to the EIA process and will be submitted in support of the DNS planning application. The GHG Assessment will assess the full lifecycle of the Proposed Development and analyse the associated GHG emissions expressed as Carbon Dioxide Equivalent (CO2e) (the GHG footprint). The Climate Change Resilience Assessment will consider the Proposed Development's vulnerabilities and resilience in the context of climate change by identifying appropriate climate change projections and climate change hazards and impacts that might affect the Proposed Development throughout its lifetime.

5.18. Cultural Heritage and Archaeology

Heritage Setting

5.18.1. The Site does not form part of any World Heritage Sites, Registered Landscapes, Registered Parks and Gardens, or Conservation Areas; and no Scheduled Monuments or Listed Buildings are present within the Site.

5.18.2. There are 33 Scheduled Monuments within a 3km radius of the Site. Only 2 of these are located within a 1km radius. Closest to the Site are:

- Candwr Camp, immediately south of the southernmost field of the northern parcel of the Site (MM135); and
- Penrhos Camp (civil war earthworks), c.535m south-east of the southern parcel of the Site (MM011).

5.18.3. It is considered that Candwr Camp may be sensitive to development in selected parts of the Site through resultant changes to setting. This is on account of the potential for physical impacts to any associated buried archaeological remains present within the Site as well as the potential change of landscape character of the immediate physical surrounds of the asset that might feature in designed views from and/or towards the asset.

5.18.4. There are 155 Listed Buildings within a 3km radius of the Site. Of these, only 16 are located within a 1km radius, and are associated with the following settlements Ponthir, Llantarnam, LLanfrechfa, LLandegveth and Llanddewi Fach. Those closest to the Site are:

- Grade II Listed Glansirhowy Farmhouse, c.125m west of the northern parcel of the Site (3141);
- Grade II Listed Little Creigydd, c.30m from the eastern boundary of the northern parcel of the Site (2674); and
- Grade II Listed Barn at Pen-twyn Farm, c.30m from the eastern boundary of the southern parcel of the Site (26129).

5.18.5. It is considered that all three Listed Buildings named above may be sensitive to development in proximate parts of the Site through resultant changes to setting. This is on account of the potential change of landscape character in views across possibly historically-associated land from the farmhouses and from the curtilages of the farmhouses and the barn; as well as in views towards the assets from the Site itself and other third points (such as access tracks and lanes) in which the Site is covisible.

5.18.6. There are two Registered Historic Parks and Gardens within a 3km radius of the Site:

- Grade II Llantarnam Abbey, c.915m south-west of the northern parcel of the Site at its closest point (PGW(Gt)25(TOR)); and
- Grade II Glen Usk, c.2.1km east of the eastern parcel of the Site at its closest point (PGW(Gt)36(MON)).

5.18.7. There is no historical association between any part of the Site and Llantarnam Abbey. There is however an historical association of landholding between parts of the Site (the south-western part of Parcel 1, the eastern part of Parcel 2, the northern part of Parcel 8, and Parcel 11) and Glen Usk. The Site comprised a small part of the agricultural holding within an extensive estate, lying at some distance from the house and its designed landscape (see below), and so this association is not considered to contribute to the significance of the Listed Building. .

5.18.8. The Site does not seem to have ever formed part of the same designed landscape as either asset. The first edition OS map of 1886 (surveyed 1872-78) shows Afon Lwyd as the northern boundary of the parkland of Llantarnam Abbey, with the Great Western Railway line beyond it providing even further separation from the outlying farmland of Llanfrechfa parish to the north-east. There is no suggestion that the Site ever featured in designed vistas from either park/garden; or, that either park and garden was intended to be seen from or across the Site.

5.18.9. Neither Registered Historic Park and Garden is considered potentially sensitive to the Proposed Development.

There are four Conservation Areas within a 3km radius of the Site:

- Llanhennock, c.1km south-east of the Site;
- Caerleon, c.1.25km south of the Site;
- Llantarnam, c.1.1km south-west of the Site; and
- Monmouthshire and Brecon Canal, c.2.9km west of the Site.

5.18.10. There appears to be no historical functional or visual association between the Site and any of these Conservation Areas. The Site does not lie within the parish of Llanhennock, Caerleon or Llantarnam; and there is no relationship with the Mon and Brecon Canal. Any intervisibility between the Conservation Areas and the Site is considered incidental to the significance of the assets, given the intervening distances.

5.18.11. No Conservation Area is considered potentially sensitive to the Proposed Development.

5.18.12. The Heritage Desk-Based Assessment will present an appropriate and proportionate level of heritage setting assessment for designated historic assets within a minimum 3km radius of the Site. The scoping and undertaking of the setting assessments will be informed and supported by Zone of Theoretical Visibility models and photomontages prepared as part of the Landscape and Visual Impact Assessment. The setting assessments will be undertaken in accordance with Cadw guidance *Setting of Historic Assets in Wales* (2017).

5.18.13. Cultural heritage does not warrant further consideration within an ES and can be assessed separately.

Archaeology

5.18.14. With regard to archaeology, Heneb Historic Environment Record (HER) data identifies Candwr Road – sections of which are included in the redline at the south-eastern boundary of Parcel 3, at the eastern boundary of Parcel 4, at the western boundary of Parcel 10, and for the proposed access to Parcel 8 – as possibly tracing the alignment of a Roman road. There is no archaeological evidence for this claim but nonetheless the potential for associated buried archaeological remains within the boundaries of those parcels should be considered.

5.18.15. In the immediate vicinity of the Site, the HER records a findspot of a Bronze Age axe near/in Parcel 10 of the Site. Parcel 10 also lies directly north of the Scheduled Monument of Candwr Camp, an Iron Age hillfort. Further afield is recorded the medieval settlement of Llanfrechfa, the medieval monastic estate of Llantarnam Abbey, and the medieval deer park of Llanvihangel Park; however, there is no suggestion that these settlements/estates extended into the Site.

5.18.16. The most numerous HER records for the 1km study area relate to post-medieval settlement and agricultural activity. This, and historic mapping, indicates that the land of the Site has been in agricultural use from at least the early 19th-century, and in all likelihood, from the medieval period. Buried archaeological remains of historic agricultural land use, such as infilled former field boundaries and plough furrows, typically would not retain sufficient evidential or historical value to be considered even as non-designated historic assets.

5.18.17. The impression of archaeological potential from the HDBA has been reinforced by the results of the Geophysical Survey. No anomalies of probable archaeological origin were recorded by the survey, and only a single anomaly suggestive of an enclosure, located towards the centre of the Site, was tentatively interpreted as of possible archaeological origin. The dataset is dominated by anomalies indicative of post-medieval and modern agricultural activity relating to boundary removal, ploughing and drainage. The results of the survey indicate that the archaeological potential of the Site is low.

5.18.18. Based on assessment work undertaken to date, no archaeological remains of such a level of significance that would require preservation in situ or otherwise preclude development are anticipated. It is considered that further evaluation and mitigation can be secured by condition and carried out post-consent. Archaeology does not warrant further consideration within an ES and can be assessed separately.

Summary

5.18.19. The Heritage Desk-Based Assessment and Geophysical Survey Report will be submitted with the DNS Application. These reports will together provide sufficient information regarding cultural heritage and archaeology to allow the application to be determined.

5.18.20. The Screening Direction issued from PEDW dated 12th June 2025 confirmed, in agreement with Cadw, as the Welsh Government's historic environment service, that the Proposed Development is unlikely to have a significant effect on the historic environment; and therefore, an EIA is not required, and a Heritage Desk-Based Assessment along with the results of a Geophysical Survey would be adequate for a DNS application.

5.18.21. Therefore, it is not considered Cultural Heritage or Archaeology would warrant assessment within an ES.

5.19. Risk of Major Accident and Disaster

5.19.1. Solar photovoltaic technology is a relatively benign form of electricity generation with very low risk of accident or disaster and will not have a significant environmental effect in this regard. The solar farm will be enclosed by appropriately designed security fencing and monitored by CCTV, which will lower the risk of unauthorised access and accidents. No battery storage is proposed as part of the Proposed Development components.

5.19.2. The Application Site is not known to be susceptible to land instability or extreme and / or adverse climatic conditions. During the construction phase, the contractor(s) would implement measures in accordance with Health and Safety legislation / requirements to minimise the risks of accidents that would affect the local population and environment. There are no anticipated significant risks of accidents during construction or operation as the Proposed Development does not involve users dealing with hazardous substances or materials.

5.19.3. A Utilities Site Search (dated September 2025) has been undertaken for the Site. Accordingly, the design of the Proposed Development is refined to allow for appropriate offsets for utilities within the Site boundaries. This includes the major buried pipeline crossing part of the Site, referred to in the EIA Screening Direction issued by PEDW on the 12th June 2025.

5.19.4. Considering the nature and location of the Proposed Development, it is not considered to be vulnerable to or give rise to significant impacts in relation to the Risk of Accidents and Major Disasters and does not warrant assessment within an ES.

5.20. Material Assets

5.20.1. Material assets in EIA is a very broad term which considers both physical and non-physical sectors that could be said to have material value. The Site is not located within a Mineral Safeguarding Area. If mineral resource were present, the Proposed Development is temporary in nature and would not sterilise any potential mineral resource or prevent future mineral extraction.

5.20.2. Construction will require the use of natural resources as is standard within the construction phase of development i.e. power supply / water / primary aggregates / concrete etc. This is not considered to be an unusual or complex operation with the construction period limited to 24 months. Sustainable sourcing of construction materials will be advocated within the supply chain. Due to the nature of the development, no natural resources will be required for the operation of the facility once constructed.

5.20.3. It is not considered there are any further 'material assets' to those already addressed within other EIA topics, and therefore no further consideration of material assets is proposed within the EIA and resultant ES.

5.21. Waste

5.21.1. The Proposed Development is not anticipated to produce significant amounts of waste to the extent that the creation or disposal of which would give rise to significant effects on the environment. The CEMP (to be secured by a planning condition), will detail the mitigation measures to be implemented during the construction phase to minimise waste and ensure that it is stored, managed, collected and disposed of appropriately. There would be no

significant waste generated during the operational phase of the Proposed Development. Therefore, it is proposed to scope waste out of the ES.

5.22. Conclusion

5.22.1. As explained above, it is not considered that the Proposed Development will result in likely significant effects on the following disciplines: Population, Human Health, Ground Conditions and Land, Water Environment, Transport and Access, Air Quality, Noise, Climate, Cultural Heritage and Archaeology, Material Assets, Waste and Risk of Major Accidents and Disaster. It is therefore proposed these matters are scoped out of the ES.

6. Topics to be 'Scoped In'

6.1. Chapter 5 - Landscape and Visual

Introduction

6.1.1. A landscape and visual impact assessment of the Proposed Development will be undertaken following the 'Guidelines for Landscape and Visual Impact Assessment' (GLVIA) (3rd Edition) published by the Landscape Institute and the Institute of Environmental Management and Assessment in 2013.

6.1.2. This document does not provide a prescriptive method for the assessment but identifies the general principles and good practice approaches. The assessment will enable the likely significant landscape and visual effects to be determined and a landscape design and mitigation strategy to be put forward as part of the overall development proposals.

Relevant Policy and Guidance

Planning Policy

6.1.3. The applicable planning policy of relevance to landscape and visual matters includes:

- Planning Policy Wales Edition 12 (2024) Chapter 6 – Distinctive and Natural Places, and select paragraphs throughout
- Future Wales – The National Plan 2040:
    - Policy 17 – Renewable and Low Carbon Energy and Associated Infrastructure
    - Policy 18 – Renewable and Low Carbon Energy Developments of National Significance
- Monmouthshire Local Development Plan:
    - Policy S13 – Landscape, Green Infrastructure and the Natural Environment
    - Policy LC5 – Protection and Enhancement of Landscape Character
    - Policy SD1 – Renewable Energy
- Newport Local Development Plan
    - Objective 16 – Conservation of the Natural Environment
    - Policy SP5 – Countryside
    - Policy GP5 – General Development Principles – Natural Environment
    - Policy CE10 – Renewable Energy
- Torfaen County Borough Local Development Plan

- Objective 12 – Protecting and Enhancing Landscape Character
- Strategy Policy SD7 – Conservation of the Natural and Historic Environment
- Policy C2 – Special Landscape Area

Other Reports

- Monmouthshire County Council Renewable Energy Assessment
- Torfaen County Borough Sensitivity and Capacity Assessment for Renewable Energy Development

Guidance

6.1.4. The applicable guidance includes:

- Guidelines for Landscape and Visual Impact Assessment (3rd edition) (hereafter referred to as 'GLVIA3') – Landscape Institute and Institute of Environmental Management and Assessment (2013);
- GLVIA3 Statement of Clarification 1/13, 2/13, 1/14, and 2/14 – Landscape Institute (2013 and 2014);
- An Approach to Landscape Character Assessment - Natural England (2014);
- An Approach to Landscape Sensitivity Assessment – to inform spatial planning and land management - Natural England (2019);
- Visual Representation of Development Proposals, Technical Guidance Note 06/19 - Landscape Institute (2019); and
- Assessing Landscape Value Outside National Designations, Technical Guidance Note 02/21 - Landscape Institute (2021).

Preliminary Assessment of Baseline Conditions

Site Description and Context

6.1.5. The Site comprises a large number of agricultural fields, which combine to form 13 distinct parcels lying to the north and east of Ponthir, Monmouthshire. The fields within the Site vary in scale and form and are largely irregular and non-geometric. Parcels in the western site extents are generally smaller than those in the north and east. Internally, the field boundaries are mostly formed of mature hedgerows and hedgerow trees.

6.1.6. The Site is split by a number of small lanes which connect to Ponthir and Llanfrechfa. Court Farm Waterworks and Reservoir occupy broadly central positions relative to the Site, but sit outside the redline boundary.

6.1.7. Intervisibility between field parcels varies depending on topography and vegetation, with the undulating landform restricting views between parcels in many cases.

6.1.8. The southern and western parcels occupy generally lower positions in the valley, closer to the settlements of Ponthir and Llanfrechfa; whilst those to the north and east and more closely relate to the agricultural land beyond.

Designations

6.1.9. The Site is not subject to any statutory landscape designations. Parts of the site lie within Torfaen County Borough Special Landscape Area 5, a non-statutory designation. Candwr Camp, a scheduled monument – lies to the south of Parcel 10.

Landscape Character

6.1.10. Published landscape character assessments have been prepared at a national level, which sit alongside LANDMAP landscape assessment at a more local level. . The Site is within the following landscape character areas and types based upon the hierarchy of published landscape character assessments:

- National Landscape Character Area 31 – Central Monmouthshire
- National Landscape Character Area 35 – Cardiff, Barry and Newport
- LANDMAP Character Areas:
    - Geological Landscape
        - Common Cefn-llewn (MNMTHGL091)
        - Creigydd (TRFNGL033)
        - Llanfrechfa (TRFNGL010)
        - Afon Llwyd (TRFNGL009)
    - Landscape Habitats
        - West Rural Monmouthshire (MNMTHLH070)
        - Torfaen (TFGNLH024)
        - Newport (NWPRTLH015)
    - Historic Landscape
        - Edlogan and Tregrug (TRFNHL002)
        - Tregrug Llanhunog (MNMTHHL053)
        - Llandhennock Hills (NWPRTHL008)
    - Cultural Landscape Services
        - Sor Brook Valley (MNMTHCLS040)

- Torfaen (TRFNCLSO05)
- Torfaen (TRFNCLSO06)
- Penrhos (NWPRTCLSO39)

o Visual and Sensory

- Torfaen (TRFNVSO09)
- Torfaen (TRFNVSO11)
- Sor Brook Valley (MNMTHVSO36)
- Penrhos (NWPORTVSO28)

- Torfaen County Borough Special Landscape Area 5

6.1.11. The assessment will consider all of the above published landscape character assessments.

Scope and Methodology of Assessment (including significance criteria)

Study Area and Scope

6.1.12. The study area includes the entire area contained within the Site boundary, and a 3km radius from it. Beyond this distance, even with good visibility, it is considered that both the Site and Proposed Development would not be easily discernible in the wider landscape due to a combination of intervening vegetation, topography and distance.

6.1.13. Viewpoint locations are representative, i.e. they do not seek to assess every possible view of the site and proposed development, rather they seek to address a range of views of the site, from a range of distances and experienced by a range of receptors. Viewpoints are located in publicly accessible locations, for example along Public Rights of Ways or roads, where a higher number of potential receptors are present.

Assessment Methodology

6.1.14. The 'Guidelines for Landscape and Visual Impact Assessment, 3rd Edition' (GLVIA3) states that:

"Landscape and Visual Impact Assessment (LVIA), is a tool used to identify and assess the significance of and the effects of change resulting from development on both landscape as an environmental resource in its own right and on people's views and visual amenity"

6.1.15. There are two components of LVIA:

- Assessment of landscape effects; assessing effects on the landscape as a resource in its own right; and
- Assessment of visual effects: assessing effects on specific views and on the general visual amenity experienced by people.

6.1.16. The components of the assessment will include baseline studies; description and details of the landscape proposals and mitigation measures to be adopted as part of the scheme; identification and description of likely effects arising from the proposed development; and an assessment of the significance of these effects.

6.1.17. In terms of baseline studies, the assessment will provide an understanding of the landscape in the area to be affected, its constituent elements/features, character, condition, and value. For the visual baseline it will include an understanding of the area within which the development may be visible, the people who may experience views, and the nature of views.

Assessment of Landscape Effects Methodology

6.1.18. GLVIA3 states that *"An assessment of landscape effects deals with the effects of change and development on landscape as a resource"*. The baseline landscape will be described by reference to existing landscape character assessments and by a description of the site and its context.

6.1.19. A range of landscape effects can arise through development. These can include:

- Change or loss of elements, features, aesthetic or perceptual aspects that contribute to the character and distinctiveness of the landscape;
- Addition of new elements that influence character and distinctiveness of the landscape; and
- Combined effects of these changes.

6.1.20. The characteristics of the existing landscape resource will be considered in respect of the susceptibility of the landscape resource to the change arising from this development. The value of the existing landscape also is considered.

6.1.21. Each effect on landscape receptors is assessed in terms of size or scale, geographical extent of the area influenced and its duration and reversibility. In terms of size or scale, the judgement will take account of the extent of the existing landscape elements that will be lost or changed, and the degree to which the aesthetic or perceptual aspects or key characteristics of the landscape will be altered by removal or addition of new elements.

6.1.22. The overall landscape effect is determined by considering the sensitivity of the landscape receptor/s and the magnitude of impact on the landscape receptor/s. Final conclusions on the overall landscape effects are drawn from the assessment components described.

Assessment of Visual Effects Methodology

(An assessment of visual effects deals with the effects of change and development on the views available to people and their visual amenity)

Mapping Visibility

6.1.23. The first stage in the assessment is to map approximate visibility of the proposed development. This will be modelled as a computer-based Screened Zone of Theoretical Visibility (SZTV) found at **Appendix E**.

6.1.24. The SZTV is a useful tool used to provide focus on the area and receptors that are most likely to be affected by the proposed development. The building and vegetation data used for the SZTV will be obtained from OS Open Map Local Data for buildings and woodland which is then used to create a Digital Surface Model. The screening effect provided by individual trees, smaller blocks of woodland and hedgerow and hedgerow trees, will however not be taken into account in the SZTV. The SZTV and site visits have been used to inform the viewpoint selection shown at **Appendix E.**

Viewpoint Photography and Visualisations

6.1.25. A series of representative viewpoints will be included in the assessment that show the range of views towards the site and the proposed development experienced by surrounding visual receptors. Other photographs of the site may also be included where they support the description and understanding of the site's landscape and visual characteristics.

6.1.26. Preliminary assessment of the Site and the Proposed Development, involving a preliminary site visit in February 2025, has identified 19 representative viewpoint locations (see **Appendix E**) in the Site's surroundings experienced by visual receptors that likely would be subject to visual assessment.

6.1.27. In consultation with Newport City Council's Landscape Officer, an additional two viewpoints were added to the assessment: to the south of the site along PRoW 389/12/1 and a long-distance viewpoint from Catash Road on the opposite side of the Usk Valley.

6.1.28. In addition to the photograph viewpoints, photomontages (or visualisations) will be prepared from a selection of agreed viewpoint locations. The photomontages will aim to simulate the likely visual changes that would result from the proposed development, at Year 1 and at Year 15. Selection of viewpoints for photomontage will be undertaken in consultation with the three relevant local planning authorities – Torfaen County Borough District Council, Newport City Council and Monmouthshire County Council.

6.1.29. The photograph viewpoints and photomontages will be prepared in accordance with published guidance, as set out in The Landscape Institute Technical Guidance Note on `Visual Representation of Development Proposals' (TGN 06/19).

6.1.30. Viewpoint photography will be presented as 'Type 1 Visualisations' or 'Annotated Viewpoint Photographs', as referred to in TGN 06/19 and the photomontages will be prepared as 'Type 3 Visualisations' in TGN 06/19.

6.1.31. The location of the photo viewpoints and photomontages will be agreed with the relevant consultee(s).

Visual Receptors

6.1.32. The assessment will consider both the susceptibility to change in receptors views and the value attached to views for the identified receptors. Visual receptors most susceptible to change generally include:

- People engaged in outdoor recreation, including use of public rights of way, whose attention or interest is likely to be focused on the landscape or particular views;

- Visitors to heritage assets or other attractions, where views of surroundings are an important contributor to the experience;

- Nearby residents at home;

- Communities where views contribute to the landscape setting enjoyed by residents in the area; and

- Travellers on road, rail or other transport routes tend to fall into an intermediate category of susceptibility to change. Where travel involves recognised scenic routes, awareness of views is likely to be particularly high.

6.1.33. Visual receptors less sensitive to change include:

- People engaged in outdoor sport or recreation which does not involve or depend upon appreciation of views of the landscape; and

- People at their place of work whose attention may be focused on their work or activity, not on their surroundings.

6.1.34. As outlined, the LVIA only assesses publicly available views from locations which are broadly representative of general views of the site, and from which the proposed development is likely to be visible. Private views, such as those from individual residential dwellings, are not within the scope of this report, although may be considered within the assessment of viewpoints located close to residential dwellings.

Significance Criteria

Magnitude of Impact

6.1.35. Each of the visual effects will be evaluated in terms of its size or scale, the geographical extent of the area influenced and its duration or reversibility.

6.1.36. In terms of size or scale, the magnitude of the visual impact will take account of:

- The scale of the change in the view with respect to the loss or addition of features in the view and changes in its composition, including proportion of the view occupied by the proposed development;

- The degree of contrast or integration of any new features or changes in the landscape with the existing or remaining landscape elements and characteristics in terms of form, scale and mass, line height, colour, and texture; and

- The nature of the view of the proposed development, in terms of the relative amount of time over which it will be experienced and whether views will be full, partial or glimpses.

6.1.37. The geographical extent of the visual effect in each viewpoint is likely to reflect:

- The angle of view in relation to the main activity of the receptor;

- The distance of the viewpoint from the proposed development; and

- The extent of the area over which the changes would be visible.

6.1.38. As with landscape effects, the duration of the effect could be short to long term or permanent and the same definitions will apply.

6.1.39. The following descriptive assessments of the magnitude of change will be used for the LVIA:

- High;
- Medium;
- Low; and
- Negligible

Level of Effects

6.1.40. The final conclusions on effects, whether adverse or beneficial, are drawn from the separate judgements on the sensitivity of the receptors and the magnitude of the effects. This overall judgement involves a reasoned professional overview of the individual judgements against the criteria to make the final overall judgement.

