



# **Glöyn Byw | Butterfly Solar Farm**

**Land to the North of the B5426,  
Wrexham**

## **Transport Statement**

Prepared for

**RWE**

RWE Renewables UK

August 2025  
3456-01-TS01



# Document Control

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## **1.0 INTRODUCTION**

### **1.1 Background**

- 1.1.1 Axis has been appointed by RWE Renewables UK (hereafter referred to as ‘the Applicant’) to provide highways and transport advice in relation to the Glöyn byw / Butterfly Solar Farm project (‘the Proposed Development’).
- 1.1.2 The Proposed Development comprises a new solar energy generating station and an associated on-site Battery Energy Storage System (BESS) on land to the north of the B5426, Wrexham (‘the Site’). The Proposed Development also includes the associated infrastructure and connection to the Legacy National Grid substation.
- 1.1.3 The design for the Proposed Development would enable the export of up to 99.9 megawatts (MW) of electricity, as well as the storage of electricity in the BESS.
- 1.1.4 As the Proposed Development would have an electrical generating capacity of more than 10 MW, it would be defined as a Development of National Significance (DNS) and therefore the Proposed Development will be determined by Planning and Environment Decisions Wales (PEDW).
- 1.1.5 The Site is located within Wrexham County Borough Council (‘the Council’ or ‘WCBC’), approximately 3km to the south of the City of Wrexham and 1.5km to the east of Johnstown. The solar array and associated infrastructure would be located on land to the north of the B5426 and the east of the A483.
- 1.1.6 The solar array is divided into three principal areas referred to as the Western, Central and Eastern Array Areas (the WAA, CAA and EAA respectively).
- 1.1.7 The purpose of this report is to set out the anticipated highways and transportation elements associated with the Proposed Development, including matters relating to access to the Site from the local highway network.

### **1.2 Scoping Direction from PEDW**

- 1.2.1 The Proposed Development was subject to an Environmental Impact Assessment (EIA) Scoping Request, in accordance with the Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017, submitted to Planning and Environment Decisions Wales (PEDW) on 3<sup>rd</sup> February 2025.



- 1.2.2 The screening request was accompanied by an EIA Scoping Report (reference 3456-01-SCP-01) prepared by Axis, which comprised initial project information with respect to the Proposed Development, including matters relating to highways and transport.
- 1.2.3 The EIA Scoping Report concluded that matters relating to traffic and transport should be scoped out of the EIA process, given the following considerations:

Construction Effects

*Limited requirement for construction traffic. Average vehicle movements will be in the order of twelve deliveries (twelve inbound plus twelve outbound movements) per day over the 39 – 52 week construction period. There will only be minor fluctuations in this scheduling. The relatively good access and limited low frequency of traffic, which would be managed via a Construction Traffic Management Plan.*

Operational Effects

*Isolated and infrequent maintenance will be required, resulting in negligible operational traffic movements*

- 1.2.4 An EIA Scoping Direction was received from PEDW on 3<sup>rd</sup> April 2025 and confirms that Traffic and Transport is a topic scoped out of the EIA process. A copy of this correspondence is included as **Appendix A**.
- 1.2.5 The scoping direction specifically stated that transport could be scoped out of the ES, provided that the requirements set out in the Transport Directorate's response in Appendix 1 are met, specifically:

*The developer must clarify ownership of the vegetation bordering the trunk road, with a detailed landscape proposal in regard to the provision of adequate screening from the trunk road to avoid glare from the solar panels.*

*With regard to screening from the trunk road to prevent glare from the solar panels, it is assumed that the relevant locations will be identified through a glint and glare assessment. Once these locations are confirmed, cost estimates can then be obtained for acquiring the necessary highways boundary information.*



*The Transport Directorate also provide details of a required risk assessment for trunk road users that must be submitted to Welsh Government. They add that any proposed lighting must be erected so that no part of the illumination gear is visible to motorists using the trunk road.*

*No equipment associated to the solar scheme is proposed to be located within 15m of the trunk road therefore no risk assessment is deemed necessary.*

*PEDW welcomes that a Construction Traffic Management Plan (CTMP) is being prepared and recommends this is included as a technical appendix to the ES. The Transport Directorate provide requirements for the CTMP in their response in Appendix 1.*

*A CTMP has been prepared which considers comments from the Transport Directorate.*

*PEDW did not receive any comments from Wrexham CBC in regard to transport. The Applicant is advised to liaise directly with the LPA for comments on traffic and transport.*

*AXIS liaised with Wexham CBC Highways independently and comments were supplied by email. A copy of this email correspondence included within **Appendix A** at the end of this report.*

### **1.3 Report Structure**

**1.3.1** This Transport Statement (TS) sets out anticipated highways and transport matters relating to the Proposed Development.

**1.3.2** Following this introductory section, the structure of this TS is as follows:

- i) **Chapter 2** describes the existing conditions on and around the Site, including reference to the local highway network, and a review of the Personal Injury Accident (PIA) record on the local road network;
- ii) **Chapter 3** sets out the development proposals, including a description of the proposed Site access arrangements;
- iii) **Chapter 4** presents the anticipated trip generating potential of the scheme on the local highway network; and,
- iv) **Chapter 5** provides the summary and conclusions.



## 2.0 EXISTING CONDITIONS

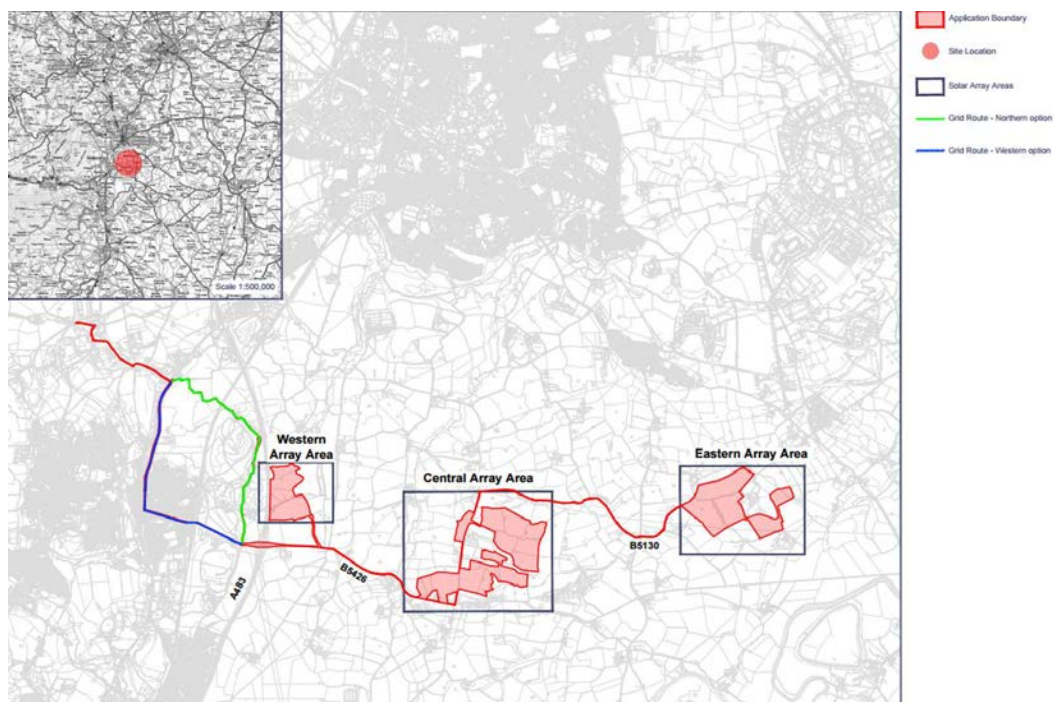
### 2.1 Introduction

2.1.1 This section of the TS describes the existing conditions in and around the development Site, focussing on the Site location, its existing use, access arrangements and the local highway network including its accident record.