6.1.41. GLVIA3 notes, at paragraphs 5.56 and 6.44, that there are no hard and fast rules with regard to the level of effects. The following descriptive thresholds will be used for the LVIA:

- Major;
- Moderate;
- Minor; and
- Negligible

Significance

6.1.42. A judgement is reached, based on the assessment, as to whether an effect is significant or not. Those degrees of effects that are considered to be significant by the assessor for this LVIA are judged to be effects that are either Major or Major/Moderate. The following descriptive thresholds in terms of levels of significance will be used for the LVIA:

- Major: A Major landscape or visual effect based on an evaluation of the susceptibility and value of the receptor, combined with the magnitude of change.
- Moderate: A Moderate landscape or visual effect based on an evaluation of the susceptibility and value of the receptor, combined with the magnitude of change.
- Minor: A Minor landscape or visual effect based on an evaluation of the susceptibility and value of the receptor, combined with the magnitude of change.
- Negligible: A Negligible landscape or visual effect based on an evaluation of the susceptibility and value of the receptor, combined with the magnitude of change.

Judging Overall Significance

6.1.43. The assessment of the significance of the proposed development's landscape effects has been informed by GLVIA3, which states at paragraph 5.56 that:

"There are no hard and fast rules about what makes a significant effect, and there cannot be a standard approach since circumstances vary with the location and context and with the type of proposal. At opposite ends of the spectrum, it is reasonable to say that:

- *Major loss or irreversible negative effects, over an extensive area, on elements and/ or aesthetic and perceptual aspects that are key to the character of nationally valued landscapes are likely to be of the greatest significance;*
- *Reversible negative effects of short duration, over a restricted area, on elements and/ or aesthetic and perceptual aspects that contribute to but are not key characteristics of the character of landscapes of community value are likely to be of the least significance and may, depending on the circumstances, be judged as not significant;*
- *Where assessments of significance place landscape effects between these extremes, judgements must be made about whether or not they are significant, with full explanations of why these conclusions have been reached."*

6.1.44. Section 3, Table row 3(5) of the Landscape Institute's Technical Guidance Note LITGN-2024-01, titled 'Notes and Clarifications on aspects of the 3rd Edition Guidelines on Landscape and Visual Impact Assessment (GLVIA3)', also discusses significance, specifically how to assess significance, where to set thresholds and how to achieve consistency. This guidance will be taken into account in the LVIA.

<u>Issues to be scoped out</u>

6.1.45. Whilst the ES LVIA Chapter will consider residential visual receptors where appropriate, for example from public highways close to residential dwellings, it will not include a standalone Residential Visual Amenity Study.

6.1.46. Several viewpoint locations are located on Public Rights of Way (PRoW) close to the site boundary. Whilst a number of PRoW cross through and adjacent to the site, views from these locations have not always been assessed, as it is assumed that receptors at these locations would, by definition, experience a major adverse visual effect as a result of the Proposed Development.

Potential Effects (including identification of specific receptors)

6.1.47. There would be several landscape and visual receptors that potentially would be affected by the Proposed Development on the site. Those identified to date are listed below.

- Landscape features including:
    - Land Use and Ground Cover
    - Hedgerows and Trees
    - Landform and Topography

- Landscape Character referring to:
    - Site-specific landscape character; and
    - Key characteristics of published landscape character assessment and LANDMAP– on both a site wide and broader contextual basis.
- Visual:
    - Users of Public Rights of Way and Open Access Land in the site's context;
    - Users of roads in the site's context; and
    - Communities in the site's context.

6.1.48. All of the above receptors and any other subsequently identified will be assessed by the impact assessment process in accordance with the proposed method

Preliminary Discussions of Potential Mitigation and Enhancement Measures

6.1.49. Having assessed the magnitude of impacts against the identified receptors, the LVIA will consider whether any mitigation measures are necessary.

6.1.50. Where possible, mitigation measures will be embedded into the design to reduce the landscape and visual effects to an acceptable level. However, where this is not sufficient, further mitigation will be specified to reduce, remove, or compensate for any significant adverse effects identified.

6.1.51. The likely residual effects, taking account of embedded and additional mitigation, will be identified in the ES LVIA Chapter.

6.2. Chapter 6- Ecology

Introduction

6.2.1. This section of the Scoping Report introduces the ecological baseline of the Site and wider Study Area, describes surveys undertaken to date and surveys planned, explains how receptors can be affected, and outlines the methodology to be employed for the Ecological Impact Assessment (EcIA).

Study Area

6.2.2. The current guidance on ecological impact assessments (EcIA) (CIEEM, 2018) recommends that all ecological features that occur within a 'zone of influence' (ZoI) for a Proposed Development are investigated. The ZoI includes:

- Areas directly within the land take for the Proposed Development and access;
- Areas which will be temporarily affected during construction;
- Areas likely to be impacted by hydrological disruption; and
- Areas where there is a risk of pollution and noise disturbance during construction and/or operation.

6.2.3. The ZoI is variable depending on the ecological receptors affected. The size of study areas are determined by considering the potential ZoI for each receptor.

Relevant Legislation, Policy and Guidance

Legislation

6.2.4. The applicable legislation in relation to ecology and nature conservation matters includes:

International

- Convention on Wetlands of International Importance especially as Waterfowl Habitat 1971 ('the Ramsar Convention)
- Convention on the Conservation of European Wildlife and Natural Habitats 1979 ('the Bern Convention)
- UNESCO convention on the protection of the World Cultural and Natural Heritage (1972)

National

- The Conservation of Habitats and Species Regulations 2017 (as amended)
- The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019
- The Wildlife and Countryside Act 1981 (as amended)

- Environment (Wales) Act 2016
- The Environment Act 2021
- Countryside and Rights of Way Act 2000
- Protection of Badgers Act 1992
- Hedgerow Regulations 1997
- Natural Environment and Rural Communities (NERC) Act 2006

Planning Policy

6.2.5. The applicable national planning policy of relevance to ecology matters includes:

- Future Wales: The National Plan 2040 - Policy 9 of Future Wales is concerned with resilient ecological networks and green infrastructure.
- Planning Policy Wales - Section 6 of Planning Policy Wales is concerned with distinctive and natural places, with Section 6.4 focusing on Biodiversity and Ecological Networks. Section 6.4.5 concerns the Biodiversity and Resilience of Ecosystems Duty. This is supplemented by Technical Advice Note 5: Nature Conservation and Planning described in the relevant section below.

6.2.6. The following local policies contained within the Monmouthshire Local Development Plan (LDP) 2011 to 2021 are considered of relevance to the assessment:

- Policy S13 – Landscape, Green Infrastructure and the Natural Environment
- Policy NE1 – Nature Conservation and Development
- Policy EP2 – Protection of Water Sources and the Water Environment

Guidance

6.2.7. The applicable guidance includes:

- *Technical Advice Notes* - Technical Advice Note (TAN) 5: Nature Conservation and Planning provides advice as to how the planning system should contribute to the protection and enhancement of biodiversity.
- *Monmouthshire Supplementary Planning Guidance* – Green Infrastructure (2015)

Scope and Methodology of Assessment

Determining Importance

6.2.8. Relevant legislation, policy and guidance will be referenced to determine the importance of ecological and ornithological receptors.

6.2.9. In addition, importance will also be determined using professional judgement and taking account of the results of baseline field and desk study findings and the functional role of features within the context of the geographical area.

6.2.10. It should be noted that importance does not necessarily relate to the level of legal protection that a receptor receives, and receptors may be important for a variety of reasons, such as their connectivity to a designated site, rarity or the geographical location of species relative to their known range.

6.2.11. For the purposes of the assessment, the importance (or sensitivity) of an ecological or ornithological receptor will be considered within the context of a defined geographical area, ranging from International to Site, as detailed in **Table 1.8**.

Table 1.8: Ecological and Ornithological Importance

Importance	Definition
International	An internationally designated site (Special Protection Areas (SPA), Special Areas of Conservation (SAC) and/ or Ramsar sites) or proposed / candidate site (pSPA or cSAC). Large area of a habitat listed in Annex I of the Habitats Directive or smaller areas of such habitat which are essential to maintain the viability of the larger whole. A regularly occurring, nationally significant population of an internationally important species or site supporting such a species (or supplying a critical element of their habitat requirement) or species listed in Annex IV of the Habitats Directive
National (UK)	A nationally designated site (e.g. Site of Special Scientific Interest) or a discrete area which meets the selection criteria for national designation. An area of a priority habitat listed under Section 7of the Environment (Wales) 2016 or which constitutes a significant proportion of the UK resource of that habitat. A regularly occurring, regionally significant population of any nationally important species listed as a UK BAP / Biodiversity List and priority species listed under Section 7 of the Environment (Wales) Act 2016, and Species listed under Schedule 1 or Schedule 5 of the Wildlife and Countryside Act or Annex II or Annex IV of the Habitats Directive.
County (Monmouthshire, Torafen and Newport)	Locally designated sites (Local Nature Reserves, Sites of Importance for Nature Conservation - SINCs). Areas of priority habitat which constitutes a significant proportion of the County's resource of that habitat.

	A regularly occurring, locally significant population of any nationally important species listed as a UK BAP / priority species and priority species listed under Section 7 of the Environment (Wales) Act 2016, and Species listed under Schedule 5 of the Wildlife and Countryside Act or Annex II or Annex IV of the Habitats Directive.
Local	Local area around the Proposed Development. For example, areas of priority habitat which are not large enough to meet the criteria for County value, or small but sustainable populations of a protected or notable species
Site	Considered within the context of the Proposed Development Site only.

Characterising Impacts

6.2.12. Once identified, potential effects will be described making reference to the following characteristics as appropriate: positive or negative, extent, magnitude, duration, timing, frequency, and reversibility. The assessment also identifies areas where no change is anticipated, and the resulting effect is described as 'not discernible' or 'none'.

6.2.13. The assessment will only make references to those characteristics relevant to understanding the nature of an effect and determining its significance.

6.2.14. For the purpose of the assessment, the temporal nature of potential effects will be described as follows:

- Short-term effects are defined as 0-3 years;
- Medium terms effects are defined as 3-15 years; and
- Long term effects are defined as > 15 years.

6.2.15. The magnitude of change on ecological receptors will be described as set out in **Table 1.9** The likelihood or probability that an effect will occur is addressed as far as possible based on available information. Whilst it is reasonably straightforward to identify effects that are certain to occur, or conversely will not occur, it is generally more difficult to assign a quantified level to occurrences defined as likely, unlikely or highly unlikely. In these circumstances, professional judgement has been used, with reasoning supported by available evidence.

Table 1.9: Magnitude of Change

Magnitude	Definition
High	The change may negatively or positively affect the conservation status of a site or species population, in terms of the coherence of its ecological

	structure and function, that sustains the habitat, complex of habitats and/or the population levels of species of interest.
Moderate	Conservation status of a site or species population will not be negatively or positively affected, but some element of the functioning of the site or population might be affected and the change to the site / population is likely to be significant in terms of its ability to sustain some part of itself in the long term.
Low	Neither of the above applies, but some minor negative or positive change is evident on a temporary basis, or the change affects extent of habitat or individuals of a species abundant in the local area.
Negligible	No observable effect in either direction.

Determining Significance

6.2.16. The EIA Regulations require the description of the 'likely significant environmental effects of the Proposed Development on the environment' (Regulation 18(3)(b)).

6.2.17. To determine the overall significance of each effect, judgements on the importance of the receptor(s) and the magnitude of impact from the Proposed Development will be considered together to determine whether or not an effect is likely to be significant. This involves a combination of quantitative and qualitative assessment and the application of professional judgement.

6.2.18. For the purposes of the assessment, effects will be categorised as significant or not significant in line with the EIA Regulations. The assessment will consider effects at different geographic scales i.e. where effects may be discernible at a local scale but are not considered significant in the context of the EIA Regulations. For the purpose of the assessment, moderate and major effects will be deemed to be 'significant' in EIA terms unless stated otherwise.

6.2.19. A 'significant effect' is considered to be an effect that either supports or undermines biodiversity conservation objectives for 'important ecological features' or for biodiversity in general.

6.2.20. CIEEM guidelines on ecological impact assessment note that:

'A significant effect does not necessarily equate to an effect so severe that consent for the project should be refused planning permission. For example, many projects with significant negative ecological effects can be lawfully permitted following EIA procedures.'

For ease of reference **Table 1.10** below sets out adapted CIEEM terminology which also shows the equivalent EIA terms as used within this chapter.

Table 1.10: EIA Regulations and CIEEM Terminology

Effect	Significance	CIEEM Definition
Major or Moderate beneficial	Significant	Positive effect on ecological integrity or conservation status at a County, National or International geographic scale
Minor Beneficial	Not significant	Positive effect on ecological integrity or conservation status, discernible/significant in ecological terms at a Local geographic scale only
Negligible or Neutral	Not significant or neutral	No discernible or significant on ecological integrity or conservation status (e.g. species or habitat).
Minor Adverse	Not significant	Adverse effect on ecological integrity or conservation status, discernible / significant in ecological terms at a Local geographic scale only.
Moderate or Major Adverse	Significant	Adverse effect on ecological integrity or conservation status at a County, National or International geographic scale.

Potential Effects (including identification of specific receptors)

Construction and Decommissioning

6.2.21. Potential construction phase ecological effects associated with the Proposed Development are considered to relate to:

- Direct land take (habitat loss) to accommodate the Proposed Development;
- Temporary disturbance and land take for laydown areas and construction compounds;
- Disturbance to, fragmentation or severance of connecting habitat or potential commuting routes within and adjacent to the site; and

- Disturbance and pollution (indirect effects such as noise and vibration, dust, pollution from surface water run-off) resulting from site clearance and construction, plant and vehicles movements and site workers' activities.

- Impacts to ecological receptors associated with decommissioning are considered commensurate with those experienced during construction.

Operation

6.2.22. Operational phase effects are defined as effects following the construction of the Proposed Development. Operational phase effects generally relate to disturbance of habitats or species, on either a temporary or permanent basis. Some effects may reduce with habituation or remain for the lifetime of the Proposed Development.

6.2.23. Emerging evidence suggests that the presence of solar arrays may affect the behaviour of some ecological receptors, including foraging and commuting bat species. Additionally, the presence of solar development can preclude nesting of some ground nesting bird species which favour open spaces, such as skylark and lapwing.

6.2.24. There are no additional operational effects relating to land take or habitat loss other than those already addressed in the construction phase.

6.2.25. When managed appropriately, solar farms can contribute positively to biodiversity through the creation of high value, undisturbed habitats including species rich grassland.

6.2.26. Human disturbance from operation of the Proposed Development is not anticipated to be any greater than current levels of agricultural and recreational activity.

Mitigation Measures

6.2.27. Mitigation and enhancement measures will follow the mitigation hierarchy and Planning Policy Wales Step-Wise Approach, whereby impacts will first be avoided through the design of the Proposed Development, and where this is not possible impacts will be reduced, mitigated and as a last resort and residual impact compensated for. The scheme will also commit to overall ecological enhancement (net biodiversity benefit (NBB)) as required by Planning Policy Wales.

6.2.28. There are four sequential steps that must be taken throughout the lifecycle of a project where there is potential for impacts on relevant ecological receptors:

- Avoidance – actions taken to avoid causing impacts to the environment prior to beginning development (for example, moving the development to a different location);

- Minimisation – measures taken to reduce the duration, intensity, extent and/or likelihood of the unavoidable environmental impacts caused by development (for example, adapting the development design to minimise impacts);

- Restoration or rehabilitation – actions taken to repair environmental degradation or damage following unavoidable impacts caused by development; and

- Offsets – measures taken to compensate for any adverse environmental impacts caused by development which cannot be avoided, minimised and/or restored (e.g., including habitat creation to offset losses).

6.2.29. The Scheme's design evolution will seek to avoid areas of significant biodiversity value, such as field boundary hedgerows and ditch networks. Habitat enhancement measures and ongoing management practices will be proposed in line with guidance published by the Building Research Establishment (Biodiversity Guidance for Solar Developments[5]) ('the BRE Guidance') that will enhance and safeguard key habitats for the benefit of wildlife and enhance the ecological value of land currently under agricultural use.

6.2.30. The BRE guidance states that:

'with appropriate land management, solar farms have the potential to support wildlife and contribute to national biodiversity targets. Indeed, solar farms may have several additional advantages in that they are secure sites with little disturbance from humans and machinery once construction is complete. Recent research suggests biodiversity gains on solar farms can be significant'

Embedded Mitigation

6.2.31. The following measures will be considered as embedded mitigation and incorporated into the design of the Proposed Development to avoid and protect important ecological features, so far as is achievable:

- Species-specific buffer zones will be adopted where possible (e.g. around badger setts), further detailed information will be provided within the ES chapter;
- A minimum buffer of 6m around watercourses and ditches will be applied, which all elements of the Scheme will avoid, where possible, with the exception of access tracks;
- A minimum buffer of 6m around hedgerow / field boundaries will be applied, which all elements of the Scheme will avoid, where possible, with the exception of access tracks;
- Any removal of hedgerows will be limited to the creation of localised access points only, where new access points are required, they are not expected to be of a width greater than 10m, but this would be subject to further design;
- Impacts to ditches will be restricted to localised crossings only, to consist of bailey bridges or culverting, where possible existing ditch crossings will be used;
- Root protection areas in line with BS:3857 will be adhered to, where possible;
- Design will be sensitive to ecologically valuable habitats including ancient and veteran trees and woodlands, and these will be avoided so far as practicable;

[5] BRE (2014) Biodiversity Guidance for Solar Developments. Eds G E Parker and L Greene

- There will be no permanent new lighting of boundary features (hedgerows and ditches); and

- New watercourse / ditch crossings will be minimised and sensitively designed to allow the continued movement of wildlife along the watercourse.

6.2.32. The ES will include as a minimum an outline Construction Environmental Management Plan (oCEMP) which details the above measures. The oCEMP will describe measures to be implemented during the construction process and may, for example, include commitments to Species Protection Plans, Reasonable Avoidance Measures (RAMs), pre-construction surveys and appropriate derogation licenses as well as pollution (including dust) control, managed construction lighting and noise / traffic management measures.

Residual Effects

6.2.33. An assessment to determine the significance of residual ecological effects (those remaining after the implementation of additional mitigation measures) will be undertaken.

Compensation

6.2.34. Where significant residual effects still remain, compensation will be provided. This could include replacement habitat, or habitat improvements which would offset potentially significant residual effects.

Enhancement

6.2.35. The ES chapter will provide commitments for long-term management of the land for the duration of the project to conserve and improve landscape habitat connectivity with the wider landscape for wildlife through protecting and enhancing potentially important wildlife corridors and habitats. This will contribute to the establishment of coherent ecological networks.

6.2.36. An outline Biodiversity Management Plan (oBMP) or similar will be produced as part of the ES. The oBMP will be designed to ensure delivery of the scheme's habitat enhancement strategy and delivery of NBB in accordance with the requirements of the Environment Act Wales/Planning Policy Wales, and having regard to corresponding local policy

Preliminary Ecology Baseline

Overview

6.2.37. Baseline information in relation to ecological features which may be affected by the Scheme has been / will be collected through desk study and ecological field surveys.

6.2.38. Full details of baseline studies, field surveys and any consultation will be provided within the ES. Desk study and survey data available to date is summarised in this section.

Desk Study

6.2.39. A review of MAGIC [6] was undertaken to identify statutory designated sites for nature conservation within 2km of the Site, extending to 10km for internationally designated sites.

6.2.40. A data request was submitted to South-East Wales Biodiversity Records Centre (SEWBReC) in 2025 to obtain information relating to non-statutory designated sites for nature conservation and protected and notable species within 2km of the site central grid reference of each of the array areas.

6.2.41. DataMapWales [7] was further reviewed for information relating to protected and notable habitats and species within 2km of the Site, including the following data sources:

- Priority Habitats (also known as Habitats of Principal Importance); and,
- Ancient Woodland.

6.2.42. The Ancient Tree Inventory (ATI) [8] was also consulted for existing records of ancient or veteran trees.

6.2.43. Desk study results are presented for each ecological receptor in the relevant sections.

6.2.44. If required, the Desk Study will be updated prior to submission of the ES, to ensure the above study areas account for any future iterations of the Proposed Development boundary.

Surveys Undertaken

6.2.45. The ecology surveys which have been completed to date, or are ongoing, are listed below:

- Great crested newt (GCN) habitat suitability assessments and eDNA (June 2023 and June 2025)
- Breeding bird (April-June 2023 and April-July 2025)
- Wintering (non-breeding) birds (January -February 2025, further surveys September-December 2025)
- Seasonal bat activity surveys, transects and static bat detector monitoring (May-September 2025)
- Water vole and otter; targeted crossing points and watercourse extents which are hydrologically connected to Sites of Importance for Nature Conservation (SINC) only (June-Sept 2025)
- Badger survey, including camera trapping of identified potential setts (2025)
- UKHabitat Classification surveys of the red line boundary (April-May 2025)

[6] *https://magic.defra.gov.uk/MagicMap.aspx*
[7] *https://datamap.gov.wales/*
[8] Ancient Tree Inventory - Woodland Trust

6.2.46. In addition to the above, the following surveys are planned to be undertaken prior to submission:

- CHEGD fungi eDNA surveys (October 2025)

Statutory Designated Sites for Nature Conservation

6.2.47. The desk study identified the following designated sites for nature conservation within 10km of the Site, as detailed in **Table 1.11**.

Table 1.11 - Sites designated for their international or national importance for nature conservation within 1om of the Site (SAC = Special Area of Conservation, SPA = Special protection Area, SSSI = Site of Special Scientific Interest)

Site	Designation(s)	Distance from Site	Reason for Designation (habitat / botanical)
River Usk / Afon Wysg	Special Area of Conservation (SAC)	1.4 km	Annex I habitats that are a primary reason for selection of this site • 3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation
River Usk (Lower Usk) / Afon Wysg (Wysg Isaf)	Site of Special Scientific Interest (SSSI)	1.4 km	The Usk is of special interest as a fine example of a river running over sandstones and for its associated plant and animal communities. Its character spans a wide range of types from an upland, base-poor stream to a large lowland river with extensive tidal reaches.
Langstone-llanmartin Meadows	SSSI	4.9 km	Two unimproved wet meadows located in the same hydrological unit which are the remnants of a formerly more extensive low lying area of meadow and fen. Together they exemplify a wide range of mesotrophic grassland and wetland community types.
Henllys Bog	SSSI	5. 8km	This small fen with a ground flora rich in plant species lies in pastoral lowlands at the eastern part of the coalfield uplands. It is the only site in the County for marsh helleborine Epipactis palustris

Gwent Levels – Nash and Goldcliff	SSSI	5.8 km	The Gwent Levels an example of one of the most extensive areas of reclaimed wet pasture in Great Britain and is the largest area of its kind in Wales. The Gwent Levels reens are rich in plant species and communities, many of which are rare or absent in other Levels systems.
Parc Seymour Woods	SSSI	6.7 km	Area of coppiced sessile oak woodland, overlying Upper Old Red Sandstone and Quartz Conglomerate rocks, is the last major relict of the formerly extensive ancient woodland of Wentwood Forest.
Gwent Levels - Redwick And Llandevenny	SSSI	7.5 km	The Gwent Levels are an example of one of the most extensive areas of reclaimed wet pasture in Great Britain and is the largest area of its kind in Wales. The Gwent Levels reens are rich in plant species and communities, many of which are rare or absent in other Levels systems.
Gwent Levels Whiston	SSSI	7.8 km	They are an example of one of the most extensive areas of reclaimed wet pasture in Great Britain and is the largest area of its kind in Wales. The Gwent Levels reens are rich in plant species and communities, many of which are rare or absent in other Levels systems.
Cwrt Y Bela A Springdale	SSSI	7.8 km	Neutral grassland
Gwent Levels – St. Brides	SSSI	7.8 km	The Gwent Levels are an example of one of the most extensive areas of reclaimed wet pasture in Great Britain and is the largest area of its kind in Wales. The Gwent Levels reens are rich in plant species and communities, many of which are rare or absent in other Levels systems.

Penhow Woodlands	SSSI and National Nature Reserve (NNR)	8.0 km	Two areas of ancient semi-natural woodland. The structure is a mixture of high forest, coppice and coppice-with-standards comprising a range of woodland types, several of which have a restricted distribution in Britain.
Severn Estuary	SAC	8.5 km	Annex I habitats that are a primary reason for selection of this site • 1130 Estuaries • 1140 Mudflats and sandflats not covered by seawater at low tide • 1330 Atlantic salt meadows • Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site • 1110 Sandbanks which are slightly covered by sea water all the time • 1170 Reefs
Severn Estuary	SPA	8.5 km	The SPA is designated for wintering birds including Bewick's swan, dunlin, gadwall, greater white-fronted goose, redshank and shelduck. The site is also designated for is overall waterbird assemblage.
Severn Estuary	Ramsar site	8.5 km	The Ramsar site supports an important bird assemblage, including internationally important numbers of species including Bewick's swan, greater white-fronted goose, common shelduck, gadwall, redshank and dunlin,
Gwlyptiroedd Casnewydd / Newport Wetlands	SSSI and NNR	8.9 km	This site is of special interest for aquatic and marginal flora, also of special interest are the ditch habitat and reedbeds.

Non-Statutory Designated Sites for Nature Conservation

6.2.48. SEWBReC have returned records of forty-four Sites of Importance for Nature Conservation (SINCs) within 2km of the Site. The closest SINC to the Site is the Ponthir Sewage Works which is located immediately adjacent to the Site boundary to the south-east. This SINC comprises a mosaic of habitats comprising; lowland grassland, woodland, open standing water, wetland, scrub and young trees backing on to the Afon Llwyd.

Ancient Woodland and Ancient/Veteran Trees

6.2.49. An area of Ancient Woodland totalling approximately 0.75ha is located within the Site on the eastern boundary. Additional areas of Ancient Woodland border the site boundary.

6.2.50. The desk study did not identify any ancient or veteran trees within the Site; however, they are present in the wider Study Area.

Habitats of Principal Importance (HPIs)

6.2.51. A review of DataMapWales indicates lowland mixed deciduous woodland priority habitat is located within and adjacent to the Site.

6.2.52. No other priority habitats were identified within the Site from the desk study, however hedgerows within the Site also conform to the priority habitat description. The Afon Lwyd also runs adjacent to the south-eastern Site boundary.

6.2.53. Within the wider Study Area, the following priority HPIs are also present: Coastal and floodplain grazing marsh, traditional orchard and lowland meadows.

Extended Habitat Survey

6.2.54. A walkover survey of the array areas was undertaken in April/May 2025 broadly following the UK Habitat Classification [9] (UKHab) Version 2 methodology, further extended to record additional information relating to ecological receptors (e.g., field signs indicating presence of a protected species).

6.2.55. The Site is primarily located within fields of modified and neutral grassland with rotational cattle grazing recorded. Hedgerow networks and some pockets of woodland form the field boundaries throughout. Watercourses and ditch networks predominantly follow hedgerows and woodland edges throughout with connectivity to the Afon Lwyd to the South of the Site. Habitats recorded within the site include:

- c1d-Non-cereal crops
- g1c-Bracken
- g3-Neutral grassland
- g3.100-Neutral grassland; Grazed
- g3c-Other neutral grassland
- g3c.10-Other neutral grassland; Scattered scrub
- g3c.106-Other neutral grassland; Mown
- g3c.14-Other neutral grassland; Scattered rushes

[9] *https://www.ukhab.org/*

- g3c.524-Other neutral grassland; Invasive non-native species
- g3c8-Holcus-Juncus neutral grassland
- g3c8.14-Holcus-Juncus neutral grassland; Scattered rushes
- g3c8.502-Holcus-Juncus neutral grassland; Seasonally wet
- g4-Modified grassland
- g4.100-Modified grassland; Grazed
- h3a-Blackthorn scrub
- h3d-Bramble scrub
- h3d.12-Bramble scrub; Scattered bracken
- h3h-Mixed scrub
- u1b-Developed land; sealed surface
- u1b5-Buildings
- u1c-Artificial unvegetated, unsealed surface
- u1c.839-Artificial unvegetated, unsealed surface; Track
- w1d-Wet woodland
- w1f-Lowland mixed deciduous woodland
- w1g-Other broadleaved woodland
- w1g.30-Other broadleaved woodland; Semi-natural woodland

Breeding Birds

6.2.56. The desk study returned records of a variety of bird species within 2km of the site including peregrine, hobby, kestrel, red kite, lapwing, skylark and barn owl.

6.2.57. Breeding bird surveys were completed in both 2023 and 2025. Six survey visits were undertaken between April and June 2023, with a further six visits between April and July 2025. A transect route was walked around the array areas, stopping at intervals to scan for target species with binoculars, within the Site and on surrounding land. All breeding bird activity was recorded and mapped. Surveys were undertaken during favourable weather conditions, avoiding periods of prolonged heavy rain and strong winds.

6.2.58. The survey methodology during the 2023 surveys was based on the standard Common Bird Census (CBC) methodology (Bibby et al. 2000)[10]. In 2025, the survey methodology was based on guidance from the Bird Survey & Assessment Steering Group (2023). All bird registrations were recorded on suitably scaled field maps using standard British Trust for Ornithology (BTO) species codes and behaviour notations. The approximate locations of bird territories were determined using standard territory mapping techniques to identify and isolate areas within which birds consistently displayed breeding behaviours. Only the breeding territories of notable species are mapped given these are the most relevant species to this assessment. Notable species are defined as any species listed on any of the following:

- Scheule 1 of the Wildlife and Countryside Act;
- Birds of Conservation Concern 4 (BOCC4) Wales[11]; and
- Section 7 of Environment (Wales) Act 2016.

6.2.59. The breeding bird assemblage recorded within the Site during the surveys is characteristic of rural habitats in this region, including species listed under Schedule 1 of the Wildlife and Countryside Act (red kite, hobby and kingfisher) and species listed in the Environment (Wales) Act Section 7 (skylark).

6.2.60. Notable species activity was mostly associated with field boundaries such as hedgerows and woodland, with some ground-nesting species.

Non-Breeding Birds

6.2.61. The desk study returned records of non-breeding bird species including Canada goose and black-headed gull. Two records of a single white-fronted goose, a qualifying species of the Severn Estuary SPA/Ramsar, were returned approximately 350m from the Site boundary. Records of other SPA/Ramsar species included dunlin, redshank and common shelduck were also returned, however these were all over 2km from the Site boundary.

6.2.62. A non-breeding (wintering) bird survey was undertaken in early 2025 with two survey visits per month in January, February and March. The surveys encompassed the array areas and land up to 600m, where accessible. Additional survey visits are planned between September and December 2025.

6.2.63. Each survey comprised a 'walk-over' survey adopting the 'look-see' methodology (Gilbert et al. 1998)[12], observing each field using public rights of way (PRoWs) and roads and where possible, walking the boundaries and stopping at intervals and scanning the fields for Target Species, with binoculars. All Target Species heard or seen were recorded onto base maps. The number of Secondary Species was tallied during the survey, although no attempt to map

[10] *Bibby, C.J., Burgess, N.D., Hill, D.A., and Mustoe, S.H. (2000). Bird Census Techniques, 2nd ed. Academic Press, London.*

[11] *Johnstone, I.G., Hughes, J., Balmer, D.E., Brenchley, A., Facey, R.J., Lindley, P.J., Noble, D.G. & Taylor, R.C. (2022) Birds of Conservation Concern Wales 4: the population status of birds in Wales*

[12] *Gilbert, G., Gibbons, D.W., & Evans, J. (1998) Bird Monitoring Methods: A Manual of Techniques for UK Key Species. The Royal Society for the protection of Birds, Sandy, Bedfordshire, England.*

these species was made. Target species are defined as Annex 1/Schedule 1 raptors and Birds of Conservation Concern 4**Error! Bookmark not defined.**

6.2.64. The non-breeding bird assemblage recorded within the Site during the winter surveys include Schedule 1 species (red kite and peregrine) and Section 7 species (skylark, herring gull etc.). No qualifying species of the Severn Estuary SPA/Ramsar have been recorded within the Site during the non-breeding bird surveys completed to date.

Amphibians

6.2.65. Three records of great crested newt were returned from the desk study; however, these records are over 3km from the Site boundary. Records of common amphibian species including palmate newt, smooth newt, common frog and common toad were also returned.

6.2.66. A total of 26 ponds were identified within the Site and within 250m of the Site boundary.

6.2.67. Ponds (where accessible) were subject to great crested newt surveys in June 2023 and June 2025. Ponds subject to survey were assessed for their suitability to support GCN using the Habitat Suitability Index (HSI) Assessment methodology as developed by Oldham et al. (2000)[13] and as detailed within ARG UK guidance (ARG UK, 2010)[14].

6.2.68. Where suitable for GCN (i.e., holding water), ponds were also subject to environmental DNA (eDNA) survey sampling to determine the presence or likely absence of GCN. The protocol for sampling followed that outlined within the technical advice note for field and laboratory sampling of great crested newts (Biggs et al., 2014)[15], which required the collection of 20 x 30ml subsamples from each pond, spaced as evenly as possible around the pond margin. Samples were then sent to SureScreen Scientifics for laboratory analysis. Four ponds were accessible and suitable for eDNA survey in both 2023 and 2025.

6.2.69. All eDNA survey results in both 2023 and 2025 were negative for great crested newt.

Reptiles

6.2.70. The desk study returned no records of reptiles from within the Site, however both grass snake and slow worm have been recorded within 2km of the Site boundary.

6.2.71. Agricultural land that dominates the Site provides suboptimal habitat for reptiles, with more suitable areas, including potential refuge sites, at field boundaries.

Badger

[13] *Oldham, R. S., Keeble, J., Swan, M. J. S. & Jeffcote, M. (2000) Evaluating the suitability of habitat for the great crested newt. The Herpetological Journal Vol 10 No. 4.*

[14] *https://www.arguk.org/info-advice/advice-notes/9-great-crested-newt-habitat-suitability-index-arg-advice-note-5/file*

[15] *Biggs, J., Ewald, N., Valentini, A., Gaboriaud, C., Griffiths, R. A., Foster, J., Wiilkinson, J., Arnett, A., Williams, P., & Dunn, F. (2014). Analytical And Methodological Development for Improved Surveillance of the Great Crested Newt. Defra Project WC1067 Appendix 5. Oxford: Freshwater Habitats Trust*

6.2.72. The desk study returned a number of records of badger, including setts. The closest of these was an outlier sett located approximately 500m from the Site boundary.

6.2.73. An initial badger survey of the site searching for badger fields (setts, latrines, footprints etc.) was completed as part of the extended habitat survey in April/May 2025. Habitats on site were found to have suitability for both badger sett creation and badger foraging. Evidence of badger activity, including a potential setts were identified during these surveys. Camera trap surveys of the potential setts were undertaken in 2025.

Bats

6.2.74. The desk study returned records of roosting and foraging bat species including common and soprano pipistrelle, noctule, Daubneton's, naterrer's, whiskered, brown long-eared and lesser horsehoe.

6.2.75. Night-time Bat Walkover (NBW) surveys (aka walked transects) were completed in May (Spring) and July (Summer) 2025, with a further survey scheduled for September (Autumn) 2025. NBWs were undertaken in accordance with Bat Conservation Trust guidance (Collins et al. 2023)[16]. Walked transects covered field boundary habitats in each of the array areas.

6.2.76. The walked transects have been supplemented by data collected using automated static detectors deployed for a minimum of five nights each season. The static detectors were deployed in May and July 2025, with surveys scheduled to continue in September 2025.

6.2.77. During the extended habitat survey, it was noted that there are trees within the Site boundary which have suitability as roosting sites for bats. Habitats within the Site are also suitable for a range of foraging and commuting bat species. Species recorded to date during NBW and static monitoring include common and soprano pipistrelle, noctule, brown long eared, *myotis* sp. and lesser horseshoe bats. Additionally, several trees within the Site offer features suitable for roosting bats.

6.2.78. Baseline surveys are ongoing in 2025 with detailed analysis to be undertaken following completion.

Otter

6.2.79. The desk study returned a number of records of otters, including field signs such as spraints and potential holts. No records are from within the Site, with the closest being located approximately 1km distant from the Site boundary.

6.2.80. Watercourses and ditches within the site were assessed as having suitability for otter during the extended habitat survey. Targeted otter surveys of crossing points were undertaken in June 2025. Otter surveys followed the methodology as detailed in Monitoring the Otter (Chanin, 2003[17]). No evidence of otter was identified during the surveys. Completion of the otter surveys is scheduled for September 2025.

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[16] *Collins, J. (ed.) (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edn). The Bat Conservation Trust, London.*

[17] *Chanin P (2003). Monitoring the Otter Lutra lutra. Conserving Natura 2000 Rivers Monitoring Series No. 10, English Nature, Peterborough.*

Water Vole

6.2.81. The desk study did not return any records of water vole from within the Site; however, records of this species do exist within 2km of the Site boundary.

6.2.82. Watercourses and ditches within the site were assessed as having suitability for water vole during the extended habitat survey. Targeted water vole surveys of crossing points were undertaken in June 2025. Water vole surveys followed the methodology as detailed within the Water Vole Mitigation Handbook (Dean et al. 2016[18]). The surveys comprised a habitat suitability assessment and a thorough bankside searches for field signs. Signs include burrows, droppings, tracks, feeding remains, paths etc. No evidence of water vole was identified during the surveys. Completion of the otter surveys is scheduled for September 2025.

Hazel Dormouse

6.2.83. The desk study did not return any records of hazel dormouse from within the Site; however, records exist in the area (although over 2 km from the Site boundary).

6.2.84. The extended habitat survey in 2025 highlighted that habitats within the Site, including hedgerows and woodlands, have suitability for hazel dormouse.

Invertebrates

6.2.85. The agricultural habitats present within the Site were assessed as having low intrinsic value for invertebrates during the extended habitat survey and it is considered likely to support an invertebrate assemblage of common and widespread species.

White-Clawed Crayfish

6.2.86. A small number of records of white-clawed crayfish were returned for watercourses in the vicinity of the Site including Candwr Brook, which lies adjacent to the Site boundary, and Dowlais Brook.

6.2.87. Watercourses within and adjacent to the Site were assessed as offering potentially suitable habitat for white-clawed crayfish during the extended habitat survey.

Fish and Eels

6.2.88. The desk study returned records of Atlantic salmon, brown trout, sea lamprey and European eel within 2km of the Site.

Watercourses adjacent to the Site were assessed as offering potentially suitable habitat for protected fish species. The tributaries of Candwr Brook could also support species such as brook lamprey.

Fungi

[18] *Dean, M., Strachan, R., Gow, D. and Andrews, R. (2016). The Water Vole Mitigation Handbook (Mammal Society Mitigation Guidance Series). Eds Fiona Mathews and Paul Chanin. Mammal Society, London.*

6.2.89. eDNA CHEDG fungal surveys of grassland areas have been recommended by the local planning authority as a result of proximity to SINCs with a diverse fungi assemblage, Llanfrechfa Grange.

6.2.90. An eDNA CHEGD fungal survey is scheduled to be completed in October 2025.

Ecological Receptors Scoped in/out of the Assessment

Overview

6.2.91. The ecological receptors to be scoped into the assessment will be reviewed as the project design evolves and as additional information is gathered from planned surveys. The below information presents the rationale for each ecological receptor to be scoped in or out of the ES based on the information gathered to date and professional opinion. Outcomes of the scoping assessment are summarised in **Table 1.12**

Designated Sites for Nature Conservation

6.2.92. The River Usk SAC and SSSI is located approximately 1.4 km south at the closest point. Candwr Brook lies adjacent to the Site, with two unnamed tributaries running through part of the site. Candr Brook connects to the Afon Lwyd, which connects into the River Usk. Whilst there is a risk to the SAC through changes in water quality, it is anticipated that these can be managed through appropriate stand-off from watercourses and adoption of standard good practice pollution control measures, including a Construction Environmental Management Plan (CEMP).

6.2.93. The Severn Estuary SPA/Ramsar site is located approximately 8.5km from the Site. Whilst no qualifying species of the designated sites have been recorded during the non-breeding bird surveys to date, these surveys do not cover a full season and therefore as a precaution impacts on the SPA/Ramsar site are **scoped in** to the ES. A Habitat Regulations Assessment will be undertaken.

6.2.94. The closest SINC to the Site is the Ponthir Sewage Works which is located immediately adjacent to the Site boundary to the south-east. An area of ancient woodland is also located within the Site boundary. Given the embedded avoidance and mitigation measures detailed above, included appropriate buffers and protection measures, significant impacts on non-statutory sites and ancient woodland are **scoped out** of detailed assessment in the ES.

Habitats of Principal Importance (HPIs)

6.2.95. Priority habitats are located within the Site, including woodland and hedgerows. While such habitat would largely be retained and protected through embedded avoidance and mitigation measures, minor impacts to hedgerows may be required to facilitate construction access and therefore following a precautionary approach HPIs are anticipated to be **scoped in** for detailed assessment in the ES for the construction phase of the Scheme.

6.2.96. No impacts are anticipated and therefore priority habitats are **scoped out** for operational phase impacts.

Other Habitats

6.2.97. Habitats within the Site are typically of low intrinsic value and significant impacts will be avoided through embedded design and mitigation measures. As a result, habitats are **scoped out** for detailed assessment in the ES for construction phase impacts.

6.2.98. Operational activity will be restricted to occasional maintenance which is likely to not exceed existing impact from farming activity. No impacts are anticipated and therefore on-site habitats are **scoped out** for operational phase impacts.

6.2.99. It is expected that embedded habitat creation and enhancement, as well as favourable management practices introduced for the lifetime of the Proposed Development would enhance the habitats within the Site, resulting in overall beneficial effects throughout operation.

Breeding Birds

6.2.100. Data collected thus far indicates that the breeding bird assemblage is likely to be of value at the Local level only and does not support large numbers of ground nesting species (e.g., skylark).

6.2.101. Taking into account the embedded retention of most hedgerows and boundary features within the Site, significant adverse impacts on breeding birds are not anticipated. However, as a precaution, breeding birds will be **scoped in** for detailed assessment in the ES for the construction phase, with a focus on ground-nesting species most likely to affected due to loss of suitable nesting habitat.

6.2.102. It is expected that embedded habitat creation and enhancement, as well as favourable management practices introduced for the lifetime of the Proposed Development would enhance the Site for the breeding bird assemblage as whole throughout operation.

6.2.103. Ground nesting birds in particular will continue to be displaced throughout the operational lifetime of the Scheme (i.e., until decommissioning). For species nesting within retained habitats, including hedgerows, any potential for operational impacts is limited to disturbance through maintenance visits, which is considered likely to be no more than existing agricultural management activities. Due to the continued displacement of ground nesting bird species operational impacts are therefore **scoped in**.

Non-breeding birds

6.2.104. Based on data collected to date, it appears that the Site supports only low numbers non-breeding bird species. However, given the proximity to the Severn Estuary SPA/Ramsar, and that surveys have not been fully completed, it is proposed that non-breeding birds are **scoped in** to the ES for construction impacts due to potential direct loss of functionally linked habitat and potential disturbance impacts.

6.2.105. Non-breeding birds will continue to be displaced throughout the operational lifetime of the Scheme (i.e., until decommissioning). Due to the continued displacement operational impacts are **scoped in** to the ES.

Roosting Bats

6.2.106. While trees offering bat roosting potential are located within the Site these will be retained and protected in line with embedded avoidance and mitigation measures. No buildings with bat roost potential are anticipated to be affected by the Proposed Development.

6.2.107. Due to the absence of direct or indirect impacts to suitable roost habitats during construction and operation, roosting bats are anticipated to be **scoped out** of detailed assessment in the ES.

6.2.108. Should future design iterations require impacts to trees or buildings and surveys confirm likely bat presence, the species would be scoped into the ES.

Foraging and Commuting Bats

6.2.109. A variety of bat species have been recorded foraging and commuting across the Site during the transect and static monitoring surveys undertaken to date. Important bat foraging and commuting features such as field boundary habitats would be retained and protected through embedded avoidance and mitigation measures, including 6m buffers around field boundary habitats.

6.2.110. Minor and localised removal of hedgerows may be required and taking into account emerging evidence regarding bat aversion to solar arrays[19], following a precautionary approach foraging and commuting bats will be **scoped in** to the ES for construction impacts.

6.2.111. It is acknowledged that the presence of solar PV panels may affect bat foraging and commuting habits during operation of the Scheme, and therefore bats are **scoped in** for this phase of development.

6.2.112. It is expected that embedded habitat creation and enhancement, as well as favourable management practices introduced for the lifetime of the Proposed Development would result in higher quality foraging habitat and so enhance the Site for foraging bats. It is however acknowledged that the presence of solar PV panels may affect bat foraging and commuting habits during operation of the Proposed Development, and therefore bats are scoped in for this phase of development.

Amphibians

6.2.113. No records of great crested newt presence was returned during eDNA survey in 2023 or 2025, however habitats within the Site are suitable for this species, and other common species of amphibian.

6.2.114. Agricultural land that dominates the Site provides suboptimal habitat for amphibians, with more suitable amphibian habitat such as field boundaries to largely be retained and protected throughout construction of the Proposed Development with suitable buffers implemented. Due to these embedded mitigation measures, and negative great crested newt survey results, amphibians will be **scoped out** of detailed assessment in the ES. Mitigation measures will be outlined within the ES to ensure legal compliance.

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[19] *Tinsley, E., Froidevaux, J. S. P., Zsebők, S., Szabadi, K. L., & Jones, G. (2023). Renewable energies and biodiversity: Impact of ground-mounted solar photovoltaic sites on bat activity. Journal of Applied Ecology, 60, 1752–1762. https://doi.org/10.1111/1365-2664.14474*

6.2.115. Although amphibians are proposed to be scoped out of the assessment, consideration will, however, be afforded to the provision of standard mitigation on these features, and this would be integrated into the oCEMP.

6.2.116. It is expected that embedded habitat creation and enhancement, as well as favourable management practices introduced for the lifetime of the Proposed Development would result in higher quality habitat for amphibians throughout operation.

Reptiles

6.2.117. Agricultural land that dominates the Site provides suboptimal habitat for reptiles, with more suitable reptile habitat such as field boundaries to largely be retained and protected throughout construction of the Scheme with suitable buffers implemented. Due to these embedded mitigation measures reptiles will be **scoped out** of detailed assessment in the ES. Mitigation measures will be outlined within the ES to ensure legal compliance.

6.2.118. Although reptiles are proposed to be scoped out of the assessment, consideration will, however, be afforded to the provision of standard mitigation on these features, and this would be integrated into the oCEMP.

6.2.119. It is expected that embedded habitat creation and enhancement, as well as favourable management practices introduced for the lifetime of the Proposed Development would result in higher quality habitat for reptiles, if present within the Site and surrounding areas.

Badger

6.2.120. Badgers are a common and widespread species at both a local and national level, and while protected by law this is primarily due to welfare concerns. Therefore, while avoidance and mitigation measures will be implemented to ensure compliance with legal requirements, impacts to badger will be **scoped out** of detailed assessment in the ES as any effect is not likely to be considered significant. Badger will be considered with regards to legislative compliance (mitigation).

6.2.121. Although badgers are proposed to be scoped out of the assessment due to their limited value, consideration will, however, be afforded to the provision of standard mitigation on these features, and this would be integrated into the oCEMP.

Otter

6.2.122. Suitable watercourses for otter are located within the Site; however, no evidence of this species was found during targeted surveys. Due to embedded avoidance and mitigation measures in place to protect watercourses and ditches within the Site, no impacts are anticipated on this species during construction or operation of the Scheme.