### 2.2 Site Location and Existing Use

2.2.1 The location of the Site is shown on **Image 2.1**.

**Image 2.1 – Site Location Plan**



2.2.2 The Site is divided into three principal areas referred to as the Western, Central and Eastern Array Areas (the WAA, CAA and EAA respectively), each of which is described below. Each of the array areas are separated by approximately 1.8km and they would be connected to each other via underground cabling, which in turn would link to a main onsite substation located within the WAA. The application also includes an underground cable connection from the onsite substation to the Legacy National Grid Sub-Station, which is located approximately 1.3km to the north of Rhosllannerchrugog.

2.2.3 The OS grid references for each of the array areas are:

- i) WAA – 331692, 346263

ii) CAA – 333959, 345629

iii) EAA – 336679, 346129

2.2.4 The entirety of the Site covers an area of approximately 146ha. This comprises a fenced/panelled area of 102ha, a proposed 16ha wildflower meadow, and a cable run area also of 16ha.

2.2.5 The Predictive Agricultural Land Classification (ALC) Map 2 classifies the majority of the Site as being Grade 3b land, with small pockets of Best and Most Versatile (BMV) land present.

### ***Western Array Area***

2.2.6 The WAA covers approximately 21ha and comprises agricultural fields bound by hedgerows, some of which contain mature trees. The WAA is located to the immediate east of the A483, approximately 1km to the east of Johnstown.

2.2.7 There is a private road leading through the WAA which provides access from Haford Road in the west (west of the A483) to a private residential dwelling, Hafod y Bont, located adjacent (although outside of) the eastern boundary of the WAA. The road is also a Public Right of Way (PRoW), footpath RUA/119. This private road is not proposed as an access route into the WAA. Access would be gained into the WAA from the B5426 to the south as set out later in this TS.

2.2.8 The Haford House Rest Home is located approximately 220m to the west of the Site, to the west of the A483. The Haford Industrial Estate is also located to the west of the A483, approximately 300m from the WAA boundary. The Bonc yr Haford Country Park is located 215m to the west. Within the same area there is also the Stryt Las a'r Haford Site of Special Scientific Interest (SSSI) and the Johnstone Newt Sites Special Area of Conservation (SAC).

### ***Central Array Area***

2.2.9 The Central Array Area (CAA) covers approximately 66ha and comprises agricultural fields bound by hedgerows. Marchwiell Hall Road runs up the centre of the CAA which would be used to access the CAA as detailed later in this TS. The CAA is divided into four distinct parcels, two to the west of the Marchwiell Hall Road and two to the east.



- 2.2.10 There are several properties close to the southern boundary of the CAA, to the north and south of the B5426. These properties form part of the settlement of Eyton. Eyton Primary School is also located in this area, to the south of the B5426. Residential properties are located along Marchwiell Hall Road and lie close to the boundary of the CAA. A golf course and the Plassey Holiday Park is located to the east of the CAA.
- 2.2.11 Bwgan Ddu Lane runs east-west approximately 200m to the north of the CAA. The cable connection between the CAA and the Eastern Array Area (EAA) runs along Bwgan Ddu Lane. This cable route is described further below.
- 2.2.12 No PRoW are located within the CAA. Footpath MAR/7 connects the B5426 with Marchwiell Hall Road and runs along a section of the southern boundary of the CAA.

### ***Eastern Array Area***

- 2.2.13 The EAA covers approximately 43ha and comprises agricultural fields bound by hedgerows. An area of woodland, approximately 30m in width and 350m in length, is located centrally within the EAA. Kiln Lane, a minor road, forms the northern boundary of the EAA. This would be used to gain access into the EAA as set out later in this TS.
- 2.2.14 There are a number of residential properties located along Kiln Lane, on its northern side. Gerwyn Hall is located immediately to the east of the EAA. A residential property and commercial premises are located to the south of the EAA. The nearest settlement to the EAA is the village of Cross Lanes, approximately 850m to the northeast. The village of Bangor-on-Dee is located approximately 1.5km to the southeast. The B5426 runs east-west approximately 600m to the south of the EAA.
- 2.2.15 Footpath SES/6 runs through the eastern most parcel of the EAA. Footpath SES/9 runs along the southern boundary of the EAA and connects to footpath SES/6. There are a number of other footpaths within the vicinity of the EAA, all of which are shown on **Image 2.4** later in this TS.

### ***Electrical Connections***

- 2.2.16 The Site encompasses the roads linking the three solar array areas, along which cables will be installed to connect the solar farm to the main Site substation located within the WAA.



- 2.2.17 The EAA would be connected to the CAA via the B5130 (Kiln Lane), Cockbank Lane, Bwgan-Ddu Lane and Marchwiel Hall Road. The CAA would be connected to the WAA via Marchwiel Hall Road and the B5426.
- 2.2.18 As described in the following section, the Site also includes the electricity connection from the solar farm substation in the WAA to the Legacy Substation. Two route options are being applied for under the planning application. These routes are illustrated on **Image 2.1** earlier within this chapter.
- 2.2.19 The first, the 'Northern Option', would route west along the B5426 from the WAA, before turning north along Haford Road and Corkscrew Lane, to the junction with the B5605 (Wrexham Road). The cable would then cross Wrexham Road and proceed along Smithy Lane before routing north along Talwrn Road and then west along the unnamed B5426 to Legacy Substation entrance road.
- 2.2.20 The second option, the 'Western Option', would route west along the B5426 from the WAA towards Johnstown where it would turn north along the B5605 (High Street/Wrexham Road). It would continue north to the junction with Smithy Lane, and then follow the same route as the Northern Option from this point to Legacy Substation.
- 2.2.21 The proposed routes alongside options for construction are discussed further in paragraph 3.2.5 later within this report.

## 2.3 Local Highway Network

- 2.3.1 This section of the TS describes the sections of road network that would be used to take access to the array areas, as set out later in this TS.

### ***B5426 (Bangor Road)***

- 2.3.2 The B5426 operates in a west-east alignment between Rhosllanerchrugog and Bangor-on-Dee. It also provides access to the Strategic Road Network (SRN) by way of Junction 2 of the A483 Swansea to Manchester Trunk Road, which is located to the south-west of WAA and incorporates both on-slips and off-slips to both carriageways.
- 2.3.3 Locally to the Site, the B5426 is a single carriageway, two-way, predominantly unlit, rural road that is subject to a posted speed limit of 50mph in the vicinity of WAA,





reducing to 30mph / 20mph close to CAA and derestricted in the vicinity of EAA. There is no footway provision along the majority of the road.

- 2.3.4 The majority of the road is subject to centreline and edge of carriageway markings and has a generally carriageway width of some 6.0m, thereby allowing clear two-way vehicular flow in the main.

#### ***Marchwiel Hall Road***

- 2.3.5 Marchwiel Hall Road operates in a general north-south alignment between Sontley Road and the B5426. The road is a single carriageway, two-way, unlit, rural road that is derestricted in the vicinity of CAA.

- 2.3.6 There is no footway provision along the road. The majority of the road is not subject to centreline or edge of carriageway markings and has a varying carriageway width such that single working vehicle movement only is afforded on some sections, although the low vehicle flows mean that this does not appear to generally create any issues in practise.

#### ***B5130 (Kiln Lane)***

- 2.3.7 The B5130 operates in a southwest-northeast alignment between the A528 Overton Road / Cockbank Lane junction and the A534 Wrexham Road.

- 2.3.8 Locally to the Site, the B5130 is a single carriageway, two-way, unlit, rural road that is subject to a posted speed limit of 40mph in the vicinity of EAA. There is no footway provision along the road.

- 2.3.9 The majority of the road is subject to centreline and edge of carriageway markings and has a generally carriageway width of some 5.5m, thereby allowing clear two-way vehicular flow in the main.