6.2.123. Otter are provisionally **scoped out** of the ES. Should additional targeted surveys in September 2025 confirm otter presence, and impacts are anticipated as a result of watercourse crossings, the species would then be scoped into the assessment.

6.2.124. Although otter are proposed to be scoped out of the assessment, consideration will, however, be afforded to the provision of standard mitigation on these features, and this would be integrated into the oCEMP.

Water Vole

6.2.125. Suitable watercourses/ditches for water vole are located within the Site; however, no evidence of this species was identified during targeted surveys. Due to embedded avoidance and mitigation measures in place to protect watercourses and ditches within the Site, no impacts are anticipated on this species during construction or operation of the Scheme.

6.2.126. Water voles are provisionally **scoped out** of the ES. Should additional targeted surveys in September 2025 confirm water vole presence, and impacts are anticipated as a result of watercourse crossings, the species would then be scoped into the assessment.

6.2.127. Although water vole are proposed to be scoped out of the assessment due to their limited value, consideration will, however, be afforded to the provision of standard mitigation on these features, and this would be integrated into the oCEMP.

Hazel Dormouse

6.2.128. Habitats within the Site have suitability for dormouse, however Important dormouse habitat features such as field boundary habitats would be retained and protected through embedded avoidance and mitigation measures, including 6m buffers around field boundary habitats. Given the embedded avoidance measures impacts to dormouse are proposed to be **scoped out** of detailed assessment in the ES.

6.2.129. Although dormouse are proposed to be scoped out of the assessment, consideration will, however, be afforded to the provision of standard mitigation on these features, and this would be integrated into the oCEMP.

6.2.130. It is expected that embedded habitat creation and enhancement, as well as favourable management practices introduced for the lifetime of the Proposed Development would result in higher quality habitat and so enhance the Site for dormouse.

Invertebrates

6.2.131. Given the agricultural habitats present, being both widespread and of low value to invertebrates, and taking into the account embedded design and mitigation measures including the implementation of buffer zones around the most suitable habitats (e.g., hedgerows, margins, ditches and woodland) it is currently anticipated that invertebrates will be **scoped out** of the ES.

6.2.132. It is expected that embedded habitat creation and enhancement, as well as favourable management practices introduced for the lifetime of the Proposed Development would result in higher quality habitat for a range of invertebrate species throughout operation.

White-Clawed Crayfish

6.2.133. A small number of records of white-clawed crayfish were returned for watercourses in the vicinity of the Site including Candwr Brook, which lies adjacent to the Site boundary. Due to embedded avoidance and mitigation measures in place to protect watercourses and ditches within the Site, no impacts are anticipated to this species during construction or operation of the Scheme. Impacts to white-clawed crayfish are proposed to be **scoped out** of detailed assessment in the ES.

6.2.134. Whilst there is a risk to watercourses/ditches through changes in water quality, it is anticipated that these can be managed through appropriate stand-off from watercourses/ditches and adoption of standard good practice pollution control measures, including a Construction Environmental Management Plan (CEMP).

Fish and Eels

6.2.135. Watercourses adjacent to the Site were assessed as offering potentially suitable habitat for protected fish species, however due to embedded avoidance and mitigation measures in place to protect watercourses and ditches within the Site, no impacts are anticipated on fish species during construction or operation of the Scheme. Impacts to fish species are proposed to be **scoped out** of detailed assessment in the ES.

6.2.136. Whilst there is a risk to watercourses/ditches through changes in water quality, it is anticipated that these can be managed through appropriate stand-off from watercourses/ditches and adoption of standard good practice pollution control measures, including a Construction Environmental Management Plan (CEMP).

Fungi

6.2.137. eDNA CHEDG fungal surveys of grassland areas have been recommended by the local planning authority as a result of proximity to SINCs with a diverse fungi assemblage, including Llanfrechfa Grange. Pending results of these surveys, fungi are provisionally **scoped in** to the ES. If survey results are negative, fungi will be scoped out.

Table 1.12: Summary of Assessment Scope

Topic	Con.	Oper.	Decom.	Summary of Rationale
Statutory Designated Sites (within 2 km of the Site)	Scoped Out	Scoped Out	Scoped Out	Scoped-out based on distance and adoption of standard good practice measures.
Statutory Designated Sites (with mobile qualifying criteria) located up to 10 km from the Site	Scoped In	Scoped In	Scoped In	Scoped-in on the basis that qualifying mobile species populations may utilise the Site or surrounding environs.
Statutory Designated Sites (without mobile qualifying criteria) located greater than 2 km from the Site	Scoped Out	Scoped Out	Scoped Out	Scoped-out due to lack of clear pathway for effects due to separation distance between Site and designation boundary.

Topic	Con.	Oper.	Decom.	Summary of Rationale
Non Statutory Designated Sites (within 1 km of the Site), including ancient woodland	Scoped Out	Scoped Out	Scoped Out	Scoped-out based on embedded design and good practice measures.
Impacts to Priority Habitats or otherwise of biodiversity importance/value	Scoped In	Scoped Out	Scoped In	Scoped-in as construction may lead to detrimental impacts on habitats through loss or damage during construction process. Operational impacts on habitats not considered likely to occur as activity will be limited to maintenance visits only.
Impacts to common and widespread habitats of low sensitivity and/or conservation interest	Scoped Out	Scoped Out	Scoped Out	Scoped-out due to low sensitivity of these predominantly farmland habitats. Embedded design to further protect habitats through implementation of buffers. Wildlife corridors will be maintained through embedded design.
Breeding Birds	Scoped In	Scoped In	Scoped In	Scoped-in for construction and decommissioning, as these may lead to adverse impacts on species' populations through habitat loss, or destruction of individual nesting sites. Embedded design (retention of hedgerows and ditches, which will also be buffered) will avoid and minimise impacts. Some species of breeding birds likely to benefit from habitat improvements. Scoped-in for operation as there will be continued displacement of ground nesting species from the site.
Wintering Birds	Scoped In	Scoped In	Scoped In	Construction and operational effects scoped-in due to the Site's proximity to statutory designated sites for ornithology (the Severn Estuary SPA and Ramsar) and the potential for the Site to be

Topic	Con.	Oper.	Decom.	Summary of Rationale
				functionally linked to such a designation.
Bats (roosting)	Scoped Out	Scoped Out	Scoped Out	Scoped-out due to embedded design and mitigation measures whereby suitable roosting sites (including buildings and trees) will be avoided. This will be reviewed as the design evolves.
Bats (foraging & commuting)	Scoped In	Scoped In	Scoped In	Scoped-in on a precautionary basis as Proposed Development design evolves. To be reviewed on design completion. Embedded design (retention of hedgerows and ditches, which will also be buffered) implemented to minimise impacts across most of the Site. Bats are likely to benefit from habitat improvements Scoped-in for operational impacts due to potential bat aversion to solar arrays.
Water vole and otter	Scoped Out	Scoped Out	Scoped Out	Scoped-out as impacts will be avoided through embedded design (watercourse and ditch buffers). Both species are likely to benefit from habitat improvements.
Badger	Scoped Out	Scoped Out	Scoped Out	Scoped-out due to embedded design and implementation of buffers. The potential for operational impacts is limited to disturbance through maintenance visits, which is considered likely to be no more than existing farming. Operational impacts are therefore scoped-out.
Reptiles	Scoped Out	Scoped Out	Scoped Out	Scoped-out due to embedded design and mitigation measures and no loss of extensive areas of high-quality habitat.

Topic	Con.	Oper.	Decom.	Summary of Rationale
				Precautionary avoidance measures will be included in the oCEMP.
Great crested newts	Scoped Out	Scoped Out	Scoped Out	Scoped-out due to embedded design and mitigation measures, and due to no evidence of this species during 2023 or 2025 surveys. Precautionary avoidance measures will be included in the oCEMP.
Other amphibians	Scoped Out	Scoped Out	Scoped Out	Scoped-out due to embedded design and mitigation measures. Precautionary avoidance measures will be included in the oCEMP.
Dormouse	Scoped Out	Scoped Out	Scoped Out	Scoped-out due to embedded design mitigation including buffering of suitable habitat such as woodland and hedgerows. Precautionary avoidance measures will be included in the oCEMP.
Invertebrates	Scoped Out	Scoped Out	Scoped Out	Scoped-out due to low intrinsic value of impacted habitats and embedded design buffers to higher value habitat at field boundaries. Some invertebrate species likely to benefit from habitat enhancements.
White-clawed crayfish	Scoped Out	Scoped Out	Scoped Out	Scoped-out due to embedded design and mitigation measures including establishment of appropriate buffers to watercourses and ditches and standard pollution control measures.
Fish and eels	Scoped Out	Scoped Out	Scoped Out	Scoped-out due to embedded design and mitigation measures including establishment of appropriate buffers to watercourses and ditches and standard pollution control measures.

Topic	Con.	Oper.	Decom.	Summary of Rationale
CHEGD fungi	Scoped In	Scoped Out	Scoped In	Scoped-in provisionally due to lack of survey information and potential significant impact to supporting habitats. If surveys are negative fungi will be scoped-out.

6.3. Chapter 7 - Glint and Glare

Introduction

6.3.1. This section of the Scoping Report sets out the approach to the assessment of possible effects of glint and glare from the solar photovoltaic (PV) panels of the proposed development upon road safety, residential amenity, and aviation activity. The justification to scope glint and glare in to the Environmental Impact Assessment is presented.

Surveys Undertaken

6.3.2. The assessment is desk-based. No site surveys have been undertaken or have been scheduled.

Relevant Policy and Guidance

6.3.3. There are no specific government guidelines setting out a particular methodological approach to delivering a glint and glare assessment. The glint and glare assessment will be carried out in accordance with the principles contained within the following policy and guidance.

Planning Policy

6.3.4. The applicable planning policy of relevance to glint and glare matters includes:

- National Policy Statement for Renewable Energy Infrastructure (EN-3)[20], January 2024;
- National Planning Policy Framework[21] (NPPF) 2023;
- The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017
- The Overarching National Policy Statement for Energy (EN-1) July 2011

Guidance

6.3.5. The applicable guidance includes:

- Guidance for Renewable and Low Carbon Energy (specifically regarding the consideration of solar farms, paragraph 013), 14 August 2023;
- UK Solar PV Strategy

6.3.6. Guidelines exist in the UK (produced by the CAA) with respect to solar developments and aviation activity. The UK CAA guidance is relatively high-level and does not prescribe a formal methodology. Pager Power has however produced guidance for glint and glare and solar photovoltaic developments, which was published in early 2017, with the fourth edition

[20] https://www.gov.uk/government/publications/national-policy-statement-for-renewable-energy-infrastructure-en-3

[21] https://assets.publishing.service.gov.uk/media/65829e99fc07f3000d8d4529/NPPF_December_2023.pdf

published in 2022[22]. This methodology defines a comprehensive process for determining the impact upon road safety, residential amenity and aviation activity.

6.3.7. Pager Power's approach is to undertake geometric reflection calculations and, where a solar reflection is predicted, consider the screening (existing and/or proposed) between the receptor and the reflecting solar panels. The scenario in which a solar reflection can occur for all receptors is then identified and discussed, and a comparison is made against the available solar panel reflection studies to determine the overall impact.

6.3.8. The available studies have measured the intensity of reflections from solar panels with respect to other naturally occurring and manmade surfaces. The results show that the reflections produced are of intensity similar to or less than those produced from still water and significantly less than reflections from glass and steel[23].

Preliminary Assessment of Baseline Conditions

Site Description and Context

6.3.9. The baseline context is presented with respect to possible glint and glare effects only. The Proposed Development is rurally located with:

- National, regional, and local roads located within 1km of the Site Area;
- A number of dwellings located within 1km of the Site Area;
- There are 3 unlicensed aerodromes located within 10km of the Site Area.
- There is a railway line that is greater than 500m away from the closest point of the Site Area.

Scope and Methodology of Assessment (including significance criteria)

Study Area

Roads and dwellings

6.3.10. There is no formal guidance with regard to the maximum distance at which glint and glare should be assessed. From a technical perspective, there is no maximum distance for potential reflections. The significance of a reflection, however, decreases with distance because the proportion of an observer's field of vision that is taken up by the reflecting area diminishes as the separation distance increases. Terrain and shielding by vegetation are also more likely to obstruct an observer's view at longer distances.

6.3.11. The above parameters and extensive experience over a significant number of glint and glare assessments undertaken show that consideration of receptors within 1km of panel areas is appropriate for glint and glare effects on roads and dwellings. The panels are fixed south facing and solar reflections at ground level towards the north at this latitude are highly

[22] Pager Power Glint and Glare Guidance, Fourth Edition, September 2022.

[23] SunPower, 2009, SunPower Solar Module Glare and Reflectance (appendix to Solargen Energy, 2010).

unlikely. It is likely that any receptors to the north of the Site will not be materially impacted and therefore, they will not be considered within the assessment.

6.3.12. Potential receptors are identified based on mapping and aerial photography of the region. The initial judgement is made based on a high-level consideration of aerial photography and mapping i.e. receptors are excluded if it is clear from the outset that no visibility would be possible. A more detailed assessment is made if the modelling reveals a reflection would be geometrically possible.

Aviation

6.3.13. Glint and glare analysis is often undertaken for solar developments that are near large aerodromes. The most common concerns are:

- Potential reflections towards an Air Traffic Control (ATC) tower.
- Potential reflections towards approaching pilots of powered aircraft for the final two miles of the approach.

6.3.14. With regard to Point 2, these reflections are typically evaluated in the context of:

- Whether they are in a pilot's primary horizontal field of view (50° either side of the direction of travel).
- The intensity of the solar reflection.

6.3.15. There is no formal distance within which aviation effects must be modelled. However, in practice, concerns are most often raised for developments within 10km of a licensed airport. Requests for modelling at ranges of 10-20km are far less common. Assessment of aviation effects for developments over 20km away is a very unusual requirement.

6.3.16. Therefore, any airfields or airports within 10 km of the solar panel boundary will be considered.

6.3.17. Park farm is an unlicensed airstrip 1.5km southwest of the proposed development, with one operational runway (Grass) which will be considered in the assessment.

6.3.18. Croes-Carn-Einion Farm is an unlicensed airstrip 9.88Km southwest of the Proposed Development, with one operational runway (Grass) which will be considered in the assessment.

6.3.19. Upfield Farm airstrip is an unlicensed airstrip 9.88Km south east of the Proposed Development, with one operational runway (Grass) which will be considered in the assessment.

Railway

6.3.20. Railway receptors within close proximity (typically within 100m to 200m) to a solar development are often required for assessment. When required, a 500m assessment area is considered appropriate and has been considered

6.3.21. Assessment Methodology

6.3.22. Pager Power's glint and glare assessment methodology has been derived from the information provided to Pager Power through consultation with stakeholders, assessment experience, and by reviewing the available guidance and studies. The methodology for ground-level and aviation glint and glare assessments is as follows:

- Identify the key receptors in the area surrounding the Proposed Development.
- Consider direct solar reflections from the Proposed Development towards the identified receptors by undertaking geometric calculations.
- Consider the visibility of the panels from the receptor's location. If the solar photovoltaic (PV) modules are not visible from the receptor then no reflection can occur.
- Based on the results of the geometric calculations, determine whether a reflection can occur, and if so, at what time it will occur.
- Consider both the solar reflection from the Proposed Development and the location of the direct sunlight with respect to the receptor's position.
- Consider the solar reflection with respect to the published studies and guidance - including intensity calculations where appropriate for aviation receptors.
- Determine whether a significant detrimental impact is expected in line with Pager Power's standard process and recommended methodology.

Significance Criteria

Road Receptors

6.3.23. The magnitude of effect upon road receptors is dependent on the following main factors:

- Whether a solar reflection is predicted to be experienced in practice; and
- The location of the reflecting panels relative to a road user's direction of travel – a solar reflection directly in front of a driver is more hazardous than a reflection from a location off to one side.

6.3.24. Road types can generally be categorised as:

- Major National – Typically a road with a minimum of two carriageways and a maximum speed limit of up to 70mph. These roads typically have fast moving vehicles with busy traffic;
- National – Typically a road with one or more carriageways and a maximum speed limit of up to 60mph or 70mph. These roads typically have fast moving vehicles with moderate to busy traffic density;

- Regional – Typically a single carriageway with a maximum speed limit of up to 60mph. The speed of vehicles will vary with a typical traffic density of low to moderate; and

- Local – Typically roads and lanes with the lowest traffic densities. Speed limits vary.

6.3.25. Local roads would be considered as 'Low' sensitivity and Regional, National, and Major National roads would be considered of 'Medium' sensitivity.

6.3.26. A 'Negligible' magnitude would occur if solar reflections were not geometrically possible or are not predicted to be experienced by a road user i.e. not visible due to screening.

6.3.27. A 'Low' magnitude would occur if the separation distance to the nearest visible reflecting panel is over 1km, solar reflections were experienced from outside a road user's primary horizontal field of view (50 degrees either side of the direction of travel), or from inside of a road user's primary horizontal field of view and deemed not significant following expert assessment of the following relevant factors:

- Whether visibility is likely for elevated drivers (applicable to dual carriageways and motorways only) – there is typically a higher density of elevated drivers (such as HGVs) along dual carriageways and motorways compared to other types of road;

- Whether the solar reflection originates from directly in front of a road user. Solar reflections that are directly in front of a road user are more hazardous;

- The separation distance to the panel area. Larger separation distances reduce the proportion of an observer's field of view that is affected by glare;

- Whether a solar reflection is fleeting in nature. Small gaps in screening, e.g. an access point to the site, may not result in a sustained reflection for a road user; and

- The position of the Sun. Effects that coincide with direct sunlight appear less prominent than those that do not. The Sun is a far more significant source of light.

6.3.28. A 'Medium' magnitude would occur if solar reflections were experienced from within a driver's primary horizontal field of view and there are not sufficient mitigating factors.

6.3.29. A 'High' magnitude would occur if solar reflections were experienced from directly in front of a road user's direction of travel with no mitigating factors.

6.3.30. For road receptor sensitivity, road infrastructure varies and therefore sensitivity can range from 'Low' to 'Medium'.

6.3.31. To determine the mitigation requirement, a general guidance is:

- A 'Major Adverse' effect would result in a requirement for mitigation; and

- A 'Moderate Adverse' effect would result in a recommendation for mitigation.

6.3.32. The flowchart for the determination of effect and the mitigation recommendation/requirement for road receptors can be found within the Glint and Glare Report

Dwelling Receptors

6.3.33. The magnitude of effect upon dwelling receptors is dependent on the following main factors:

- Whether a solar reflection is predicted to be experienced in practice; and
- The duration of the predicted effects, relative to thresholds of:

  -Three months per year; and

  -60 minutes per day.

6.3.34. A 'Negligible' magnitude would occur if solar reflections were not geometrically possible or are not predicted to be experienced by an observer in a dwelling i.e. not visible due to screening.

6.3.35. A 'Low' magnitude would occur if the separation distance to the nearest visible reflecting panel is over 1km, when a solar reflection would be experienced for less than three months per year and for less than 60 minutes on any given day, or experienced for more than three months per year and/or for more than 60 minutes any given day and deemed not significant following expert assessment of the following relevant factors:

- The separation distance to the panel area. Larger separation distances reduce the proportion of an observer's field of view that is affected by glare;
- The position of the Sun. Effects that coincide with direct sunlight appear less prominent than those that do not. The Sun is a far more significant source of light;
- Whether solar reflections will be experienced from all storeys. The ground floor is typically considered the main living space and therefore has a greater significance with respect to residential amenity; and
- Whether the dwelling appears to have windows facing the reflecting areas. An observer may need to look from a wide angle to observe the reflecting areas.

6.3.36. A 'Medium' magnitude would occur if solar reflections were experienced for more than three months per year and/or for more than 60 minutes on any given day and there are not sufficient mitigating factors.

6.3.37. A 'High' magnitude would occur if solar reflections were experienced for more than three months per year and for more than 60 minutes any given day and there are no mitigating factors.

6.3.38. For receptor sensitivity, dwellings are 'Medium' because they have a moderate capacity to absorb change without significantly affecting amenity.

6.3.39. To determine the mitigation requirement, the general magnitude of impact significance is:

- A 'Major Adverse' effect because of a 'High' magnitude would result in a requirement for mitigation; and

- A 'Moderate Adverse' effect because of a 'Medium' magnitude would result in a recommendation for mitigation.

Approach Path Receptors

6.3.40. The magnitude of effect upon a runway approach path is dependent on the following main factors:

- Whether a reflection is predicted to be experienced in practice;
- The location of glare relative to a pilot's primary field-of-view (50 degrees either side of the approach bearing);
- The intensity of glare for the solar reflections:
- Glare with 'low potential for temporary after-image' ('green' glare);
- Glare with 'potential for temporary after-image' ('yellow' glare); and
- Glare with 'potential for permanent eye damage' ('red' glare).
- Whether a reflection is predicted to be operationally significant in practice or not.

6.3.41. A 'Negligible' magnitude would occur if no solar reflections were geometrically possible or where solar reflections are predicted to be significantly screened.

6.3.42. A 'Low' magnitude would occur where solar reflections have an intensity no greater than 'low potential for temporary after-image' (green glare) or occur outside of a pilot's primary field-of-view (50 degrees either side of the approach bearing).

6.3.43. Glare with 'potential for a temporary after-image' (yellow glare) was formerly not permissible under the interim guidance provided by the Federal Aviation Administration in the USA[24] for on-airfield solar. Pager Power recommends a pragmatic approach whereby instances of 'yellow' glare are evaluated in a technical and operational context. Where solar reflections are of an intensity of 'potential for temporary after-image', expert assessment of the following relevant factors is required to determine the impact significance[25], further information can be found in Pager Power's glint and glare guidance document[26],

- The likely traffic volumes and level of safeguarding at the aerodrome – licensed aerodromes typically have higher traffic volumes and are formally safeguarded. Unlicensed aerodromes have greater capacity for operational acceptance;

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[24] This FAA guidance from 2013 has since been superseded by the FAA guidance in 2021 whereby airports are tasked with determining safety requirements themselves.

[25] This approach taken is reflective of the changes made in the 2021 FAA guidance; however, it should be noted that this guidance states that it is up to the airport to determine the safety requirements themselves. Therefore, an airport may not accept any glare towards an ATC Tower.

[26] Pager Power Glint and Glare Guidance, Fourth Edition, September 2022.

- The time of day at which glare is predicted and whether the aerodrome will be operational such that pilots can be on the approach at the time of day at which glare is predicted;

- The duration of any predicted glare – glare that occurs for low durations throughout the year is less likely to be experienced than glare that occurs for longer durations throughout a year;

- The location of the source of glare relative to a pilot's primary field-of-view;

- The relative size of the reflecting panel area and whether the reflecting area takes up a large percentage of a pilot's primary field-of-view;

- The location of the source of glare relative to the position of the Sun at the times and dates in which solar reflections are geometrically possible – effects that coincide with direct sunlight appear less prominent than those that do not;

- The intensity of the predicted glare; and

- The level of predicted effect relative to existing sources of glare – a solar reflection is less noticeable by pilots when there are existing reflective surfaces in the surrounding environment.

6.3.44. A 'Low' magnitude would occur where the solar reflection is not deemed significant following consideration of these mitigating factors.

6.3.45. A 'Medium' magnitude would occur where the solar reflection is deemed significant following consideration of these mitigating factors.

6.3.46. A 'High' magnitude would occur where solar reflections have an intensity of 'potential for permanent eye damage'.

6.3.47. For receptor sensitivity, runway approach paths are 'Medium' because they are of high importance.

6.3.48. To determine the mitigation requirement, the general magnitude of impact significance is:

- A 'Major Adverse' effect because of a 'High' magnitude would result in a requirement for mitigation; and

- A 'Moderate Adverse' effect because of a 'Medium' magnitude would result in a recommendation for mitigation.