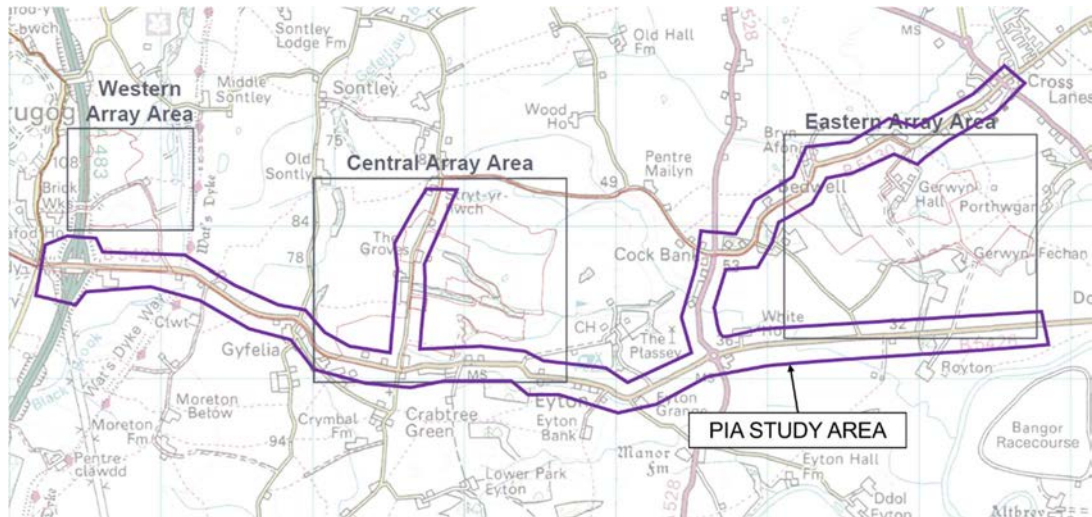
## **2.4 Highway Safety**

- 2.4.1 Personal Injury Accident (PIA) data for the highway network locally to the Site has been obtained from the online CrashMap resource ([www.crashmap.co.uk](http://www.crashmap.co.uk)). Data was extracted for the most recently available three-year period which is from 2021 to 2023 inclusive. The PIA study area in the context of the Site is shown below at **Image 2.2**.



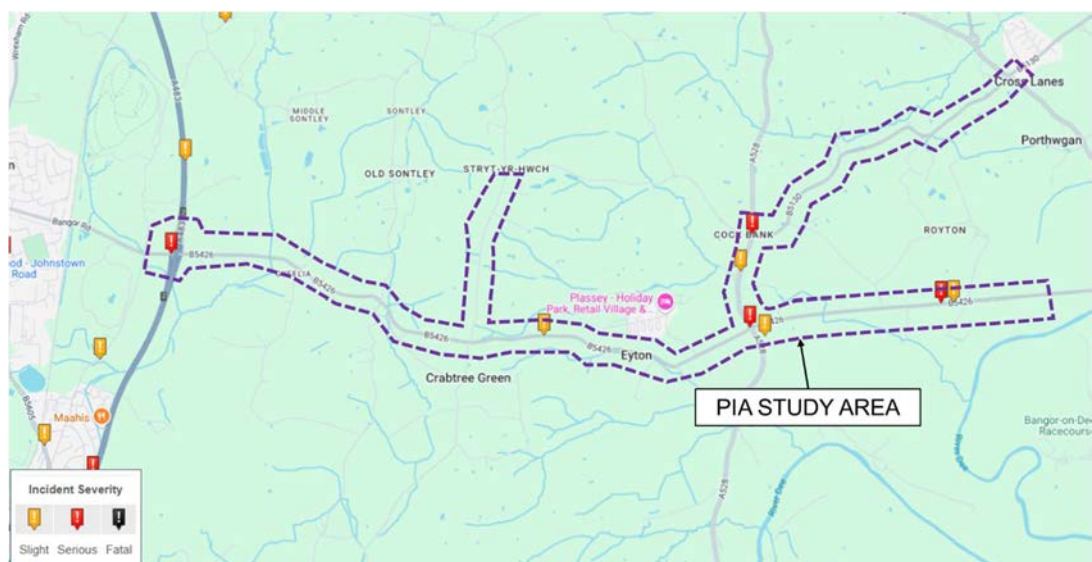


**Image 2.2 – PIA Study Area**



2.4.2 The location and severity of PIAs are shown on **Image 2.3**.

**Image 2.3 – PIA Plot Map (2021-2023 Inclusive)**



2.4.3 It is evident that a total of 8 PIAs occurred within the study area within the assessed 3-year period. Of the 8 PIAs, 4 were classified as serious in severity and 4 were classified as slight. There were no fatalities. This is not considered to be in excess of the quantum and severity of PIAs that may be expected on an equivalent section of the highway network over a 3-year period.

2.4.4 It is also noteworthy that there are no cluster of PIAs (e.g. more than 3 PIAs in a given location) which may otherwise have suggested an underlying safety issue at a certain location of the study area.

- 2.4.5 Moreover, no PIAs occurred at the location of any of the proposed new accesses to the array areas.
- 2.4.6 Whilst all accidents are regrettable there is no discernible cluster or pattern of accidents that would be cause for concern in the context of the Proposed Development.

## 2.5 PRow Network

- 2.5.1 The local PRow network within and in the vicinity of the Site, based on WCBC's online PRow map, is presented at **Image 2.4**.

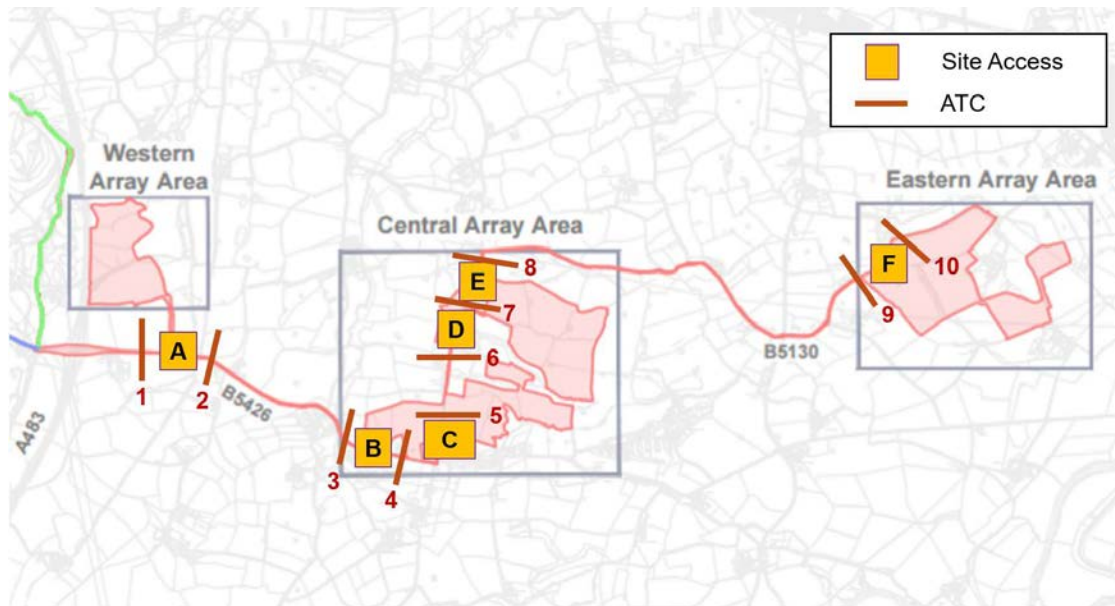
### Image 2.4 – PRow Network Relative to Site



## 2.6 Baseline Traffic Data

- 2.6.1 Axis commissioned a series of Automatic Traffic Counts (ATCs) on the local highway network in the region of the proposed Site accesses. The location of the ATCs relative to the proposed points of Site access (discussed later in this TS) is shown at **Image 2.5**.

**Image 2.5 – ATC Survey and Proposed Site Access Locations**



- 2.6.2 The ATCs were laid for a period of 7 days between 25<sup>th</sup> January – 1<sup>st</sup> February 2024 at the locations shown on **Image 2.5**.
- 2.6.3 The full ATC survey data is available on request. The ATC data indicates typical weekday peak hours of 08:00 – 09:00 in the AM and 17:00 – 18:00 in the PM.
- 2.6.4 The recorded peak hour two-way flows along each of the respective roads from which access to the array areas would be taken are summarised in **Table 2.1**. It should be noted that AM peak hour flows on the Thursday (25/01/24) are from the following Thursday (01/02/24), given that the ATC surveys commenced at midday on the 25/01/24.