<u>Issues to be scoped out</u>

- Rail: The identified railway track is greater than 500m from the closest point of the panel area, and therefore outside the typical assessment area.

- Local roads

Potential Effects (including identification of specific receptors)

6.3.49. Potential effects on the identified receptors are caused by:

- Glint – a momentary flash of bright light (typically experienced by moving receptors); and
- Glare – a continuous source of bright light (typically experienced by static receptors).

6.3.50. The term 'solar reflection' is used to refer to both reflection types i.e., glint and glare. The significance of any effects will be determined by considering the visibility of the solar reflection including the level of screening (existing or proposed), the sensitivity of the receptor, the location of origin of the solar glare, time and duration of any reflection and the location of the Sun at the time a solar reflection is possible.

6.3.51. There would be glint and glare receptors that potentially would be affected by the Proposed Development. Those identified to date are listed below;

- Roads: Two roads will need to be considered. Usk Road and the B4236 which changes into the B1236.
- Dwellings: The main area containing dwelling receptors will be Ponthir. However, there are other separate dwellings and collections of dwellings that need to be considered.
- Aviation: All three airfields within the 10km boundary will be assessed.

6.3.52. All of the above receptors and any other subsequently identified will be assessed by the impact assessment process in accordance with the proposed method.

Preliminary Discussions of Potential Mitigation and Enhancement Measures

Ground-based

6.3.53. Any solution that sufficiently obstructs the visibility of the potentially reflecting panels will mitigate impacts. The most common mitigation solution is the provision of hedgerow planting around the Site. The reflecting panels that are the basis for any significant impacts will be defined within the technical assessment (if any). These panels will then be obstructed from view and secured through the landscaping plan.

Aviation

6.3.54. Technical mitigation options for aviation receptors can involve modifications to the panel configuration including varying the vertical tilt, azimuth angle and panel footprint

6.4. Chapter 8 – Agricultural Circumstances

Introduction

6.4.1. This section of the Scoping Report considers relevant agricultural circumstances. In particular it considers three key resources:

- agricultural land, and in particular its quality as measured by the Agricultural Land Classification (ALC);
- soils as a resource, and in particular their susceptibility to structural damage from being trafficked (i.e. vehicle operations) or moved and disturbed;
- farm businesses, which whilst subject to change are the businesses that operate over the land and utilise the soil and land quality resources.

Surveys Undertaken

6.4.2. The land quality of the Application Site is shown on the Predictive ALC, version 2, published by the Welsh Government. This identifies land within the Application Site to comprise a mixture of mostly Grade 2 "very good" and subgrade 3b "moderate" quality. Small areas of Grade 1 "excellent" are shown (part of parcels 9 and 12), subgrade 3a "good" (Parcels 7 and 12), and 4 "poor" (parcels 1, 5 and 11).

6.4.3. The Guidance Note (version 2.1, May 2021) advises that where land is shown on the predictive map as potentially Grades 1, 2 and 3a, survey is required. Where land is shown as subgrade 3b, 4 or 5, survey is not required.

6.4.4. A Detailed ALC Survey has been undertaken (dated August 2025) at **Appendix G** of this report and has been completed for the majority of the Site. The Welsh Governments Agricultural Land Use & Soil Policy Advisor (correspondence dated 20.12.2022) that land parcels 1-5 are very likely to be 'Gradient Limited' to Subgrade 3b at best and are therefore not considered BMV land. It was recommended no detailed ALC field surveys need to be undertaken for these parcels.

6.4.5. Further survey work is proposed. This will include farm business assessments.

Relevant Policy and Guidance

Planning Policy

6.4.6. The applicable planning policy of relevance to agricultural circumstances matters includes:

- Planning Policy Wales edition 12 (2024). Paragraphs 3.58 and 3.59 advise on policy aimed at considering BMV land as a finite resource for the future;
- TAN 6 (2010) sets out planning considerations of relevance where development involves agricultural land and assets;
- Monmouthshire County Council Adopted Local Development Plan (February 2014), especially policy SD1 "Renewable Energy". The protection of BMV land from inappropriate development is referenced in para 6.2.25 and refers back to PPW;

- Torfaen Local Development Plan (December 2013), but this contains no specific policy of relevance.

Guidance

6.4.7. The applicable guidance includes:

- Institute of Environmental Management and Assessment (IEMA) Guide "A New Perspective on Land and Soil in Environmental Impact Assessment" (February 2022).

Preliminary Assessment of Baseline Conditions

Site Description and Context

6.4.8. The Application Site is agricultural land, in agricultural use. Much of the eastern part of the Application Site is in grassland uses, grazed or used for forage. Some of the central and western land is in arable uses, mostly combinable crops, with other land in pastoral/ grassland uses.

Land Quality

6.4.9. The ALC field surveys have identified that over the surveyed areas, a mixture of ALC grades exist in a complex pattern. There is BMV quality land in parcels 6, 7, 8, 11 and 12, in total extending to of the order of 19.2 ha of BMV, being Grade 2 and 3a quality.

Soils

6.4.10. The soils have been surveyed in the areas where ALC has been undertaken. The surveys identified two principal soil types:

- clay loam or silty clay loam over poorly structured slowly permeable clay loam or clay, sometimes shallow over stone;
- clay loam or silty clay loam over moderately structured permeable clay loam or silty clay loam, sometimes shallow over stone.

Farming Circumstances

6.4.11. Farming circumstances have not yet been recorded in detail but comprise a mixture of full-time and part-time farming businesses.

Scope and Methodology of Assessment (including significance criteria)

Study Area

6.4.12. The Study Area is the Application Site. Survey work has focussed on the proposed panel areas, but the Study Area includes the cable routes connecting those areas.

6.4.13. Assessment Methodology

6.4.14. The criteria are largely based on the IEMA Guide. However, the methodology has been varied in that the most sensitive category is "high", whereas the IEMA Guide has a "very high" category for BMV land in Wales.

6.4.15. The significance of an effect is determined based on the sensitivity of a receptor and the magnitude of an impact. This section describes the criteria applied in this chapter to characterise the sensitivity of receptors and magnitude of potential impacts.

6.4.16. It is noted that in their comments of 2nd May 2025 to the Screening Consultation, LQAS noted that in the IEMA Guide all land of BMV in Wales is classified as "very high" sensitivity. This has not been followed because it results in an inaccurate assessment of the impacts on land of BMV quality. If all BMV land is classified as very high sensitivity and the magnitude guidelines of IEMA are followed (as is proposed), a loss of 0.1 ha of land of BMV quality would result in an effect defined as of "moderate" significance, which is significant. That would not be a fair assessment of the effect, given that an estimated 19% of agricultural land in Wales is identified on the provisional ALC as of BMV quality, some 321,600 ha.

6.4.17. The methodology proposed in this Scoping Opinion, with all BMV classified as "high" sensitivity, results in the irreversible loss of more than 5 ha of land of BMV being a moderate adverse effect, which is significant. The irreversible loss of more than 20 ha, which is the threshold for consultation with the Welsh Government for loss of agricultural land, is categorised as a major adverse effect. But losses of less than 5 ha would not be classed as significant for EA.

The sensitivity criteria used are shown in **Table 1.13**. The reference figure for Field Capacity Days (FCD) for assessing soils for the Site will be taken from the ALC report and lies in the range 209 – 222 across the Application Site.

Table 1.13: Sensitivity criteria

Value (Sensitivity)	Description		
	Agricultural Land Quality	Soils Sensitivity to Structural Damage	Effects on Farm Businesses
High	Land of ALC Grades 1, 2 and 3a	High clay soils where the Field Capacity Days [27] (FCD) is >150, or medium textured soils where the FCD is >225.	No farm businesses are considered to be of high sensitivity.

[27] This is the number of days per annum when the soils are saturated with water. The FCD is determined under the ALC climate data assessment. For the Application Site it is 209 – 222 days.

Value (Sensitivity)	Description		
	Agricultural Land Quality	Soils Sensitivity to Structural Damage	Effects on Farm Businesses
Medium	Land of ALC Subgrade 3b	High clay soils where the FCD is <150, or medium textured soils where the FCD is <225.	Full time farm businesses where the location of land is particularly important such as dairy farms. Farms affected outwith the Site boundary.
Low	Land of ALC Grades 4 and 5	Soils with a high sand fraction where the FCD is <225.	Farms with low sensitivity to change e.g. arable land, part-time farms or where land is held on short term arrangements.
Negligible	Indirect of unproven links to agricultural land	No soils are considered to be of very low sensitivity.	Agricultural land that is not farmed or does not form part of a farm business.

6.4.18. The magnitude of impact to a receptor has been determined by considering the estimated deviation from baseline conditions both before, and, if required, after secondary mitigation. The scale used for determining the magnitude of an impact is set out in **Table 1.14** and is based on the principles of the IEMA Guide for land quality and soils, and on professional judgement for farm businesses. The thresholds for impacts have been set at 20 ha for a major magnitude impact, which equates with the threshold for consultation with the Welsh Government where the loss of 20 ha of more of BMV land for development not in accordance with the development plan is involved.

Table 1.14: Impact magnitude criteria

Impact Magnitude	Description	
	Agricultural Land Quality and Soils	Farm Businesses
High	The Proposed Development would directly lead to the loss (including permanent sealing or land quality downgrading) of over 20ha of soil-related features; or potential for improvement in one or more soil functions over an area of more than 20ha.	Full-time agricultural business would become non-viable.

Medium	The Proposed Development would directly lead to the loss (including permanent sealing or land quality downgrading) over an area of between 5ha and 20ha of soil-related features; or potential improvement in one or more soil functions over an area of between 20ha and 50ha	Significant changes in the day-to-day management of a full-time agricultural business, or closure of a part time agricultural business. Loss of buildings or impacts on drainage or water supplies affecting the potential for at least 5ha of adjacent land to be farmed fully.
Low	The Proposed Development would directly lead to the loss (including permanent sealing or land downgrading) of less than 5ha of soil-related functions; or potential for improvement in one of more soil functions over an area of less than 20 ha; temporary, reversible loss of soil-related features.	Minor changes in the day-to-day management/structure of a full-time agricultural business or land required would have a significant effect on a part time business. Minor effects, direct or indirect, on surrounding land beyond the boundaries of the Site.
Negligible	No discernible loss or reduction or improvement of soil functions or volumes.	Land required would require only negligible changes in the day-to-day management of a full-time agricultural business or land would require only minor changes to a part time farm business. Effects on non-farming land uses, eg horse grazing.

Significance Criteria

6.4.19. The method proposed for determining significance of the effect is presented in **Table 1.15.** Where a range of significance levels is presented, the final assessment for each effect is based upon expert judgement.

6.4.20. For the purpose of this assessment, any effects with a significance level of minor or less are not considered to be significant in terms of the EIA Regulations.

Table 1.15: Assessment matrix

Sensitivity of Receptor	**Magnitude of Impact**			
	Negligible	**Low**	**Medium**	**High**
Very Low	Negligible	Negligible	Negligible	Minor
Low	Negligible	Negligible	Minor	Minor

Medium	Negligible	Minor	Minor	Moderate
High	Minor	Minor	Moderate	Major

Issues to be scoped out

6.4.21. Construction-phase disturbance to farm units and land outside the Application Site is scoped out as no significant effects are predicted.

Potential Effects (including identification of specific receptors)

6.4.22. There would be agricultural circumstances receptors that potentially would be affected by the Proposed Development at the site. Those identified to date are listed below.

Land of BMV quality

6.4.23. The Application Site contains 19.2 ha of BMV quality land, less than the 20 ha threshold for a major magnitude impact. There is expected to be only a small area physically affected, which should be capable of full restoration as areas of BMV land to be developed are intended to be fully reversible once the Proposed Development is decommissioned, with no equipment in these areas to remain in situ. This potential effect will need to be considered and is unlikely to cause a significant effect.

Soils

6.4.24. The soils in this wet area are high-clay soils and will be susceptible to adverse impacts. Careful soil management will be important, and embedded mitigation in the form of good soil management practices will be considered.

Farm Businesses

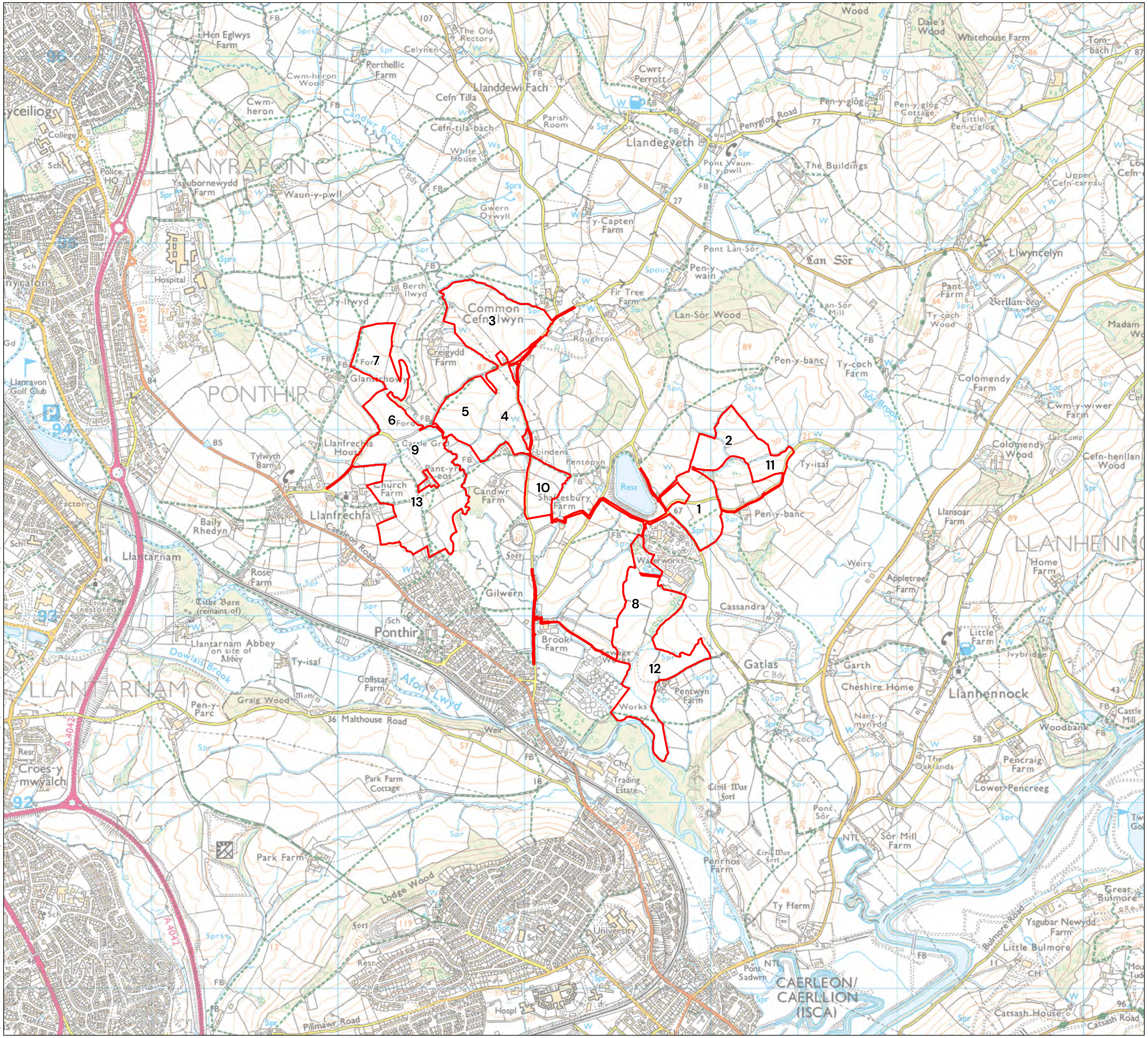
6.4.25. There may be adverse effects on farm businesses, but no significant effects are anticipated.

6.4.26. All of the above receptors and any other subsequently identified will be assessed by the impact assessment process in accordance with the proposed method

Preliminary Discussions of Potential Mitigation and Enhancement Measures

6.4.27. A Soil Management Plan (SMP) is expected to form embedded mitigation, to be secured through a suitably worded planning condition.

Appendix A – Site Location Plan



KEY

Site Boundary

-	-	-
REV	DATE	DESCRIPTION

SITE LOCATION PLAN

CANDWR SOLAR FARM

CANDWR SOLAR FARM LIMITED

DATE	SCALE	DRAWN	APPROVED
26/09/2025	1:20,000@A3	CS	EHF

SHEET	REV	N	0 — 0.5 KM
-	G		

DRAWING NUMBER
P24_2075_EN_01

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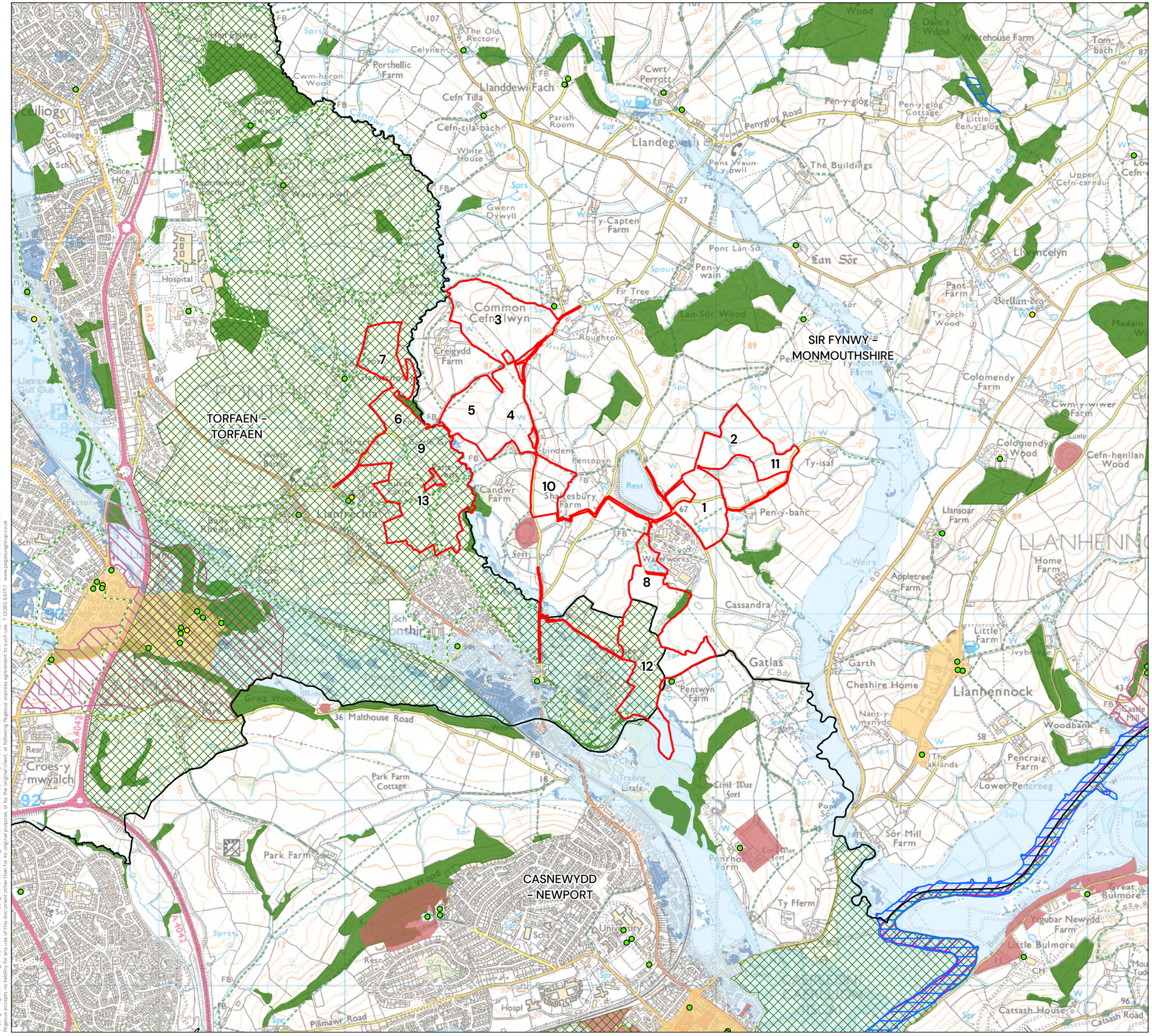
Appendix B – Environmental Designations Plan



KEY

- Site Boundary
- District Boundary

Listed Buildings Grade

- II*
- II

- Scheduled Ancient Monument
- Conservation Areas
- Registered Historic Parks and Gardens
- Public Rights of Way
- Special Landscape Area
- Statutory Access Land
- Special Areas of Conservation
- Ancient Woodland
- Flood Zone 2
- Flood Zone 3

REV	DATE	DESCRIPTION
-	-	-

ENVIRONMENTAL DESIGNATION PLAN

CANDWR SOLAR FARM

CANDWR SOLAR FARM LIMITED

DATE	SCALE	DRAWN	APPROVED
26/09/2025	1:20,000@A3	EN/EH	EHF

SHEET	REV	N	0	0.4 KM
-	F			

DRAWING NUMBER
P24_2075_EN_02

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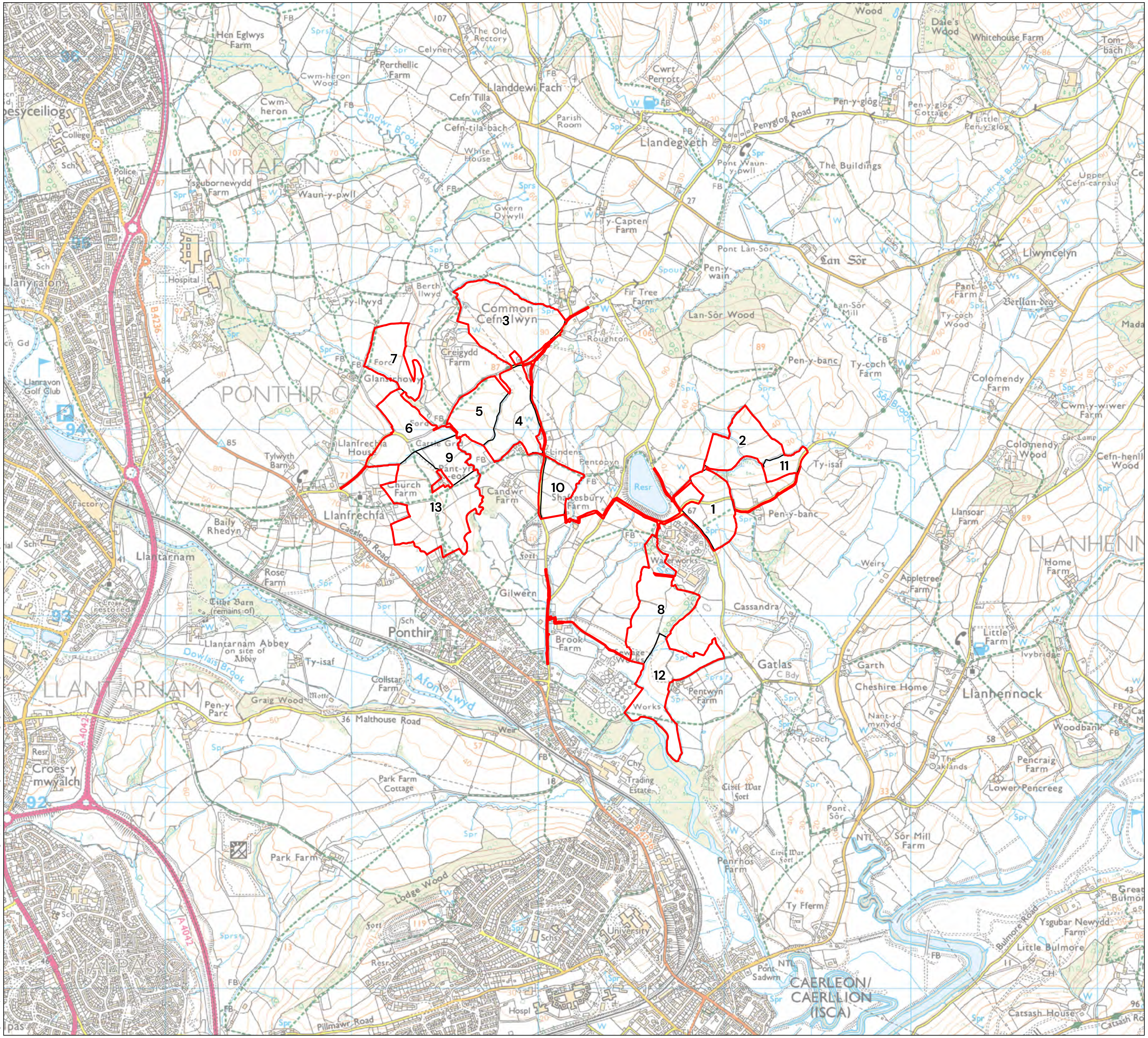
Appendix C – Fields Reference Plan