**Table 2.1 – ATC Data (Peak Hour Traffic Flows)**

Date	ATC 1 B5426 Bangor Road				ATC 5 Marchwiel Hall Road				ATC 9 B5130 Kiln Lane			
	Two-Way				Two-Way				Two-Way			
	AM		PM		AM		PM		AM		PM	
	(08:00-09:00)		(17:00-18:00)		(08:00-09:00)		(17:00-18:00)		(08:00-09:00)		(17:00-18:00)	
	Total Vehicles	HGVs	Total Vehicles	HGVs	Total Vehicles	HGVs	Total Vehicles	HGVs	Total Vehicles	HGVs	Total Vehicles	HGVs
Thurs 25/01/24	406	43	459	38	33	2	20	4	244	27	284	15
Fri 26/01/24	349	43	352	27	20	1	20	2	216	26	190	12
Mon 29/01/24	352	48	344	28	21	1	21	1	243	27	253	12
Tues 30/01/24	400	55	438	37	17	1	20	2	259	31	269	14
Wed 31/01/24	392	46	410	26	18	1	15	2	234	26	280	16
Average	380	47	400	31	22	1	19	2	239	27	255	14

2.6.5 The data presented in **Table 2.1** shows that the B5426 is subject to average weekday peak hour traffic flows of between 380 and 400 two-way (including between 31 and 47 HGVs two-way). Marchwiel Hall Road is subject to average weekday peak hour traffic flows of between 19 and 22 two-way (including 1 or 2 HGVs two-way). The B5130 is subject to average weekday peak hour traffic flows of between 239 and 255 two-way (including between 14 and 27 HGVs two-way).

2.6.6 The daily weekday traffic flows and subsequent average weekday (AAWT) flows are shown in **Table 2.2**.

**Table 2.2 – ATC Data (Weekday Traffic Flows)**

Date	ATC 1 B5426 Bangor Road		ATC 5 Marchwiel Hall Road		ATC 9 B5130 Kiln Lane	
	Two-Way		Two-Way		Two-Way	
	Daily (24-Hour)		Daily (24-Hour)		Daily (24-Hour)	
	Total Vehicles	HGVs	Total Vehicles	HGVs	Total Vehicles	HGVs
Thurs 25/01/24	3,974	498	233	30	2,325	274
Fri 26/01/24	3,955	488	272	29	2,103	283
Mon 29/01/24	3,490	494	242	25	2,135	259
Tues 30/01/24	3,810	467	212	21	2,324	246
Wed 31/01/24	3,809	507	213	28	2,298	251
Average	<b>3,808</b>	<b>491</b>	<b>234</b>	<b>27</b>	<b>2,237</b>	<b>263</b>

2.6.7 It is evident that the B5426 is subject to AAWT traffic flows of 3,808 two-way (including 491 HGVs two-way). Marchwiel Hall Road is subject to AAWT traffic flows of 234 two-way (including 27 HGVs two-way). The B5130 is subject to AAWT traffic flows of 2,237 two-way (including 263 HGVs two-way).



### 3.0 PROPOSED DEVELOPMENT

#### 3.1 Overview

3.1.1 The Applicant proposes to develop a solar photovoltaic electricity generating station (or 'solar farm') with an export capacity of up to 99.9 MW, battery storage and associated ancillary development, including a 132 kV substation. Copies of the proposed Site layout plans relating to the WAA, CAA, and EAA are included at **Appendix B**.

3.1.2 The electricity generated would be enough to meet the needs of over 34,500 typical Welsh homes and result in an approximate saving of over 2.3 million tonnes of CO<sub>2</sub>, compared with generation from fossil fuels. The inclusion of batteries ensures the maximum efficiency working with the electricity distribution system to enable surplus energy to be stored and released as needed, and provide vital balancing services to the grid network, avoiding intermittency of supply, and allowing a transition to a net zero renewable energy future.

3.1.3 The main components of the Proposed Development are:

- i) Photovoltaic solar panels and associated support frames
- ii) Battery Energy Storage Systems (BESS), including battery storage containers, DC-DC converters and associated hybrid inverters
- iii) Onsite electrical cabling
- iv) An electrical substation compound (132kV) comprising a new substation and control building
- v) Spare parts storage container(s)
- vi) Wooden post deer/stock fencing
- vii) In-ward facing infrared CCTV cameras on 3 m poles
- viii) Landscaping and ecological enhancements
- ix) Electrical cabling between the solar array areas
- x) Electrical cabling to the National Grid Legacy Sub-Station

3.1.4 The point of connection to the National Grid would be via the Legacy Substation located adjacent to the Talwrn Water Tower to the north of Bronwylfa Road (the B5426), approximately 2.7 km to the northwest of the main solar farm area. The solar farm would connect to the substation via an underground electrical cable.





- 3.1.5 The grid connection route would be approximately 4 km from the WAA. For the majority of this route, the underground cable would sit beneath the existing highway boundary.

### **3.2 The Solar Farm**

- 3.2.1 Solar panels typically 'over sail' between 25% and 40% of the land which they occupy and are mounted on frames and arranged in series of rows approximately 4 to 10 m apart and up to a height of 3 m at the highest point, tilted southwards at an angle of 15-24 degrees. Fencing will be situated at least 5 m from any field boundaries with a further 2 m separation from panels to perimeter deer fencing to allow for maintenance of the site/field margins. Furthermore, an offset of 8 m would be maintained to any ditches around the Site.
- 3.2.2 Whilst some minor excavation is required for transformers', inverters', and battery storage containers foundations, these will occupy a minimal overall area, and no significant ground works are required for the development, with the support frames for the panels using piles, driven into the ground.
- 3.2.3 Underground cabling would be laid throughout the Site, connecting the solar panels to the battery storage units. These cables would be laid within trenches dug to approximately 1m deep and 0.5 m in width.
- 3.2.4 Cables would also connect the three solar array development areas. The connection between the WAA and the CAA would be along the B5426. The connection between the CAA and the EAA would be north along Marchwiell Hall Road, east along Bwgan Ddu Lane, Cockbank Lane and Kiln Lane.
- 3.2.5 The electrical connections would be located beneath the hard surfacing of the highway or footway, or within the highways verge. The precise location of the cable will be dictated, in part, by the presence of other utilities within the highway. The cable will be positioned either via directional tunnel boring (such that the surface of the highway is not required to be broken) or via trenching works. Trenching work would be undertaken in short sections, approximately 50-100m lengths of cable per day, each section being backfilled at the end of the day, closure areas extending half-way across the carriageway, to ensure that access is achievable via the other half and would be managed using traffic control systems. In this regard the cable trenching works would be similar to other regular utilities works undertaken within the highway.



- 3.2.6 An outline Construction Traffic Management Plan (CTMP) has been supplied alongside this TS as part of the wider planning submission. A detailed CTMP will be prepared following planning consent to set out and manage the cable laying.
- 3.2.7 The proposal would include an on-site 132 kV substation, which would comprise an open compound with support stanchions and cabling. The substation would be located within the WAA located away from the residential property to the east of the WAA and positioned to take advantage of the screening provided by the adjacent woodland. The substation's main structural elements would be painted in a muted mid-tone neutral shade to ensure that they are visually recessive within the landscape.
- 3.2.8 It is anticipated that the substation would sit within a 60 m x 25 m compound comprising hardstanding and enclosed within a 2.4 m galvanised security palisade fencing. A 4 m high control room building would also sit within the substation compound.
- 3.2.9 The array areas would be enclosed by 2m wood stock post 'deer' fencing. This would sit approximately 5 m from existing hedgerows. Inward facing unlit infrared security cameras, sitting on 3 m posts would be installed around the Site for health, safety and security purposes.