KEY

- Site Boundary
- Field Boundaries

REV	DATE	DESCRIPTION
-	-	-

FIELD REFERENCE PLAN

CANDWR SOLAR FARM

CANDWR SOLAR FARM LIMITED

DATE	SCALE	DRAWN	APPROVED
26/09/2025	1:20,000@A3	CS	EHF

SHEET	REV	N	0 – 0.5 KM
-	E		

DRAWING NUMBER
P24_2075_EN_11

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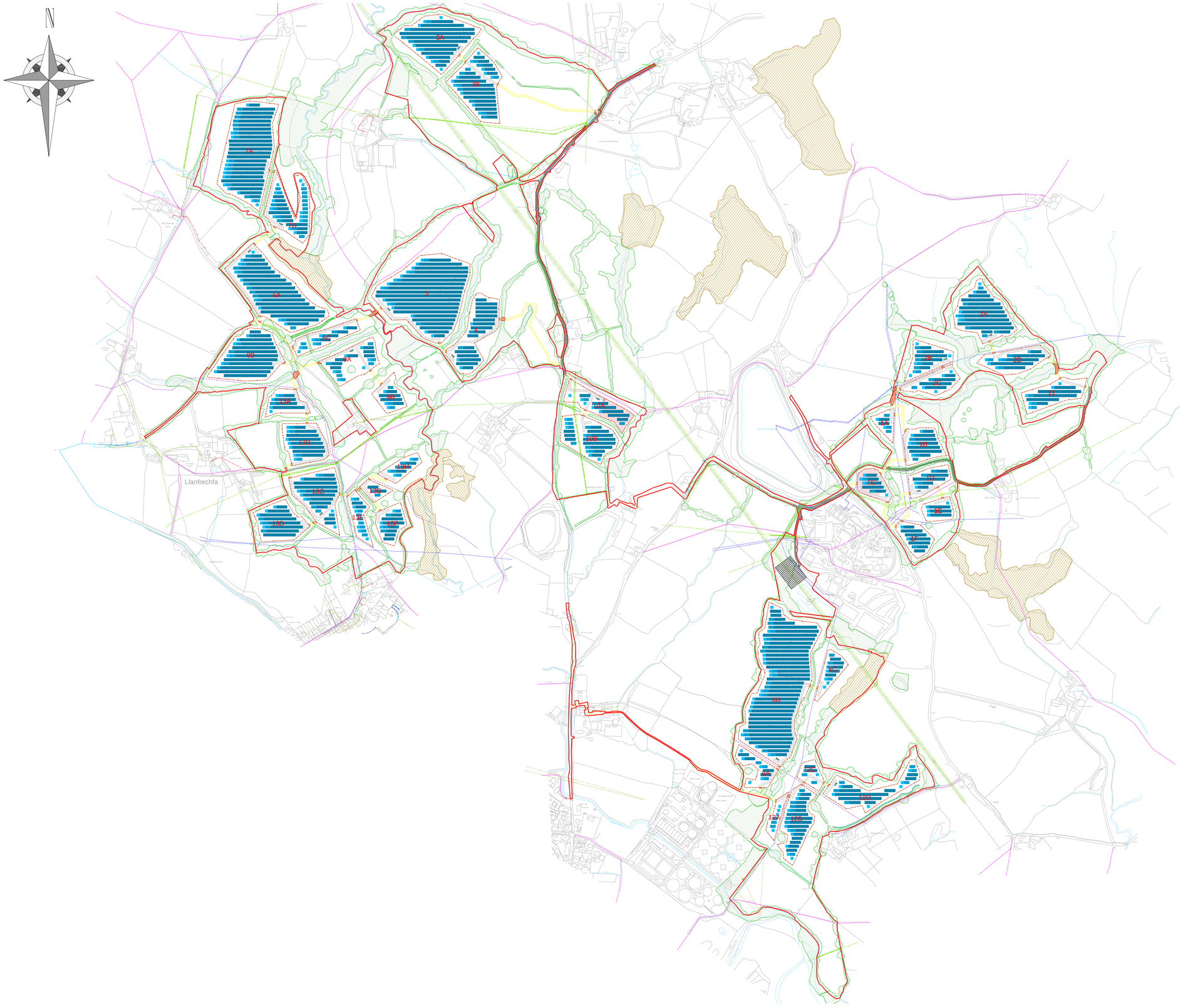
Appendix D – Indicative Site Layout Plan

A1



Revisions:

Revision	Date	Revision Notes	Drawn	Inspected
01	17.06.25	First Issue	RR	EHF
02	30.06.25	Panels and String Inverters Adjusted	RR	EHF
03	22.08.25	Layout Revised	RR	EHF
04	02.09.25	Layout Revised	RR	EHF
05	15.09.25	Layout Revised	RR	EHF
06	23.09.25	Layout Revised	RR	EHF

LEGEND:

- WATER COURSE
- PLANNING APPLICATION BOUNDARY
- PUBLIC HIGHWAY
- SITE ACCESS
- MAINTENANCE TRACK
- TEMPORARY CONSTRUCTION ACCESS
- PERIMETER FENCELINE
- FOOTPATH

SOLAR SITE INFRASTRUCTURE:

- INDICATIVE SUBSTATION COMPOUND
- INDICATIVE TEMPORARY CONSTRUCTION COMPOUND
- TRANSFORMER
- DISTRIBUTION PANEL
- INVERTER
- PV FULL TABLE
- PV HALF TABLE
- PV QUARTER TABLE
- SECURITY GATE (PALISADE)
- CCTV CAMERA

SERVICES:

- EXISTING O/H CABLE ROUTE
- EXISTING 33kV O/H CABLE ROUTE
- EXISTING 132kV O/H CABLE ROUTE
- EXISTING U/G CABLE ROUTE
- TELECOM SERVICES
- GAS SERVICES
- WATER MAIN
- SEWER SURFACE WATER

VEGETATION:

- EXISTING VEGETATION
- ANCIENT WOODLAND
- VEGETATION TO BE REMOVED

Status:

PLANNING

Project: **Candwr Solar Farm**

Land at Court Farm, Ponthir

Monmouthshire

TotalEnergies

Drawn By:

CADmando
2D , 3D CAD & BIM SERVICES

CADmando Design & Draughting Solutions Ltd
Unit B2, The Courtyard, Severn Drive, Tewkesbury Business Park, GL20 8GD
+44 (0) 1684 850019 **design@cadmando.co.uk** **www.cadmando.co.uk**

Drawing Title:

Indicative Site Layout Plan

Drawn:	Checked:	First Issued:
RR	EHF	17.06.2025

Project Code: **PEG002** Drawing Number: **PL-01**

Sheet Size:	Scale:	Revision:
A1	**1:5000**	**06**

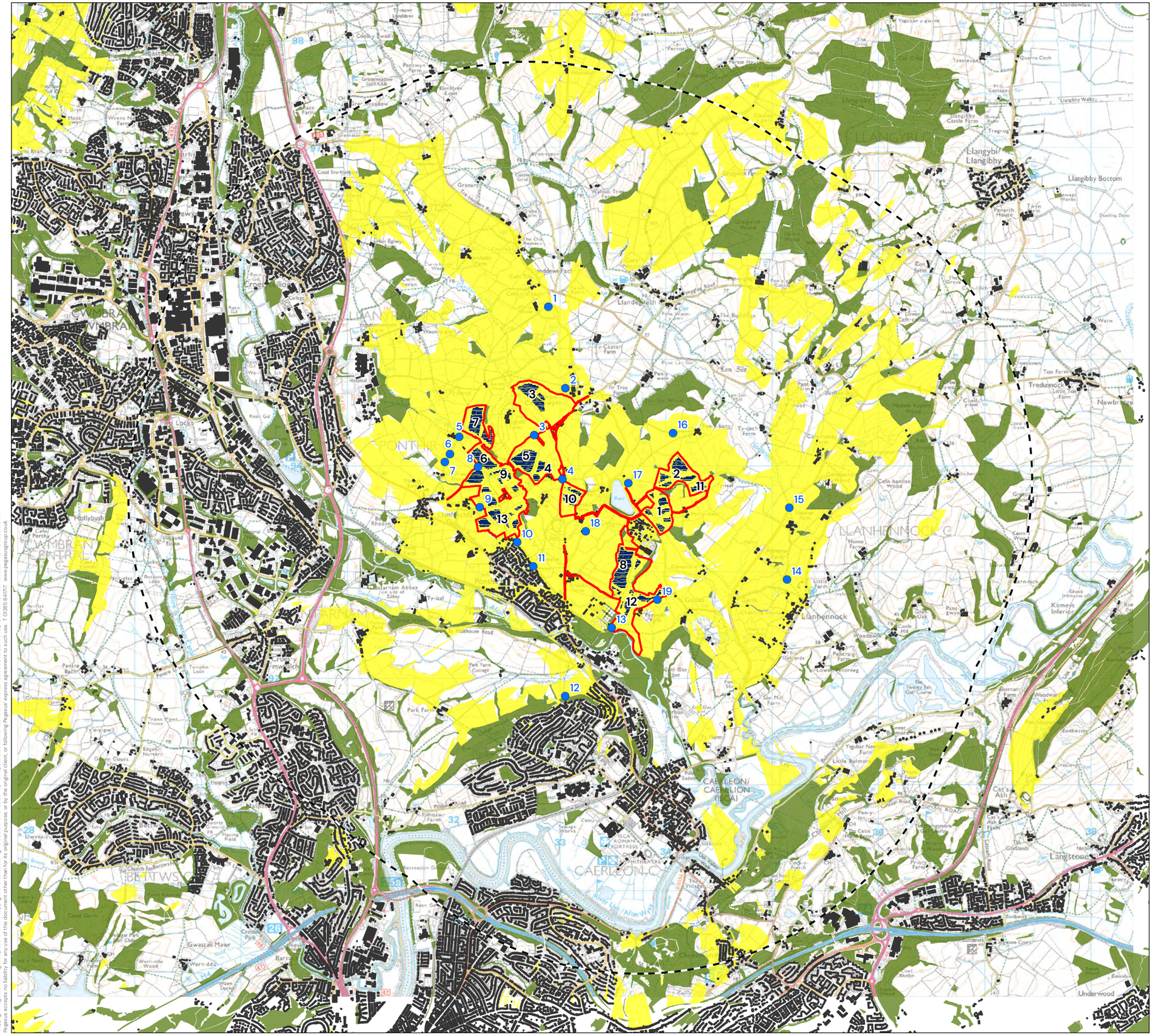
1 CANDWR SOLAR FARM - PROPOSED SITE LAYOUT PLAN

Scale: 1:5000@A1

0 50 100 150 200 250 300 350 400 450 500m

SCALE 1:5000

Appendix E – Screened Zone of Theoretical Visibility (SZTV)



KEY

- Site Boundary
- 3km Buffer
- OS Local Building
- OS Local Woodland
- Proposed Solar Arrays - 3m Development Height
- Screened Zone of Theoretical Visibility
- Potential Viewpoint Location

Screened ZTV Production Information -
- DTM data used in calculations is OS Terrain 5 that has been combined with OS Open Map Local data for woodland and buildings to create a Digital Surface Model (DSM).

- Indicative woodland and building heights are modelled at 15m and 8m respectively.
- Viewer height set at 1.7m (in accordance with para 6.11 of GLVIA Third Edition)
- Calculations include earth curvature and light refraction

N.B. This Zone of Theoretical Visibility (ZTV) image illustrates the theoretical extent of where the proposed development may be visible from, assuming 100% atmospheric visibility, and includes the screening effect from woodland and buildings, based on the assumptions stated above.

Layout reference: PEG002-MASTER XREF

REV	DATE	DESCRIPTION
-	-	-

SCREENED ZONE OF THEORETICAL VISIBILITY

CANDWR SOLAR FARM

CANDWR SOLAR FARM LIMITED

DATE	SCALE	DRAWN	APPROVED
26/09/2025	1:35,000@A3	CS	KB

SHEET	REV	N	0	0.5 KM
	F			

DRAWING NUMBER
P24_2075_EN_10

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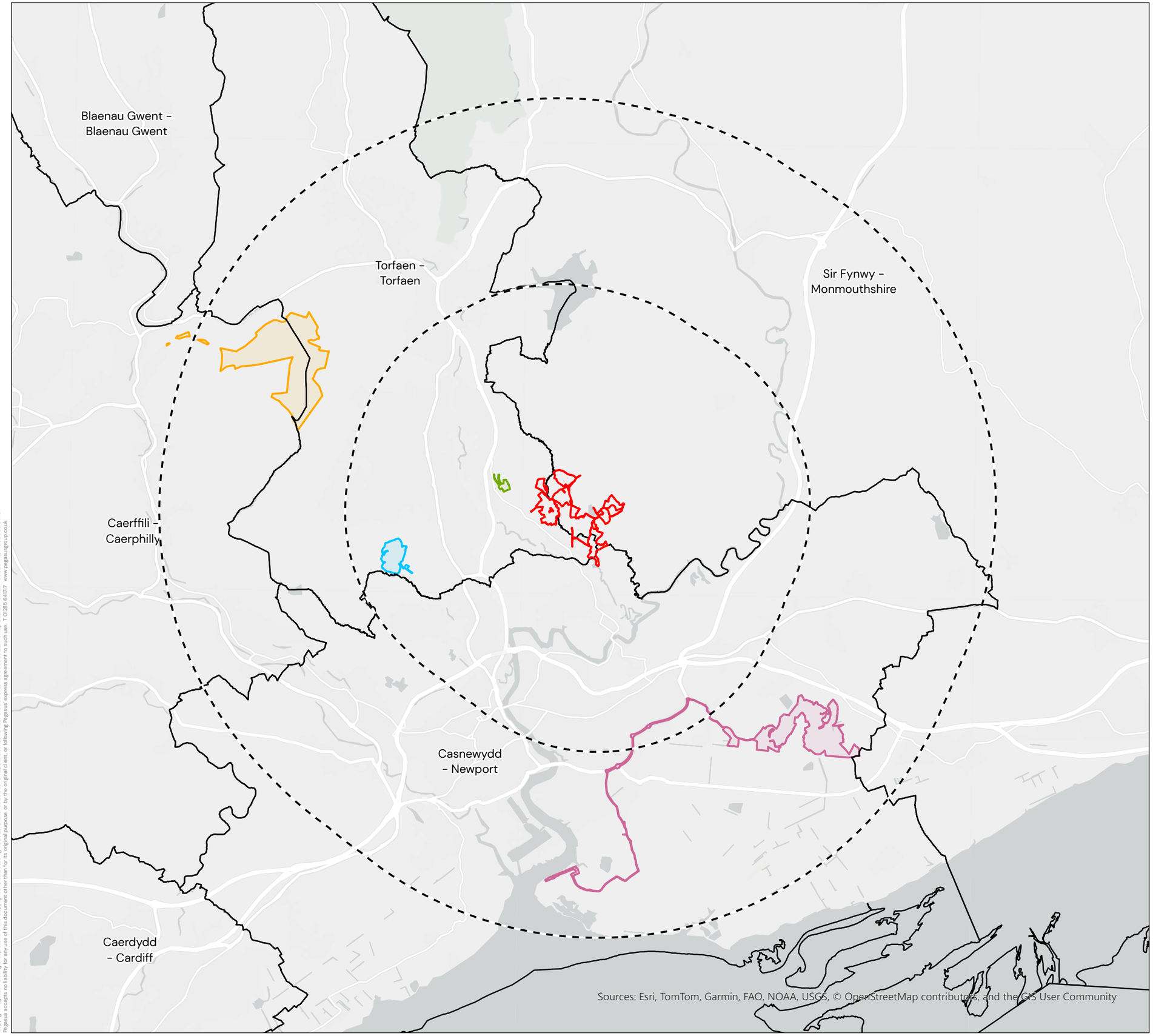
Appendix F – Cumulative Sites



KEY

Site Boundary

5km and 10km Buffers

Cumulative Sites

DNS/3239190. DNS Application- Pentre Bach Solar Farm, Ground mounted photo voltaic solar farm and energy storage facility, together with associated equipment, infrastructure and ancillary works. Land at Pentre Bach, Torfaen; Tir ym Mhentre Bach, Torfa

DNS/3279787. DNS Application - Craig y Perthi Solar Farm Erection of a solar farm comprising ground mounted, fixed position solar panels, with a combined installed generating capacity of up to 99.9 MW, underground cabling, grid connection, asso

DNS/3276725. DNS Application – Mynydd Maen Wind Farm. Wind farm of up to 13 turbines along with an improved site entrance, new and improved access tracks, crane hardstandings, control building and substation compound, electricity transformers, underground cabling, and drainage works. Land at Mynydd Maen, between Newbridge and Cwmbran

22/P/0446/OUT Torfaen County Borough Council's. Outline Application - Proposed Mental Health Specialist Inpatient Services Unit and associated highway, drainage and landscape infrastructure. Located at Grange University Hospital, Caerleon Road, Llanfrechfa

REV	DATE	DESCRIPTION
-	-	-

CUMULATIVE SITES PLAN

CANDWR SOLAR FARM

CANDWR SOLAR FARM LIMITED

DATE	SCALE	DRAWN	APPROVED
26/09/2025	1:100,000@A3	CS	HT

SHEET	REV	N	0	2.5 KM
-	C			

DRAWING NUMBER
P24_2075_EN_14

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Appendix G – Agricultural Land Classification (dated August 2025)

AGRICULTURAL LAND CLASSIFICATION
CANDWR SOLAR FARM

CLIENT: BLUESTONE COURT FARM 1 LTD
PROJECT: CANDWR SOLAR FARM
DATE: 8TH AUGUST 2025 – ISSUE 3
ISSUED BY: JAMES FULTON MRICS FAAV

CONTENTS

1.1 EXECUTIVE SUMMARY

1.1 This report assesses the Agricultural Land Classification (ALC) grading of 113.5Ha, of land at Court Farm, Ponthir, Monmouthshire.

1.2 The limiting factor found to be soil wetness, a combination of the climatic regime, soil water regime and texture of the top 25cm of the soil across the most of the site and a combination of droughtiness, stoniness and depth on small areas throughout the site.

1.3 The land is graded as follows:

Non-BMV on the predictive map:	49.3 Ha
Grade 2:	13.8 Ha
Grade 3a:	5.4 Ha
Grade 3b:	36.2 Ha
Grade 4:	6.2 Ha
Non-Agricultural:	2.6 Ha

2.1 INTRODUCTION

2.1 Amet Property Ltd have been instructed by Bluestone Court Farm 1 Ltd to produce an Agricultural Land Classification (ALC) report on a 68.9-hectare site on land at Court Farm, Ponthir, Monmouthshire. The ALC report is being prepared to accompany a planning application to be submitted for installation and operation of ground mounted solar photovoltaic arrays with all associated works, equipment and infrastructure.

2.2 The report's author is James Fulton BSc (Hons) MRICS FAAV who has worked as a chartered surveyor, agricultural valuer, and agricultural consultant since 2004, has a degree in agriculture which included modules on soils and over 10 years' experience in advising farmers on soil structure and cultivation methods and in producing agricultural land classification reports. Additional information on authors experience is found at *appendix 1*.

2.3 The report is based on 3 site surveys conducted by two surveyors on the 11th February 2023, 1st March 2025 and 7th of June 2025. Conditions during all visits were dry and sunny with soils moist for the first two visits but dry for the final visit. The surveys were carried out as three separate reports and have now been compiled into a single report. Prior to the first survey advice was sought from LQAS and areas that were shown to be non-BMV on the predictive map have not been surveyed.

2.4 During the inspections 5 trial pits were dug to a depth of 120cm, or as deep as possible if the sample point became impenetrable. In addition to the trial pits an auger was used to take approximately one sample per hectare on the proposed development site to a depth of 120cm with smaller trial pits at some of these locations to confirm soil structure and colour where it was not clear from the auger samples. A plan of auger points and trial pit locations can be found at *appendix 2.* The trial pit locations were selected as they were representative of the soils found on site. Where subsoils were inspected with a spade, descriptions of structure have been recorded based on the soil survey field handbook[1]; where an auger has been used the structure is described as good, moderate or poor based on figure 9,10 and 11 in the MAFF[2] guidance. Colours are described using Munsell Colours[3].

2.5 The area extends to 113.5Ha of which the surveyed area makes up 64.2ha of arable and grassland. The site is located at Court Farm, Ponthir, Monmouthshire.

2.6 Further information has been obtained from the MAGIC website, the Soil Survey of England and Wales, the British Geological Survey, the Meteorological Office and the WAG Predictive ALC map for Wales.

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[1] Hodgson, JM (1997) Soil Survey Field Handbook

[2] MAFF (1988) - *Agricultural Land Classification of England and Wales. Revised guidelines and criteria for grading the quality of agricultural land*. MAFF Publications

[3] Munsell Color (2009) Munsell Soil Color Charts

2.7 The collected information has been judged against the Ministry of Agriculture Fisheries and Food Agricultural Land Classification of England and Wales revised guidelines and criteria for grading the quality of agricultural land.

2.8 The principal factors influencing agricultural production are climate, site and soil and the interaction between them MAFF (1988) & Natural England (2012)[4].

2.9 The report is prepared and formatted considering the latest BSSS guidance[5].

3.1 PUBLISHED INFORMATION

3.1 The British Geological Survey 1:50,000 scale map shows the bedrock geology on the western blocks to be largely Raglan Mudstone Formation – Mudstone and sandstone, interbedded. The bedrock geology in the northeast corner of the block is shown to be Downton Castle Sandstone Formation – sandstone. The area surrounding the ford along the eastern boundary of the block is shown to have the bedrock geology of Raglan Mudstone Formation – Mudstone and sandstone, interbedded with superficial deposits of Alluvium – clay, silt, sand and gravel.

The central block is shown to have bedrock geology to be Raglan Mudstone Formation – Mudstone and sandstone, interbedded.

The eastern block is shown to have bedrock geology to be Raglan Mudstone Formation – Mudstone and sandstone, interbedded.

The southern block is shown to have bedrock geology of Raglan Mudstone Formation – Mudstone and sandstone, interbedded with superficial deposits of Alluvium – clay, silt, sand and gravel.

3.2 The soils on the western block of the site are identified as being 541a MILFORD Association, well drained fine loamy reddish soils over rock, in the north of the block. The soils in the east of the block are identified as being 561c ALUN Association, deep stoneless permeable coarse loamy soils. The soils in the south of the block are identified as being 541a MILFORD Association, well drained fine loamy reddish soils over rock.

The soils on the central block are identified as being 541a MILFORD Association, well drained fine loamy reddish soils over rock.