### **3.3 Battery Storage Facilities**

- 3.3.1 The Proposed Development includes battery storage facilities within containerised battery energy storage systems (BESS). These would be situated around the Site and positioned away from residential properties and sensitive receptors. The BESS units would be housed in metal containers measuring approximately 12.5 m x 2.4 m and 2.6 m tall. The BESS containers (and solar array) would be supported by inverters, transformers and associated infrastructure.
- 3.3.2 The purpose of battery energy storage would be to capture any unused or excess energy generation from the solar panels and store it, which can then be released to the grid as and when necessary. This will maximise the efficiency of the solar farm. The batteries can also store surplus electricity from the wider electricity distribution network at times of low usage and high generation elsewhere in Wales and then release it back when the grid requires. This practice is called 'grid balancing' and enables increasing deployment of renewable energy throughout the UK. The BESS



units would be connected to the PV system via inverters. The Site would have a grid export capacity of 99.9 MW.

- 3.3.3 The battery storage components would not require any significant ground works to install as they are prefabricated off-site and then brought to the Site where they are installed on concrete platforms. Some minor ground levelling would be required to ensure the components sit on stable ground.

### 3.4 Dual Use and Reversibility

- 3.4.1 The layout of the solar farm would allow for sheep grazing beneath and between the rows of panels, providing an efficient dual use of land for renewable energy generation and livestock. The Proposed Development would have a design lifespan of 40 years. This is considered a temporary (albeit long term) and fully reversible use, as all equipment and shallow hardstanding surfaces could be removed from Site upon decommissioning.
- 3.4.2 The methods used in construction are such that remediation/decommissioning works following the removal of the solar panels, BESS units and associated infrastructure would be relatively easy to achieve. As such, the Site could be returned to its existing state as agricultural land.

### 3.5 Site Access Arrangements

- 3.5.1 The proposed Site access locations are shown at **Image 2.5**. Each access would serve as both a construction and operational phase access to the respective array areas.
- 3.5.2 A suite of drawings showing the proposed Site access arrangements in detail, including each access junction's scale / form, visibility splays and swept path analysis testing, is provided at **Appendix C**. These matters are also discussed further below.

#### *Visibility Splays*

- 3.5.3 Visibility splay requirements at the new Site accesses have been determined based on recorded 85<sup>th</sup> percentile speeds exhibited by the ATC data collected at the approaches to each Site access as shown at **Image 2.5**.
- 3.5.4 The observed 85<sup>th</sup> percentile speeds are summarised as follows:

- a) ATC 1 (EB) – 53.1 mph (Access A);





- b) ATC 2 (WB) – 39.5 mph (Access A);
- c) ATC 3 (EB) – 45.5 mph (Access B);
- d) ATC 4 (WB) – 42.7 mph (Access B);
- e) ATC 5 (NB) – 37.5 mph (Access C);
- f) ATC 6 (SB) – 36.6 mph (Access C);
- g) ATC 6 (NB) – 35.9 mph (Access D);
- h) ATC 7 (SB) – 37.1 mph (Access D).
- i) ATC 7 (NB) – 38.8 mph (Access E);
- j) ATC 8 (SB) – 37.3 mph (Access E);
- k) ATC 9 (EB) – 43.8 mph (Access F); and,
- l) ATC 10 (WB) – 43.5 mph (Access F).

3.5.5 Based on the observed 85<sup>th</sup> percentile speeds summarised above, this would equate to the following minimum visibility requirements, extrapolated from the stopping sight distance calculation set out in Design Manual for Roads and Bridges (DMRB) for Access A and B and the stopping sight distance calculation set out in Manual for Streets (MfS) for Access C, D, E and F.

Access A (WAA)

- a) Visibility to west – 2.4m x 164.8m; and
- b) Visibility to east – 2.4m x 101.3m.

Access B (CAA)

- a) Visibility to west – 2.4m x 127.4m; and
- b) Visibility to east – 2.4m x 114.9m.

Access C (CAA)

- a) Visibility to south – 2.4m x 59.4m; and
- b) Visibility to north – 2.4m x 57.3m.

Access D (CAA)

- a) Visibility to south – 2.4m x 55.6m; and
- b) Visibility to north – 2.4m x 58.4m.

Access E (CAA)

- a) Visibility to south – 2.4m x 62.5m; and
- b) Visibility to north – 2.4m x 58.9m.



Access F (EAA)

- c) Visibility to south-west – 2.4m x 75.2m; and
- d) Visibility to north-east – 2.4m x 74.4m.

3.5.6 The drawings at **Appendix C** shows that the above visibility splays are achievable within land under the Applicant's control / public highway, with no recourse for third-party land.

***Swept Path Assessment (Access)***

3.5.7 In order to demonstrate that the Site can be safely and satisfactorily accessed, swept path assessments have been undertaken using a 16.5m articulated lorry, which is the largest vehicle anticipated to require access to the Site during the construction period.

3.5.8 The suite of drawings contained in **Appendix C** show that the proposed Site accesses and sections of road network leading to them can satisfactorily cater for construction-related vehicles requiring access to the Site. This includes two-way movement of 16.5m articulated lorries at the accesses.

3.5.9 It should also be noted that any damage that is caused to the highway as a result of large vehicles associated with the construction of the Proposed Development would be made good by the Applicant. This could be secured by a suitably worded planning condition to ensure that the condition of the construction routes are recorded both before / after the installation period and that nil detriment occurs to the local highway network.

3.5.10 During the operational phase, the largest vehicle to require access to the Site would be an LGV for maintenance purposes and therefore in light of the above would be sufficiently accommodated within the highway network.

3.5.11 A number of turning areas have been provided internally within the Site to cater for maintenance (operational) vehicles requiring access. The swept path analysis of turning areas within the site is contained within **Appendix D** at the end of this report.



## 4.0 TRAFFIC GENERATION

### 4.1 Introduction

- 4.1.1 The trips associated with the construction period will be limited and temporary in nature. Trips to the Site once operational would be strictly limited to the occasional LGV associated with maintenance requirements. The forecast trip generation associated to the proposals are discussed in greater detail within this section of the report.
- 4.1.2 The anticipated trip generation associated with the Proposed Development has been derived based on experience of having promoted other solar farm facilities nationally and from information supplied by the Applicant.
- 4.1.3 The traffic generation forecasts relate to the construction period only. Trips to the Site once the solar farm is fully operational would be limited to the occasional LGV associated with maintenance requirements and would be *de minimis* in nature.

### 4.2 Trip Generation during the Construction Period

- 4.2.1 In total, the construction period is expected to last between 39 and 52 weeks. Construction activities would take place 5.5 days per week, during the following hours:
- i) Monday to Friday 07:30 – 18:00;
  - ii) Saturday 08:00 – 14:00; and,
  - iii) No works on Sundays or Bank Holidays.
- 4.2.2 It is forecast that construction traffic will be limited. Average vehicle movements will be in the order of 12 deliveries (12 inbound plus 12 outbound movements) per day, with only be minor fluctuations in this scheduling.
- 4.2.3 **Table 4.1** summarises the number and type of deliveries that are anticipated to be generated during the entire construction period.



**Table 4.1 – Anticipated Traffic Generation during the Construction Period**

Temporary/Ancillary Works & Equipment	Details of load	One-Way Trips	Two-Way Trips
Welfare Delivery	HGV	40	80
Welfare Collection	HGV	40	80
Welfare Servicing (Diesel, water, and waste)	HGV	250	500
Fencing	HGV	20	40
Aggregate for roadways	16T Lorry	1,300	2,600
<b>Construction support total</b>		<b>1,650</b>	<b>3,300</b>
PV Equipment/Components	Details of load	One-Way Trips	Two-Way Trips
PV panels	HGV	345	691
Metal frames	HGV	400	800
Cabling	Mixed	100	200
Inverters and transformers	Mixed	36	72
BESS Containers	Mixed	27	54
Substations	Mixed	4	8
Other	Mixed	26	52
<b>PV Equipment/Components Total</b>		<b>938</b>	<b>1,876</b>
<b>Sum Total*</b>		<b>2,588</b>	<b>5,176</b>

*\*subject to rounding*

4.2.4 As summarised in **Table 4.1**, it is anticipated that the total number of construction related vehicles requiring access to the Site would be some 2,588 one-way trips (5,176 two-way trips) across the full construction period. These trips would be spread across the various Site accesses (A - F) as set out previously.