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[4] MAFF (1988) - *Agricultural Land Classification of England and Wales. Revised guidelines and criteria for grading the quality of agricultural land*. MAFF Publications

Natural England (2012) - *Technical Information Note 049 - Agricultural Land Classification: protecting the best and most versatile agricultural land*, Second Edition

[5] BSSS (2022) Working with Soil Guidance Note on Assessing Agricultural Land Classification Surveys in England and Wales

The soils on the eastern block are identified as being 541a MILFORD Association, well drained fine loamy reddish soils over rock.

The soils on the southern block are identified as being 561c ALUN Association, deep stoneless permeable coarse loamy soils.

3.3 The Predictive Agricultural Land Classification maps for Wales shows the western block to be Grade 3b in the northwest and Grade 2 in the northeast. The south is shown to be Grade 3b, Grade 3a in the west, Grade 2 in the southeast and a small patch on the eastern boundary of Grade 1.

The central block near is shown to be Grade 2 with Grade 3b along the eastern boundary.

The eastern block is shown to be Grade 2 in the north, Grade 3b in the southeast and Grade 4 in the southwest.

The southern block is shown to be largely Grade 2 with patches in the north of grade 3b and an area to the south of Grade 1.

4.1 CLIMATE

4.1 Climate has a major, and in places overriding, influence on land quality affecting both the range of potential agricultural uses and the cost and level of production.

4.2 There is published agro-climatic data for England and Wales provided by the Meteorological Office, such data for the subject site is listed in the table below.

Agro-Climatic Data – Full details can be found at *appendix 3*

Western block - Climatic data

Grid Reference	332411,193812
Altitude (ALT)	43
Average Annual Rainfall (AAR)	1106
Accumulated Temperature - Jan to June (ATO)	1497
Duration of Field Capacity (FCD)	222
Moisture Deficit Wheat	80
Moisture Deficit Potatoes	66

Central block – Climatic data

Grid Reference	333102,193695
Altitude (ALT)	42
Average Annual Rainfall (AAR)	1077
Accumulated Temperature - Jan to June (ATO)	1498
Duration of Field Capacity (FCD)	217
Moisture Deficit Wheat	82
Moisture Deficit Potatoes	69

Eastern block – Climatic data

Grid Reference	334314,193775
Altitude (ALT)	27
Average Annual Rainfall (AAR)	1026
Accumulated Temperature - Jan to June (ATO)	1514
Duration of Field Capacity (FCD)	209
Moisture Deficit Wheat	86
Moisture Deficit Potatoes	74

Southern block – Climatic data

Grid Reference	333659,192421
Altitude (ALT)	11
Average Annual Rainfall (AAR)	1027
Accumulated Temperature - Jan to June (ATO)	1534
Duration of Field Capacity (FCD)	210
Moisture Deficit Wheat	88
Moisture Deficit Potatoes	77

4.3 The main parameters used in assessing the climatic limitation are average annual rainfall (AAR), as a measure of overall wetness; and accumulated temperature (ATO), as a measure of the relative warmth of a locality.

4.4 The AAR and ATO provide climatic limitation to Grade 1.

4.5 The site is shown to be in flood zone 1 – areas with a less than 1 in 1000 annual chance of flooding. There was no evidence of flooding seen during the site visit and it is considered that will not result in a limitation to land grade.

5.1 STONINESS

5.1 While there are substantial areas with stone in the topsoil, occasionally limiting areas to Grade 2, it is never the most limiting factor.

6.1 DEPTH

6.1 The depth to overlying consolidated or fragmented rock which cannot be penetrated satisfactorily limits the grade in some areas to between grade 2 and grade 3b but this is never the most limiting factor

7.1 GRADIENT AND MICRORELIEF

7.1 Most of the site is gently sloping with no gradient or microrelief that limits land grade. However, there are areas across the site that are steeper and limit these areas to Grade 3b but these areas are equally limited by other factors and so it is never the single most limiting factor.

8.1 SOILS

8.1 Full information on the sample points along with trial pit descriptions and photographs and lab test results can be found at *appendix 4*. There were two soil types identified on the site.

SOIL TYPE 1 Clay loam or silty clay loam over poorly structured slowly permeable clay loam or clay, sometimes shallow over stone

8.2 The topsoil was found to be a brown (10YR 5/3), dark brown (7.5YR 3/4), dark reddish brown (5YR 3/4), reddish brown (5YR 4/3) clay loam or silty clay loam with few ochreous mottles.

8.3 The upper subsoils had the texture of clay loam or silty clay loam. The colours were found to be light brownish grey (10YR 6/2), yellowish red (5YR 5/6), reddish brown (5YR 4/4). The subsoil had a poor structure and were gleyed or reddish soils and slowly permeable.

8.4 Where a second subsoil was found the texture was found to be silty clay loam in the northwest, yellowish red (5YR 5/6) with a poor structure. Stone was found from 40cm at sample points 9, 13, 14.

SOIL TYPE 2 – Clay loam or silty clay loam over moderately structured permeable clay loam or silty clay loam, sometimes shallow over stone

8.5 The topsoil was found to be a brown (7.5YR 4/3), dark brown (7.5YR 3/4), dark reddish brown (5YR 3/4), reddish brown (5YR 4/3) clay loam or silty clay loam with few ochreous mottles.

8.6 The upper subsoils were found to have the texture of clay loam or silty clay loam. The colours were found to be brown (7.5YR 4/4), dark brown (7.5YR 3/4) or strong brown (7.5YR 5/6). The subsoil had a moderate structure.

8.7 Occasionally a second subsoil was found the texture was found to be coarse sandy loam, brown (7.5YR 4/4) with a good structure. Impenetrable stone was found at sample point.

INTERACTIVE FACTORS

10.1 WETNESS

10.1 An assessment of the wetness class of each sample point was made based on the flow chart at Figure 6 and the graphs at Figure 7 and 8 in the MAFF guidance.

10.2 The wetness class assessment results in an assessment of wetness class I where the subsoil is not gleyed and slowly permeable and wetness class IV where the subsoil is gleyed and slowly permeable.

10.3 The wetness class and topsoil texture were then assessed against Table 6 of the MAFF guidance to determine the ALC grade according to wetness. The wetness assessment can be found at *appendix 4*.

10.4 Wetness was shown to be the limiting factor across the majority of the site.

11.1 DROUGHTINESS

11.1 Droughtiness limits are defined in terms of moisture balance for wheat and potatoes using the formula:

MB (Wheat) = AP (Wheat) - MD (Wheat)

and

MB (Potatoes) = AP (Potatoes) - MD (Potatoes)

Where:
MB = Moisture Balance
AP = Crop Adjusted available water capacity
MD = Moisture deficit

11.2 Moisture deficit for wheat and potatoes can be found in the agro-climatic data and are as follows:

MD (Wheat) = 80-88
MD (Potatoes) = 66-77

11.3 Crop adjusted available water is calculated by reference to the total available water and easily available water which is calculated by reference to soil texture and structural condition and the stone content.

11.4 The moisture balance was calculated for all survey points and this assessment can be found at *appendix 4*.

11.5 Droughtiness was shown to be the limiting factor where soils were not slowly permeable with most significant limitations occurring where soils are shallow and stony.

12.1 AGRICULTURAL LAND CLASSIFICATION

12.1 The Agricultural Land Classification provides a framework for classifying land according to which its physical or chemical characteristics impose long-term limitations on agricultural use. The limitations can operate in one or more of four principle ways: they may affect the range of crops that can be grown, the level of yield, the consistency of yield and the cost of obtaining it.

12.2 The principle physical factors influencing agricultural production are climate, site and soil and the interactions between them which together form the basis for classifying land into one of 5 grades; grade 1 being of excellent quality and grade 5 being land of very poor quality. Grade 3 land, which constitutes approximately half of all agricultural land in the United Kingdom is divided into 2 subgrades – 3a and 3b. A full definition of all of the grades can be found at *appendix 5.*

12.3 This assessment sets out that the site is limited by wetness, droughtiness, stoniness and depth.

12.4 The breakdown of land by classification is:

Non-BMV on the predictive map:	49.3 Ha
Grade 2:	13.8 Ha
Grade 3a:	5.4 Ha
Grade 3b:	36.2 Ha
Grade 4:	6.2 Ha
Non-Agricultural:	2.6 Ha

12.5 A plan of the land grading can be found at *appendix 6*.

Appendix **1 –** Details of the Authors Experience

James Fulton

Professional Education and Qualifications

BSc (Hons) Agriculture, University of Nottingham (2004)

Member of the Royal Institution of Chartered Surveyors (MRICS) (2008)

Fellow of the Central Association of Agricultural Valuers (FAAV) (2009)

Relevant Work Experience

While working for a regional firm from 2004 until 2016 as part of my work I provided advice to farmers on soils, cultivation techniques and cropping and was involved in field trials which assessed cropping and cultivation techniques and how they impacted soil structure. At the same time I worked alongside an experienced surveyor who produced Agricultural Land Classification reports and I received training in field survey techniques and the ALC process to the point where I was able to produce ALC reports.

In 2016 I left my employer and formed Amet Property Ltd providing development consultancy and other rural practice surveying services. Of all of the services that we provide Agricultural Land Classification reports is the single largest area of work accounting for approximately 70% of all of my working time.

While I am not a member of the BSSS I meet the minimum competencies set out by the BSSS in Document 1 *Foundation skills in field soil investigation, description and interpretation* and Document 2 *Agricultural Land Classification (England and Wales)*

Professional Standards

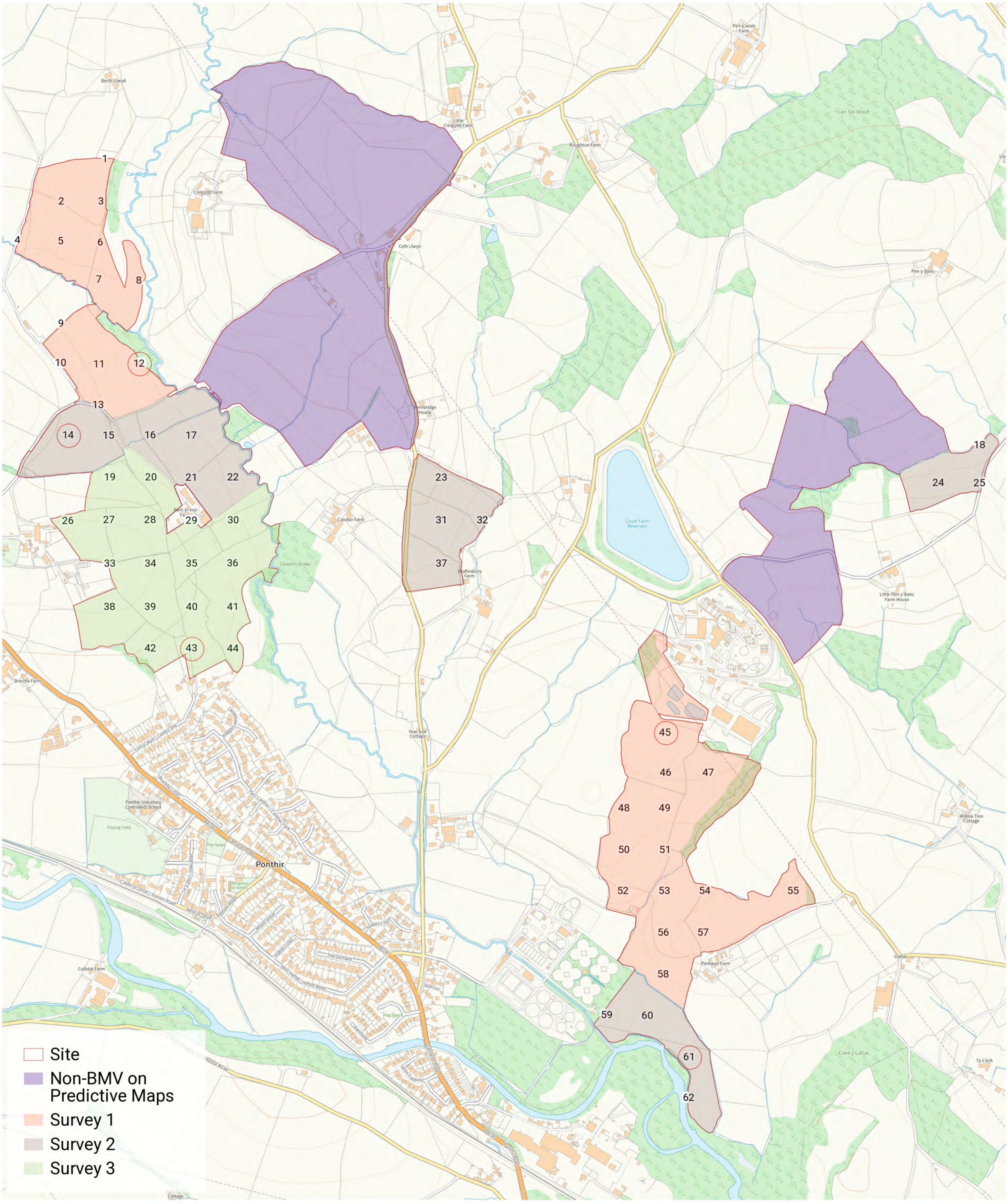
As a member of the Royal Institution of Chartered Surveyors and Fellow of the Central Association of Agricultural Valuers I am bound by their professional standards and am only able to carry out work where I am suitably qualified and experienced to do so. Due to the formal and practical training that I have received I am able to competently produce Agricultural Land Classification reports.

Assistant Surveyors

All assistant surveyors have completed the BSSS working with soil course and have been trained to meet the requirements of BSSS Document 1 *Foundation skills in field soil investigation, description, and interpretation.*

Appendix 2 - Map of Survey Points

Land App



Produced on Land App, Aug 6, 2025.

100 m

Scale 1:6000 (at A2)

N

Appendix 3 – Climatic Data

Site Details: Court Farm – central block

Grid reference (centre of site): 333102,193695

Altitude: Mean 42.25 AOD

Climatic data from surrounding locations:

Grid Reference	ALT	AAR	LR_AAR	ASR	ATO	ATS	MDW	MDP	FCD
33001900	8	1140	1.6	520	1539	2458	82	70	228
33001950	40	1174	1.5	540	1501	2416	76	62	233
33501900	65	1031	1.1	475	1473	2387	82	69	211
33501950	51	1033	1	480	1487	2402	83	70	210

Altitude Adjusted:

Grid Reference	AAR	ATO	FCD	MDW	MDP	Proximity Adjustment
33001900	1194.80	1499.96	235.92	74.65	60.38	11.38%
33001950	1177.38	1498.44	233.49	75.53	61.39	23.38%
33501900	1005.98	1498.94	207.38	86.09	74.36	15.34%
33501950	1024.25	1496.98	208.73	84.51	71.98	49.90%

Site Details: Court Farm – eastern block

Grid reference (centre of site): 334314,193775

Altitude: Mean 27.33 AOD

Climatic data from surrounding locations:

Grid Reference	ALT	AAR	LR_AAR	ASR	ATO	ATS	MDW	MDP	FCD
33001900	8	1140	1.6	520	1539	2458	82	70	228
33001950	40	1174	1.5	540	1501	2416	76	62	233
33501900	65	1031	1.1	475	1473	2387	82	69	211
33501950	51	1033	1	480	1487	2402	83	70	210

Altitude Adjusted:

Grid Reference	AAR	ATO	FCD	MDW	MDP	Proximity Adjustment
33001900	1170.93	1516.96	232.47	77.85	64.57	4.64%
33001950	1155.00	1515.44	230.25	78.63	65.44	7.59%
33501900	989.56	1515.94	205.01	88.77	77.88	10.36%
33501950	1009.33	1513.98	206.58	87.09	75.37	77.41%

Site Details: Court Farm – southern block

Grid reference (centre of site): 333599,192881

Altitude: Mean 29.82 AOD

Climatic data from surrounding locations:

Grid Reference	ALT	AAR	LR_AAR	ASR	ATO	ATS	MDW	MDP	FCD
33001900	8	1140	1.6	520	1539	2458	82	70	228
33001950	40	1174	1.5	540	1501	2416	76	62	233
33501900	65	1031	1.1	475	1473	2387	82	69	211
33501950	51	1033	1	480	1487	2402	83	70	210

Altitude Adjusted:

Grid Reference	AAR	ATO	FCD	MDW	MDP	Proximity Adjustment
33001900	1174.91	1514.13	233.05	77.32	63.87	13.19%
33001950	1158.73	1512.61	230.79	78.11	64.77	16.07%
33501900	992.30	1513.11	205.40	88.32	77.30	27.31%
33501950	1011.82	1511.15	206.94	86.66	74.80	43.43%

Site Details: Court Farm – western block

Grid reference (centre of site): 332411,193812

Altitude: Mean 43.29 AOD

Climatic data from surrounding locations:

Grid Reference	ALT	AAR	LR_AAR	ASR	ATO	ATS	MDW	MDP	FCD
33001900	8	1140	1.6	520	1539	2458	82	70	228
33001950	40	1174	1.5	540	1501	2416	76	62	233
33501900	65	1031	1.1	475	1473	2387	82	69	211
33501950	51	1033	1	480	1487	2402	83	70	210

Altitude Adjusted:

Grid Reference	AAR	ATO	FCD	MDW	MDP	Proximity Adjustment
33001900	1196.46	1498.77	236.16	74.43	60.09	13.73%
33001950	1178.94	1497.25	233.71	75.32	61.11	38.68%
33501900	1007.12	1497.75	207.55	85.90	74.12	13.16%
33501950	1025.29	1495.79	208.89	84.33	71.75	34.43%