4.2.5 The construction phase would require a total of 80 staff members being on Site at any one time. Staff will be mini-bussed in, with a 4-person per vehicle target where required. It is therefore forecast that the total light movements during the construction period will be 20 one-way or 40 two-way trips per day.

4.2.6 The following subsections of this report set out the ‘first principles’ assumptions and trip generation forecasts of the delivery and staff movements that might be expected to occur on a daily basis.

### **HGV Deliveries**

4.2.7 With regards to the above, **Table 4.2** sets out the ‘first principles’ assumptions and associated traffic generation forecasts for the construction-related deliveries (excluding staff). For robustness, these figures are based on an assumed 39-week construction period in order to present the maximum average number of movements that may occur.



**Table 4.2 – ‘First Principles’ Assumptions and Trip Generation Forecasts for Deliveries (Based on 39-Week Construction)**

Breakdown of Trip Generation Proportions per Operating Day	
There would be 58.5 operating hours per week (5 x 10.5-hour weekdays and 1 x 6-hour Saturday)	
As a proportion of the weekly operating hours, weekdays would account for 90% of weekly trips (over 5 weekdays)	
This equates to 18% of weekly trips per weekday (i.e. 90% / 5)	
As a proportion of the weekly operating hours, Saturdays would account for 10% of weekly trips	
Traffic Generation (39 Weeks Construction)	
During the construction period, there will be:	5,176 two-way delivery-related movements, in total
This equates to approximately:	133 two-way delivery-related movements per week (on average)
Based on the proportional breakdown of operational hours above, this equals approximately	24 two-way HGV movement per weekday, on average*
And approximately,	14 two-way HGV movements per Saturday, on average*

\*Subject to rounding

4.2.8 As set out in **Table 4.2**, during the construction period, there are expected to be a total of approximately 24 two-way delivery-related movements per weekday and 14 two-way delivery related movement per Saturday, on average. This level of traffic generation is considered to be insignificant.

4.2.9 Again, these figures are based on an assumed 39-week construction programme for robustness. Based on a 52-week construction programme, the above figures reduce to 18 two-way per weekday and 10 two-way per Saturday, on average.

### **Construction Staff Trips**

4.2.10 In addition to trips associated with deliveries, and as mentioned earlier, there will also be a number of movements associated with staff trips. The ‘first principles’ assumptions and associated trip generation relating to construction staff are set out in **Table 4.3**.



**Table 4.3 – ‘First Principles’ Assumptions and Trip Generation Forecasts for Staff**

Staff Trips (Weeks 1 – 52)	
During the peak period there will be:	80 construction staff on site per day
Assuming an occupancy of 4 people per vehicle, this equates to:	40 two-way staff trips per day

- 4.2.11 As set out in **Table 4.3**, approximately 80 construction-related staff would require access to the Site per day. Assuming vehicle share occupancy of 4 people per vehicle, the proposed construction phase can be expected to result in 40 two-way vehicle trips per day.

### 4.3 Total Construction-Related Traffic Generation

- 4.3.1 In total, there will be a maximum of approximately 64 two-way movements per day during the construction period. This is inclusive of delivery-related movements and staff trips and is robustly based on a 39-week construction period.
- 4.3.2 This level of traffic generation is low in absolute terms and would not be expected to result in any material impact on highway safety or the free flow of traffic on the surrounding highway. This movement profile is expected to be of no material difference to the current farm and agricultural vehicles that travel along the access routes at the current time. Daily HGV construction related movement would be spread throughout the day with light vehicle staff movements occurring at the start and end of the day.
- 4.3.3 It should also be reiterated here that this level of traffic generation is temporary in nature and any trips to the Site, once operational, would be limited to the occasional LGV for maintenance purposes and would be insignificant in nature.
- 4.3.4 The total average daily two-way trips, comprising both construction staff and HGV deliveries, are summarised in **Table 4.4** Following:

**Table 4.4 – Total Average Daily Two-Way Trips (Based on a 39-Week Construction Period)**

Daily Trips (2-way)	
Vehicle Type	Construction Period (Weeks 1 to 52) Weekday
HGV	24
Lights	40
<b>Total Trips per day (2-way)</b>	<b>64</b>



- 4.3.5 These trips would be split between the various Site access junctions (A - F). Spread over an average weekday (10.5 hours), the Proposed Development can be expected to result in a maximum of approximately 6 two-way trips per hour during the morning and afternoon peaks. This equates to one two-way movement every 10 minutes or so, which is not a significant level of traffic.

#### 4.4 Committed Developments

- 4.4.1 The cumulative schemes in the vicinity of the site, and the associated potential impact on the proposed development, are listed below:

- i) **DNS/3253253 Plas Power Estate Solar Farm** - The routing strategy outlined within the construction traffic management plan (CTMP) for this proposal outlines that construction vehicle traffic will be directed via 3 alternate strategic routes via Junction 4 of the A483, north and south along the A483, and east along the A534. The forecast peak Trip generation for the solar farm is 30 two-way movements per day. Since the construction traffic is being directed straight onto the strategic highway network the potential for cumulative impacts is limited. Construction of the solar farm is forecast between Q1 2025 and Q4 2026, and construction of the BESS is forecast between Q3 2032 and Q2 2033. Once the programme for Butterfly Solar is known a dialogue will be held with the contractor of Plas Power Estate Solar to ensure programming is suitably co-ordinated;
- ii) **P/2020/0363 Sesswick Way Glasshouse Facility** – Since planning approval the site has been placed up for sale however the planning permission has a 5 year period before it expires, so it could be implemented up to 2027. Should permission be granted for Butterfly Solar, the status of this application will be reviewed, to ensure the likelihood of any cumulative impacts are considered; and
- iii) **P/2022/0541 Little Llwyn Onn Solar Farm** – Trip generation is forecast to be 10 HGV movements per day, with access being achieved off Cefn Road, to the far east of the site. It is therefore considered that any interaction of construction vehicle movements between the two sites would be limited. However, notwithstanding this RWE's contractor will engage with that of Little Llwyn Onn Solar Farm prior to commencement to ensure any cumulative movements are suitably managed.

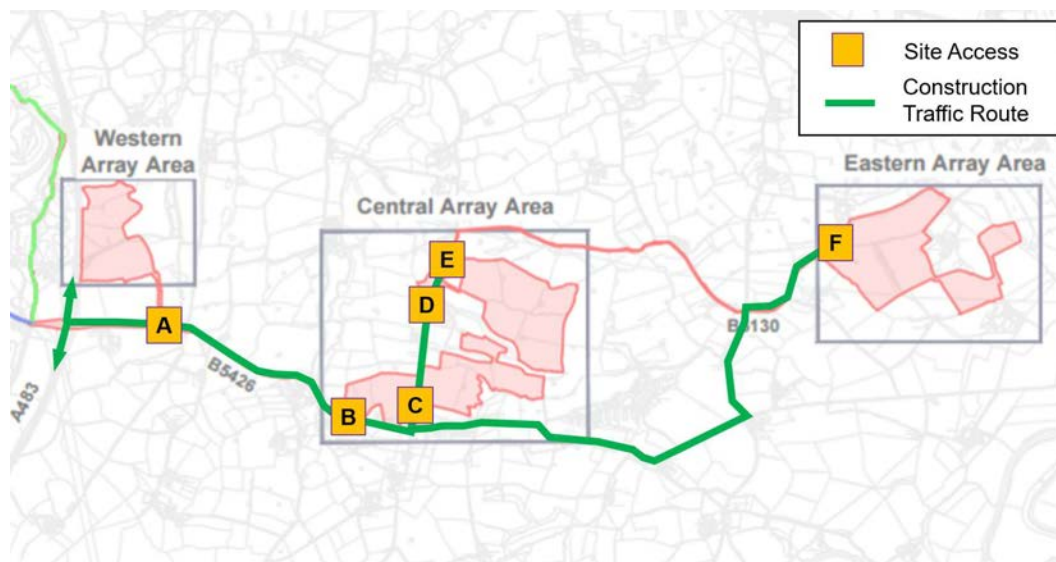
## 4.5 Operational Trip Generation

- 4.5.1 Trips to the Site once the solar farm is fully operational would be limited to the occasional LGV associated with maintenance requirements and would be de minimis in nature. This is likely to be limited to no more than 1 or 2 no. visits per month in a van or similar vehicle.

## 4.6 HGV Routing

- 4.6.1 The exact origination of development related HGV trips is uncertain at this stage and would be determined by the sourcing of materials and plant by the appointed contractor. HGVs would nonetheless be routed primarily along the SRN, avoiding residential areas where possible and statutory limits on HGV movements (such as weight restrictions).
- 4.6.2 Construction traffic will route to all parts of the Site via the A483 Junction 2 (SRN) and the B5426. Access to the WAA will then be achieved directly from the B5426 with access to the CAA and EAA being via Marchwiell Hall Road (CAA) and the B5426 / A528 Overton Road / B5130 Kiln Lane (EAA).
- 4.6.3 A plan showing the routing strategy is included at **Image 4.1**.

**Image 4.1 – Construction Phase Routing Plan**



- 4.6.4 Given the low traffic levels generated by the Proposed Development, as discussed elsewhere in this chapter, it is considered that the Proposed Development would not result in any material impact on the above route(s).



- 4.6.5 An outline CTMP has been supplied alongside this TS as part of the wider planning submission. A detailed CTMP will be prepared following planning consent which will mitigate any impacts arising from construction vehicular traffic movements.

***Operational Phase Routing***

- 4.6.6 During the operational phase, access would be required to the Site for maintenance purposes only. Visits to the Site would be undertaken using a vehicle no larger than a 3.5T panel van. It is not envisaged that a routing restriction would be required to be imposed on maintenance vehicle movements.



## 5.0 SUMMARY AND CONCLUSION

- 5.1.1 Axis has been appointed by RWE Renewables UK ('the Applicant') to provide highways and transport advice in relation to the Glöyn byw / Butterfly Solar Farm project ('the Proposed Development').
- 5.1.2 The Proposed Development comprises a new solar energy generating station and an associated on-site Battery Energy Storage System (BESS) on land to the north of the B5426, Wrexham ('the Site'). The Proposed Development also includes the associated infrastructure and connection to the Legacy National Grid substation.
- 5.1.3 Analysis of road injury accident data has been undertaken for the local highway network within the most recently available 3-year period. The existing accident record does not present a material concern in the context of the Proposed Development and the proposed construction access route.
- 5.1.4 The Proposed Development incorporates seven separate Site accesses from the road network (A – F). The proposed new access junctions would incorporate appropriate visibility splay requirements for the observed 85<sup>th</sup> percentile vehicle speeds, with no recourse for third-party land.
- 5.1.5 Suitable provision for access and egress by the largest anticipated HGVs at the Site would also be made at Site access junctions. It is therefore considered that the proposed access strategy will provide safe and appropriate access and egress to the Site.
- 5.1.6 This TS assesses the traffic generation of the temporary construction phase, which would take place over a 39 - 52-week period, although for the purposes of robustness it has been assessed in this TS across a 39-week period in order to present the potential worst-case level of average weekly / daily vehicle movements.
- 5.1.7 The trip generation of the construction period has been forecast using a 'first principles' approach based on experience of promoting other solar parks nationally and from information supplied by the Applicant.
- 5.1.8 In total, there would be a maximum of approximately 64 two-way movements (including 24 HGVs two-way) per weekday, split across the various Site accesses. This is inclusive of delivery-related movements and staff trips. This level of traffic generation is low in absolute terms and would not be expected to result in any



material impact on highway safety or the free flow of traffic on the surrounding highway network.

5.1.9 Once operational, trips to the Site would be limited to the occasional LGV access to the Site for maintenance purposes and would be *de minimis* in nature.

5.1.10 It is intended that temporary mitigation will be provided during the construction phase, in the form of traffic management such as banksmen. Details of this are provided in the Construction Traffic Management Plan (CTMP) that is submitted alongside this TS and can also be secured by way of a suitably worded planning condition.

5.1.11 Paragraph 116 of the NPPF (December 2024) states:

*“Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network, following mitigation, would be severe, taking into account all reasonable future scenarios.”*

5.1.12 Based on the evidence presented in this TS, no unacceptable impact on highway safety and no severe residual cumulative traffic impact would be created by the Proposed Development. As such there should be no reason to withhold planning permission from a transport perspective.

# **Appendix A – EIA Scoping Direction from PEDW and Correspondence with WCBC**



## EIA Scoping Direction

# DNS CAS-03547-X3S2B5 – Butterfly Solar Farm

**Prepared by:**

Georgia Peters MSc

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**This Scoping Direction is provided on the basis of the information submitted to Planning and Environment Decisions Wales on 03 February 2025, in addition to consultation responses received. The advice does not prejudice any recommendation made by an Inspector or any decision made by the Welsh Ministers in relation to the development, and does not preclude the Inspector from subsequently requiring further information to be submitted with the submitted DNS application under Regulation 24 of The Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017 (as amended) (“The 2017 Regulations”).**

## 1. Introduction

Planning and Environment Decisions Wales (PEDW) received a request under Regulation 33 of the 2017 Regulations for a Scoping Direction in relation to a proposed development for a solar energy generating station and associated on-site Battery Energy Storage System (BESS) by RWE Renewables UK.

The request was accompanied by a Scoping Report (SR) dated February 2025 that outlines the proposed scope of the Environmental Statement (ES) for the proposed development:

‘2025-02-03 – EIA Scoping Request – 01 – Scoping Report - V1’ available via the Planning Casework Portal - <https://planningcasework.service.gov.wales/> and search **CAS-03547-X3S2B5**.

Planning and Environment Decisions Wales (PEDW) is authorised to issue this Scoping Direction on behalf of the Welsh Ministers.

This Direction has been prepared in accordance with the requirements of the 2017 Regulations as well as current best practice towards preparation of an ES. In accordance with the 2017 Regulations PEDW has consulted on the SR and the responses received from the consultation bodies have been duly considered in adopting this Direction.

## 2. Site Description

The site is located on land north of the B5426, Wrexham. The site is divided into three principal areas referred to as the Western, Central and Eastern Array Areas (WAA, CAA and EAA). Each of the array areas are separated by approximately 1.8 km and would be connected via underground cabling which would link to a main on-site substation located within the WAA.

The WAA covers approximately 22 ha and comprises agricultural fields bound by hedgerows, some of which contain mature trees. The WAA is located to the immediate east of the A483, approximately 1 km to the east of Johnstown.

The CAA covers approximately 70 ha and comprises agricultural fields bound by hedgerows, some of which contain mature trees. Marchwiell Hall Road runs up the centre of the CAA which would be used to access the CAA. The CAA is divided into four distinct parcels, two to the west of the Marchwiell Hall Road and two to the east.

The EAA covers approximately 54 ha and comprises agricultural fields bound by hedgerows, some of which contain mature trees. Kiln Lane, a minor road, forms the northern boundary of the EAA. This would be used to gain access into the EAA.

Further information is available in section 2 of the SR.

### 3. Proposed Development

The proposal as described in the SR is for a solar photovoltaic electricity generating station (solar farm) with an export capacity of up to 99.9 MW, battery storage and associated ancillary development, including a 132 kV substation. Further information is available in section 3 of the SR.

The scope of the EIA should include all elements of the development as identified in the SR, both permanent and temporary, and this Scoping Direction is written on that basis.

In the ES, any maps, drawing and illustrations that are proposed to describe the project should be designed in such a way that they can be overlaid with drawings and illustrations produced for other sections.

In line with the requirements of Regulation 17 and Schedule 4 to the 2017 Regulations, any reasonable alternatives considered should be presented in the ES. The reasons behind the selection of the chosen option should also be provided in the ES, including where environmental effects have informed the choices made.