Appendix 4a - Sample Point Assessment

		Topsoil				Stoniness			Upper Subsoil						Lower Subsoil									Wetness Assesment			Grade	Droughtiness Assessment		Grade	Most
Sample No	Altitude	Depth	Texture	Colour		<2cm	2-6cm	>6cm	Mottles	Depth	Texture	Colour		Stoniness	Mottles	Structure	Depth	Texture	Calc	Colour		Stoniness	Mottles	Structure	Depth to Gleyed	SPL	Wetness Class	limit by Wetness	MB Wheat	MB Potato	limit by Droughtiness	limiting Grade
1	55	0 - 30	MCL	10YR 4 / 3		5%	10%			30 - 60	MZCL	10YR 4 / 6			CB	Moderate	60 - 120	Stone						Poor			I	2	13.35	32.35	2	2
2	51	0 - 30	MCL	5YR 4 / 4			5%			30 - 50	MZCL	7.5YR 4 / 4			CGB	Moderate	50 - 120	Stone						Poor			I	2	8.95	21.45	2	2
3	53	0 - 30	MCL	10YR 4 / 3			5%			30 - 60	MZCL	10YR 4 / 6			CB	Moderate	60 - 120	Stone						Poor			I	2	18.45	37.45	2	2
4	42	0 - 30	MCL	5YR 4 / 4			5%			30 - 120	ZC	5YR 4 / 4			CGB	Moderate											I	2	57.45	45.45	1	2
5	44	0 - 30	MCL	5YR 4 / 4			5%			30 - 120	MZCL	5YR 4 / 4			CGB	Moderate											I	2	75.45	53.45	1	2
6	34	0 - 30	MCL	10YR 4 / 3			5%			30 - 55	C	2.5Y 6 / 2			MOB	Poor	55 - 120	Stone						Poor	30	30	IV	3b	4.20	19.45	3a	3b
7	38	0 - 30	MCL	10YR 4 / 3			5%			30 - 70	MZCL	5YR 4 / 4			CB	Moderate	70 - 120	Stone						Poor			I	2	27.95	53.45	2	2
8	34	0 - 30	MCL	10YR 4 / 3			5%			30 - 120	MZCL	10YR 5 / 3			cob	Poor									30	30	IV	3b	37.45	33.45	1	3b
9	37	0 - 30	MCL	10YR 4 / 3						30 - 60	C	10YR 6 / 3			CB	Poor	60 - 120	C		5YR 4 / 4			CGB	Poor	30	30	IV	3b	49.00	40.00	1	3b
10	44	0 - 30	MCL	10YR 4 / 3						30 - 120	ZC	5YR 4 / 4			CB	Moderate											I	2	60.00	48.00	1	2
11	38	0 - 30	MCL	10YR 4 / 3						30 - 120	ZC	5YR 5 / 3			COGB	Poor									30	30	IV	3b	47.00	36.00	1	3b
12	31	0 - 25	MZCL	10YR 4 / 3						25 - 120	C	2.5Y 5 / 2			MOB	Poor									25	25	IV	4	49.00	40.00	1	3b
13	39	0 - 30	HZCL	10YR 4 / 3						25 - 120	ZC	5YR 3 / 3			COGB	Poor									reddish	25	IV	4	56.00	45.00	1	4
14	46	0 - 25	HZCL	10YR 5 / 3					FO	25 - 45	HZCL	10YR 6 / 2			CO	Poor	45 - 120	HZCL	N	5YR 5 / 6			CBG	Poor	25	25	IV	4	39.50	35.50	1	4
15	38	0 - 25	HZCL	10YR 5 / 3					FO	25 - 120	HZCL	5YR 5 / 6			FB	Poor									reddish	25	IV	4	39.50	35.50	1	4
16	27	0 - 35	HZCL	7.5YR 3 / 4					FO	25 - 120	Stone					Poor											I	3a	-7.50	5.00	3a	3a
17	32	0 - 25	HZCL	7.5YR 3 / 4					FO	30 - 40	HZCL	7.5YR 4 / 4			CGB	Moderate	40 - 120	Stone						Poor			I	3a	-11.00	1.50	3a	3a
18	23	0 - 25	MCL	7.5YR 3 / 4			10%		FB	25 - 120	MZCL	7.5YR 5 / 6			FB	Moderate											I	2	67.25	43.25	1	2
19	43	0 - 30	MCL	10YR 4 / 3			5%		FB	30 - 120	HZCL	5YR 4 / 4			FB	Poor									reddish	30	IV	3b	37.45	33.45	1	3b
20	38	0 - 30	MCL	5YR 4 / 3			5%		FB	30 - 120	MZCL	5YR 4 / 4			FB	Poor									reddish	30	IV	3b	37.45	33.45	1	3b
21	32	0 - 25	HZCL	7.5YR 3 / 4			10%		FO	25 - 40	HZCL	10YR 6 / 2			CO	Poor	40 - 120	Stone						Poor	25	25	IV	4	-14.50	-2.00	3a	4
22	14	0 - 25	HZCL	7.5YR 3 / 4			10%		FO	25 - 40	HZCL	10YR 6 / 2			CO	Poor	40 - 120	Stone						Poor	25	25	IV	4	-14.50	-2.00	3a	4
23	48	0 - 30	MCL	5YR 3 / 4			5%		FB	30 - 120	MCL	5YR 4 / 4			CBG	Poor									reddish	30	IV	3b	42.45	30.45	1	3b
24	28	0 - 25	MCL	7.5YR 3 / 4			10%		FB	25 - 120	MZCL	7.5YR 5 / 6			FB	Moderate											I	2	67.25	43.25	1	2
25	31	0 - 20	MCL	5YR 3 / 4			10%		FB	20 - 60	mSZL	7.5YR 3 / 4			CBG	Moderate	60 - 120	Stone						Poor			I	2	11.60	27.60	2	2
26	57	0 - 25	MCL	10YR 4 / 3			10%		FB	25 - 120	Stone					Poor											I	2	-33.25	-20.75	3b	3b
27	58	0 - 30	MCL	10YR 4 / 3			10%		FB	30 - 70	MZCL	5YR 4 / 4			FB	Moderate	70 - 120	Stone						Poor			I	2	25.40	50.90	2	2
28	53	0 - 30	MCL	5YR 4 / 3			5%		FB	30 - 120	Stone					Poor											I	2	-23.05	-10.55	3b	3b
29	42	Non Agricultural																														
30	29	0 - 30	MCL	7.5YR 4 / 3			5%		FB	30 - 40	MCL	7.5YR 4 / 4			CB	Good	40 - 120	Stone						Poor			I	2	-3.05	9.45	3a	3a
31	46	0 - 30	MCL	5YR 4 / 3			10%		FO	30 - 120	MCL	5YR 4 / 4			CBG	Poor									reddish	30	IV	3b	39.90	27.90	1	3b
32	34	0 - 30	MZCL	5YR 3 / 4			5%		FO	30 - 120	MZCL	5YR 4 / 4			CBG	Poor									reddish	30	IV	3b	38.30	33.30	1	3b
33	66	0 - 15	MCL	7.5YR 4 / 3			10%		FB	15 - 120	Stone					Poor											I	2	-48.55	-36.05	3b	3b
34	61	0 - 30	MCL	7.5YR 4 / 3			5%		FB	30 - 120	HZCL	5YR 4 / 4			FB	Poor									reddish	30	IV	3b	37.45	33.45	1	3b
35	55	0 - 30	MCL	7.5YR 4 / 3			5%		FB	30 - 120	HZCL	5YR 4 / 4			CGB	Poor									reddish	30	IV	3b	37.45	33.45	1	3b
36	44	0 - 30	MCL	7.5YR 4 / 3			10%		FB	30 - 60	HZCL	5YR 4 / 4		5%	CB	Poor	60 - 120	Stone						Poor	reddish	30	IV	3b	0.53	18.25	3a	3b
37	41	0 - 20	MCL	5YR 4 / 3			10%		FO	20 - 120	HZCL	5YR 4 / 4			CBG	Poor									reddish	20	IV	3b	28.60	23.60	2	3b
38	60	0 - 30	MCL	7.5YR 4 / 3			5%		FB	30 - 120	HZCL	5YR 4 / 4			CB	Poor										30	IV	3b	37.45	33.45	1	3b
39	52	0 - 30	MCL	7.5YR 4 / 3			5%		FB	30 - 120	HZCL	5YR 4 / 4			CB	Poor									reddish	30	IV	3b	37.45	33.45	1	3b
40	41	0 - 30	MCL	7.5YR 4 / 3			5%		FB	30 - 120	HZCL	5YR 4 / 4			CB	Poor									reddish	30	IV	3b	37.45	33.45	1	3b
41	37	0 - 30	MCL	7.5YR 4 / 3			5%		FB	30 - 120	Stone					Poor											I	2	-23.05	-10.55	3b	3b
42	47	0 - 30	MCL	7.5YR 4 / 3			5%		FB	30 - 120	HZCL	5YR 4 / 4			CB	Poor									reddish	30	IV	3b	37.45	33.45	1	3b
43	43	0 - 30	MCL	7.5YR 4 / 3			5%		FB	30 - 120	HZCL	5YR 4 / 4			CB	Poor									reddish	30	IV	3b	37.45	33.45	1	3b
44	49	0 - 30	MCL	7.5YR 4 / 3			5%		FB	30 - 120	ZC	5YR 4 / 4			CB	Poor									reddish	30	IV	3b	44.45	33.45	1	3b
45	48	0 - 30	MZCL	5YR 4 / 4						30 - 60	MZCL	5YR 4 / 4			CGB	Moderate	60 - 120	Stone						Poor	reddish		I	2	16.00	32.00	2	2
46	41	0 - 35	MZCL	5YR 4 / 4						35 - 120	ZC	5YR 4 / 4			CGB	Moderate									reddish		I	2	57.00	42.00	1	2
47	42	0 - 35	MZCL	5YR 4 / 4						35 - 120	ZC	5YR 4 / 4			CGB	Moderate									reddish		I	2	57.00	42.00	1	2
48	38	0 - 30	MCL	5YR 4 / 4						30 - 40	ZC	5YR 4 / 4			CGB	Moderate	40 - 120	Stone						Poor	reddish		I	2	-14.50	-5.00	3a	3a
49	35	0 - 30	MCL	5YR 4 / 4						30 - 45	ZC	5YR 4 / 4			CGB	Moderate	45 - 120	Stone						Poor	reddish		I	2	-7.50	2.00	3a	3a
50	33	0 - 30	MCL	5YR 4 / 4						30 - 40	ZC	5YR 4 / 4			CGB	Moderate	40 - 120	Stone						Poor	reddish		I	2	-14.50	-5.00	3a	3a
51	30	0 - 30	MCL	5YR 4 / 4						30 - 40	ZC	5YR 4 / 4			CGB	Moderate	40 - 120	Stone						Poor	reddish		I	2	-14.50	-5.00	3a	3a
52	28	0 - 30	MCL	5YR 4 / 4						30 - 40	ZC	5YR 4 / 4			CGB	Moderate	40 - 120	Stone						Poor	reddish		I	2	-14.50	-5.00	3a	3a
53	23	0 - 30	MCL	5YR 4 / 4						30 - 70	ZC	5YR 4 / 4			CGB	Moderate	70 - 120	Stone						Poor	reddish		I	2	14.50	37.00	2	2
54	23	0 - 25	MCL	5YR 4 / 4						25 - 120	Stone					Poor											I	2	-37.00	-27.50	3b	3b
55	39	0 - 30	MCL	5YR 4 / 4						30 - 120	Stone					Poor											I	2	-28.50	-19.00	3b	3b
56	24	0 - 25	MCL	5YR 4 / 4						25 - 120	Stone					Poor											I	2	-37.00	-27.50	3b	3b
57	28	0 - 30	MCL	5YR 4 / 4						30 - 70	MZCL	2.5YR 4 / 4			FB	Poor	70 - 120	Stone						Poor	reddish		I	2	4.50	25.00	3a	3a
58	26	0 - 25	MCL	5YR 4 / 4						25 - 120	Stone					Poor											I	2	-37.00	-27.50	3b	3b
59	12	0 - 30	MCL	7.5YR 4 / 3					FB	30 - 85	MCL	7.5YR 4 / 4			FOB	Moderate	85 - 120	Stone						Poor			I	2	34.75	41.00	1	2
60	12	0 - 35	MCL	7.5YR 4 / 3					FB	35 - 85	MCL	7.5YR 4 / 4			FOB	Moderate	85 - 120	Stone						Poor			I	2	35.75	42.00	1	2
61	11	0 - 35	MCL	7.5YR 4 / 3					FB	35 - 80	MCL	7.5YR 4 / 4			FOB	Moderate	80 - 120	cSL	N	7.5YR 4 / 4				Good			I	2	89.00	42.00	1	2
62	10	0 - 35	MCL	7.5YR 4 / 3					FB	35 - 80	MCL	7.5YR 4 / 4			FOB	Moderate	80 - 120	cSL	N	7.5YR 4 / 4				Good			I	2	89.00	42.00	1	2

Appendix 4b – Trial Pit Descriptions

Survey 1

Sample Point No. 12		
Horizon 1	0-25 cm Brown (10YR 4/3) stoneless medium silty clay loam topsoil with a weak medium sub angular blocky structure.	
Horizon 2	25-120 cm – Greyish brown (2.5Y 5/2) stoneless clay subsoil with many ochreous and black mottles. Very weakly structured but coarse platy structure can be identified where a large lump is gently pulled apart.	
Pictures		
Horizon 1 	Horizon 2 	Horizon 2 cont 
Slowly permeable layer	25cm identified by the poorly structured clay subsoil with less than 0.5% biopores >0.5mm and ochreous mottles evidencing wetness	
Gleying	25cm evidenced by grey colours and ochreous mottles	
Wetness Class	IV	
Wetness limitation	3b	
MB Wheat	49	
MB potatoes	40	
Droughtiness Limitation	1	

Sample Point No. 45		
Horizon 1	0-30cm Reddish brown (5YR 4/4) stoneless medium silty clay loam topsoil with a weak fine sub angular blocky structure	
Horizon 2	30-60cm Reddish brown (5YR 4/4) stoneless medium silt clay loam subsoil with common grey and black mottles. Structure is medium angular blocky but with a coarse platy section at the top of the horizon likely caused by mechanical compaction.	
Horizon 3	60cm – Impenetrable to further digging or augering with hand tools due to presence of broken bedrock layer.	
Pictures		
Horizon 1 	Horizon 2 	Horizon 3 
Slowly permeable layer	Not present	
Gleying	Not present	
Wetness Class	I	
Wetness limitation	2	
MB Wheat	16	
MB potatoes	32	
Droughtiness Limitation	2	

Survey 2

Sample Point No. 14	
Horizon 1	0-25cm – Brown (10YR 5/3) Heavy silty clay loam (HZCL) stoneless topsoil with few ochreous (FO) mottles and a medium sub angular blocky structure (MSAB).
Horizon 2	25-45cm – Light brownish grey (10YR 6/2) heavy silty clay loam (HZCL) stoneless upper subsoil with common ochreous (CO) mottles and a weak coarse angular blocky (CAB) structure with firm consistence.
Horizon 3	45 - 120cm – Yellowish red (5YR 5/6) heavy silty clay loam (HZCL) stoneless lower subsoil with common black and grey (CBG) mottles and a coarse platy (CP) structure with a firm consistence.
Pictures	
Horizon 1 	Horizon 2  Horizon 3 
Slowly permeable layer	Starts at 25cm – evidenced by weak coarse angular blocky structure with less than 0.5% biopores >0.5mm.
Gleying	Starts at 25cm evidenced by greyish ped faces and ochreous mottles.
Wetness Class	IV
Wetness limitation	4
MB Wheat	39.5
MB potatoes	35.5
Droughtiness Limitation	1

Sample Point No. 61		
Horizon 1	0-35cm – Brown (7.5YR 4/3) medium clay loam (MCL) stoneless topsoil and few black (FB) mottles and a medium sub angular blocky structure (MSAB).	
Horizon 2	35-80cm – Brown (7.5Y 4/4) medium clay loam (MCL) stoneless upper subsoil with few ochreous and black (FOB) mottles. The horizon appeared to have a course platy structure, however, this seemed to be due to compaction and the structure was actually a coarse subangular blocky structure.	
Horizon 3	80 -120cm – Brown (7.5YR 4/4) course sandy loam (cSL) stoneless lower subsoil with no evidence of mottling and a medium subangular blocky (MSAB) structure.	
Pictures		
Horizon 1 	Horizon 2 	Horizon 3 
Slowly permeable layer	Not present.	
Gleying	Not present.	
Wetness Class	I	
Wetness limitation	2	
MB Wheat	89	
MB potatoes	42	
Droughtiness Limitation	1	

Sample Point No. 14	
Description	Example of mottling in core samples at Point 1
	

Sample Point No. 15	
Description	View looking East from Point 15 showing general site topography.
	

Sample Point No. 23	
Description	View looking South from Point 23 showing general site topography.

Sample Point No. 31	
Description	Example of mottling in core samples at Point 8

Sample Point No. 25	
Description	View looking West from Point 13 showing gradient of site.

Sample Point No. 59	
Description	View looking South East from Point 14 showing general site topography.

Survey 3

Sample Point No. 43	
Horizon 1	0-30 cm – Brown (7.5YR 4/3) medium clay loam (MCL) topsoil with 5% rounded stones (2-6cm) and few black (FB) mottles and a weak fine sub angular blocky structure (WFSAB).
Horizon 2	30-120cm – Reddish brownish (5YR 4/4) silty clay (ZC) stoneless upper subsoil with few black (FB) mottles and a course prismatic (CP) structure.
Horizon 2 cont:	Picture showing depth (30 cm) to horizon 2
Pictures	
Horizon 1 	Horizon 2 
	Horizon 2 cont: 
Slowly permeable layer	Starts at 30cm – evidenced by weak coarse prismatic structure with less than 0.5% biopores >0.5mm.
Gleying	Not present but soils reddish
Wetness Class	IV
Wetness limitation	3b
MB Wheat	37.45
MB potatoes	33.45
Droughtiness Limitation	1

Sample Point No. 19	
Description	Core samples of topsoil and upper sub soil at Point 11

Sample Point No. 30	
Description	Example of mottling in upper sub soil core sample at Point 22

Sample Point No. 33	
Description	Stoney layer at 15cm preventing further hand augering.

Sample Point No. 34	
Description	View looking South from Point 26 showing general site topography.

Sample Point No. 35	
Description	View looking East from Point 27 showing general site topography.

ANALYTICAL REPORT

Report Number	**57714-23**	**W250**	**AMET PROPERTY**	**Client**	**PONTHIR**
Date Received	**15-FEB-2023**		**HENWICK BARN**		
Date Reported	**28-FEB-2023**		**BULWICK**		
Project	**SOIL**		**CORBY**		
Reference	**PONTHIR**		**NORTHANTS**		
Order Number			**NN17 3DU**		

Laboratory Reference		**SOIL610054**	**SOIL610055**	**SOIL610056**	**SOIL610057**	**SOIL610058**					
Sample Reference		**PONTHIR 2TS** (Not in scheme)	**PONTHIR 13TS** (Now point 7)	**PONTHIR 13SS** (Now point 7)	**PONTHIR 20TS** (Now point 45)	**PONTHIR 20SS** (Now point 45)					
Determinand	**Unit**	**SOIL**	**SOIL**	**SOIL**	**SOIL**	**SOIL**					
Coarse Sand 2.00-0.63mm	% w/w	2	2	2	7	3					
Medium Sand 0.63-0.212mm	% w/w	4	7	6	2	3					
Fine Sand 0.212-0.063mm	% w/w	10	12	12	5	2					
Silt 0.063-0.002mm	% w/w	52	56	57	62	66					
Clay <0.002mm	% w/w	32	23	23	24	26					
Textural Class **		HZCL	MCL	MCL/MZCL	MZCL	MZCL					

Notes

Analysis Notes

The sample submitted was of adequate size to complete all analysis requested.
The results as reported relate only to the item(s) submitted for testing.
The results are presented on a dry matter basis unless otherwise stipulated.

Document Control

** Please see the attached document for the definition of textural classes.

Reported by

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ADAS (UK) Textural Class Abbreviations

The texture classes are denoted by the following abbreviations:

Class	Code
Sand	S
Loamy sand	LS
Sandy loam	SL
Sandy Silt loam	SZL
Silt loam	ZL
Sandy clay loam	SCL
Clay loam	CL
Silt clay loam	ZCL
Clay	C
Silty clay	ZC
Sandy clay	SC

For the *sand, loamy sand, sandy loam* and *sandy silt loam* classes the predominant size of sand fraction may be indicated by the use of prefixes, thus:

- vf Very Fine (more than 2/3's of sand less than 0.106 mm)
- f Fine (more than 2/3's of sand less than 0.212 mm)
- c Coarse (more than 1/3 of sand greater than 0.6 mm)
- m Medium (less than 2/3's fine sand and less than 1/3 coarse sand).

The subdivisions of *clay loam* and *silty clay loam classes* according to clay content are indicated as follows:

- M medium (less than 27% clay)
- H heavy (27-35% clay)

Organic soils i.e. those with an organic matter greater than 10% will be preceded with a letter O.

Peaty soils i.e. those with an organic matter greater than 20% will be preceded with a letter P.

ANALYTICAL REPORT

Report Number	**83119-25**	**W250**	**AMET PROPERTY**
Date Received	**10-MAR-2025**		**HENWICK BARN**
Date Reported	**20-MAR-2025**		**BULWICK**
Project	**SOIL**		**CORBY**
Reference	**AMET PROPERTY**		**NORTHANTS**
Order Number			**NN17 3DU**

Laboratory Reference		**SOIL741266**	**SOIL741267**	**SOIL741268**	**SOIL741269**						
Sample Reference		**PONT 1 TS** (Now point 14)	**OONT 1 SS 1** (Now point 14)	**PONT 16 TS** (Now point 61)	**PONT 16 SS** (Now point 61)						
Determinand	**Unit**	**SOIL**	**SOIL**	**SOIL**	**SOIL**						
Coarse Sand 2.00-0.63mm	% w/w	2	0	1	1						
Medium Sand 0.63-0.212mm	% w/w	6	3	9	10						
Fine Sand 0.212-0.063mm	% w/w	12	7	17	25						
Silt 0.063-0.002mm	% w/w	49	58	49	44						
Clay <0.002mm	% w/w	31	32	24	20						
Textural Class **		HCL/HZCL	HZCL	MCL	MCL						

Notes

Analysis Notes

The sample submitted was of adequate size to complete all analysis requested.
The results as reported relate only to the item(s) submitted for testing.
The results are presented on a dry matter basis unless otherwise stipulated.

Document Control

** Please see the attached document for the definition of textural classes.

Reported by

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Silt loam	ZL
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Clay loam	CL
Silt clay loam	ZCL
Clay	C
Silty clay	ZC
Sandy clay	SC

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- H heavy (27-35% clay)

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Peaty soils i.e. those with an organic matter greater than 20% will be preceded with a letter P.

ANALYTICAL REPORT

Report Number	**96022-25**	**W250**	**AMET PROPERTY**
Date Received	**12-JUN-2025**		**HENWICK BARN**
Date Reported	**23-JUN-2025**		**BULWICK**
Project	**SOIL**		**CORBY**
Reference	**PONT 37**		**NORTHANTS**
Order Number			**NN17 3DU**

Laboratory Reference		**SOIL754049**	**SOIL754050**
Sample Reference		**PONT 37 TS** (Now point 44)	**PONT 37 SS** (Now point 44)
Determinand	**Unit**	**SOIL**	**SOIL**
Coarse Sand 2.00-0.63mm	% w/w	6	0
Medium Sand 0.63-0.212mm	% w/w	4	0
Fine Sand 0.212-0.063mm	% w/w	13	1
Silt 0.063-0.002mm	% w/w	53	62
Clay <0.002mm	% w/w	24	37
Textural Class **		MCL	ZC

Notes

Analysis Notes

The sample submitted was of adequate size to complete all analysis requested.
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The results are presented on a dry matter basis unless otherwise stipulated.

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This test report shall not be reproduced, except in full, without the written approval of the laboratory.

** Please see the attached document for the definition of textural classes.

Reported by

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Loamy sand	LS
Sandy loam	SL
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Silt loam	ZL
Sandy clay loam	SCL
Clay loam	CL
Silt clay loam	ZCL
Clay	C
Silty clay	ZC
Sandy clay	SC

For the *sand, loamy sand, sandy loam* and *sandy silt loam* classes the predominant size of sand fraction may be indicated by the use of prefixes, thus:

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Peaty soils i.e. those with an organic matter greater than 20% will be preceded with a letter P.

APPENDIX **5** - DESCRIPTION OF ALC GRADES

Grade 1 - excellent quality agricultural land Land with no or very minor limitations to agricultural use. A very wide range of agricultural and horticultural crops can be grown and commonly includes top fruit, soft fruit, salad crops and winter harvested vegetables. Yields are high and less variable than on land of lower quality.

Grade 2 - very good quality agricultural land Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural and horticultural crops can usually be grown but on some land in the grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1.

Grade 3 - good to moderate quality agricultural land Land with moderate limitations which affect the choice of crops, timing and type of cultivation, harvesting or the level of yield. Where more demanding crops are grown yields are generally lower or more variable than on land in Grades 1 and 2.

Subgrade 3a - good quality agricultural land Land capable of consistently producing moderate to high yields of a narrow range of arable crops, especially cereals, or moderate yields of a wide range of crops including cereals, grass, oilseed rape, potatoes, sugar beet and the less demanding horticultural crops.

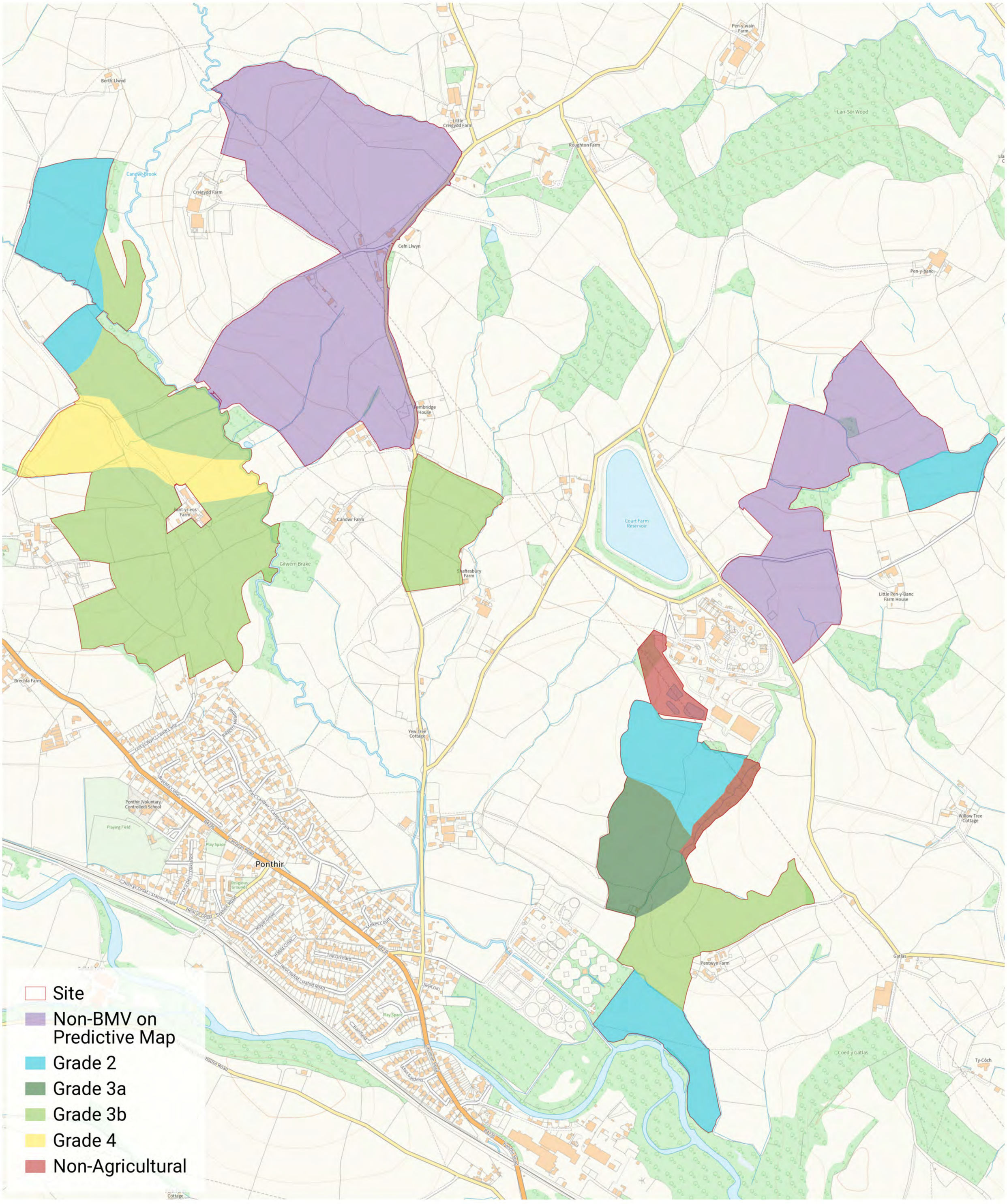
Subgrade 3b - moderate quality agricultural land Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.

Grade 4 - poor quality agricultural land Land with severe limitations which significantly restrict the range of crops and/or level of yields. It is mainly suited to grass with occasional arable crops (e.g. cereals and forage crops) the yields of which are variable. In moist climates, yields of grass may be moderate to high but there may be difficulties in utilisation. The grade also includes very droughty arable land.

Grade 5 - very poor-quality agricultural land Land with very severe limitations which restrict use to permanent pasture or rough grazing, except for occasional pioneer forage crops.

Appendix 6 - Map of ALC Grade

Land App



Produced on Land App, Aug 6, 2025.

100 m

Scale 1:6000 (at A2)

N

Town & Country Planning (Environmental Impact Assessment) Regulations 2017

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