### 4. Consultation

In line with Regulation 33(7) of the 2017 Regulations, formal consultation was undertaken with the following bodies:

- Wrexham County Borough Council Local Planning Authority
- Natural Resources Wales
- Cadw
- The Health and Safety Executive
- Transport Directorate of the Welsh Government
- The Coal Authority
- Welsh Government's Agriculture Directorate
- Hafren Dyfrdwy
- North Wales Fire and Rescue Service

PEDW also received the following additional submissions:

- Severn Trent Water
- SP Energy Networks

Responses received are included in **Appendix 1**.

## 5. Environmental Impact Assessment Approach

The Applicants should satisfy themselves that the ES includes all the information outlined in Schedule 4 of the 2017 Regulations. In addition, the Applicant should ensure that the Non-Technical Summary includes a summary of all the information included in Schedule 4. Consider a structure that allows the author of the ES and the appointed Inspector and Decision Maker to readily satisfy themselves that the ES contains all the information specified Regulation 17 and Schedule 4 of the 2017 Regulations. Cross refer to the requirements in the relevant sections of the ES, and include a summary after the Contents page that lays out all the requirements from the Regulations and what sections of the ES they are fulfilled by.

As the assessments are made, consideration should be given to whether standalone topic chapters would be necessary for topics that are currently proposed to be considered as part of other chapters, particularly if it is apparent that there are significant effects and a large amount of information for a particular topic.

There may also be topic areas scoped out of the ES where the developer may wish to include application documents that sit outside of the ES and provide information that will support their consultation(s) and the decision-making process. The developer is encouraged to liaise with key consultees regarding non-ES application documents which are not a legislative requirement of the DNS regime. If agreement cannot be reached over non-ES application documentation, then the developer may wish to explore whether PEDW can help provide clarity via its statutory pre-application advice service.

The ES should focus on describing and quantifying significant environmental effects. Policy considerations / arguments relating to those impacts should be addressed in other documentation supporting the application (e.g. a Planning Statement), which cross references the ES where necessary. This does not imply that ES chapters should not be prepared in accordance with relevant advice in policy documents (e.g. Technical Advice Notes), rather that the ES should concentrate on identifying significant effects on the environment rather than dealing with policy arguments or exhaustively listing policies.

### 5.1 Baseline

Schedule 4 of the 2017 Regulations states that the 'baseline scenario' is "A description of the relevant aspects of the **current** state of the environment" (emphasis added). The baseline of the ES should reflect actual current conditions at that time.

### 5.2 Reasonable Alternatives

In line with the requirements of Regulation 17 and Schedule 4 to the 2017 Regulations, any reasonable alternatives studied by the Applicant should be presented in the ES. The reasons behind the selection of the chosen option should also be provided in the ES, including where environmental effects have informed the choices made.

It is worth bearing in mind that under the Conservation of Habitats and Species Regulations 2017 ("the Habitats Regulations") unless it can be clearly shown to the Welsh Ministers that the project would have no adverse effect on the integrity of any designated sites, it would have to be shown that there is no feasible alternative solution. Further advice regarding the Habitats Regulations is provided in the final chapter of this Scoping Direction.

### 5.3 Currency of Environmental Information

For all environmental aspects, the applicant should ensure that any survey data is as up to date as possible and clearly set out in the ES the timing and nature of the data on which the assessment has been based. Any study area applied to the assessments should be clearly defined. The impacts of construction, operation and decommissioning activities should be considered as part of the assessment where these could give rise to significant environmental effects. Consideration should be given to relevant legislation, planning policies, and applicable best practice guidance documents throughout the ES.

The ES should include a chapter setting out the overarching methodology for the assessment, which clearly distinguishes effects that are 'significant' from 'non-significant' effects. Any departure from that methodology should be described in individual aspect assessment chapters. Where professional judgement has been applied this should be clearly stated.

The ES topic chapters should report on any data limitations, key assumptions and difficulties encountered in establishing the baseline environment and undertaking the assessment of environmental effects.

### 5.4 Cumulative Effects

The Planning Inspectorate's guidance for Nationally Significant Infrastructure Projects – Advice on Cumulative Effects Assessment sets out a staged process for assessing cumulative impacts which the Applicant should follow when preparing the list of projects for inclusion in the ES: <https://www.gov.uk/guidance/nationally-significant-infrastructure-projects-advice-on-cumulative-effects-assessment>

The Applicant should ensure that relevant schemes identified are addressed in the ES using the tiered approach set out in the Advice.

There may be other types of development that could have cumulative impacts with the proposal, and it should not be assumed that the consideration of cumulative impacts can be restricted to other renewable energy proposals.

Effects deemed individually not significant from the assessment, could cumulatively be significant, so inclusion criteria based on the most likely significant effects from this type of development may prove helpful when identifying what other developments should be accounted for. The criteria may vary from topic to topic.

Best practice is to include proportionate information relating to projects that are not yet consented, dependent on the level of certainty of them coming forward.

All of the other developments considered should be documented and the reasons for inclusion or exclusion should be clearly stated. Professional judgement should be used to avoid excluding other development that is close to threshold limits but has characteristics likely to give rise to a significant effect; or could give rise to a cumulative effect by virtue of its proximity to the proposed development. Similarly, professional judgement should be applied to other development that exceeds thresholds but may not give rise to discernible effects. The process of refinement should be undertaken in consultation with the LPA, NRW and Cadw and other consultees, where appropriate.

The scope of the cumulative assessment should be fully explained and justified in the ES.

### **5.5 Mitigation**

Any mitigation relied upon for the purposes of the assessment should be explained in detail within the ES. The likely efficacy of the mitigation proposed should be explained with reference to residual effects. The ES should provide reference to how the delivery of measures proposed to prevent/ minimise adverse effects is secured (through legal requirements or other suitably robust methods) and whether relevant consultees agree on the adequacy of the measures proposed.

### **5.6 Population and Human Health**

The Applicant should ensure that the ES addresses any significant effects on population and human health, in light of the EIA Regulations 2017. This could be addressed under the separate topic chapters or within its own specific chapter.

### **5.7 Transboundary Effects**

Schedule 4 Part 5 of the EIA Regulations requires a description of the likely significant transboundary effects to be provided in an ES. The ES should address this matter as appropriate.

### **5.8 Topics Scoped In but not subject to a standalone chapter**

For such topics it may be helpful to users of the ES if it includes a summary table that signposts the chapters where these matters are addressed.

## **6. Environmental Impact Assessment Aspects**

This section contains PEDW's specific comments on the scope and level of detail of information to be provided in the Applicant's ES. Environmental topics or features are not scoped out unless specifically addressed and justified by the Applicant, and confirmed as being scoped out by PEDW. In accordance with Regulation 17(4)(c) the ES should be based on this Scoping Direction in so far as the Proposed Development remains materially the same as the Proposed Development described in the Applicant's Scoping Report.

PEDW has set out in this Direction where it has/ has not agreed to scope out matters on the basis of the information available at this time. PEDW is content that the receipt of a Scoping Direction should not prevent the Applicant from subsequently agreeing with the relevant consultees to scope such matters out of the ES, where further evidence has been provided to justify this approach. However, in order to demonstrate that the matters have been appropriately addressed, the ES should explain the reasoning for scoping them out and justify the approach taken.

### **6.1 Aspects Scoped In**

Subject to the comments provided at Table 1, the following aspects are scoped into the ES:

**Air Quality**

**Population and Human Health (not as a standalone chapter)**

**Geology and Soils**

**Flood Risk and Water Resources**

**Material Assets and Waste (not as a standalone chapter)**

**Climate Change (not as a standalone chapter)**

**Major Accidents and Disasters**

**Landscape and Visual Impact (including Lighting/Glare)**

**Ecology and Biodiversity**

**Noise and Vibration**

**Historic Environment**

## 7. Table 1: Planning and Environment Decisions Wales Comments

ID	Reference in Scoping Report	Issue	Comment
<b>Applicant's proposed Aspects proposed to be scoped out</b>			
ID.1	4.3.2 – 4.3.10	Traffic and Transport	<p>It is agreed that Traffic and Transport can be scoped out of the ES, provided that the requirements set out in the Welsh Government Transport Directorate's response in Appendix 1 are met.</p> <p>The Applicant's attention is drawn to Appendix 1 where the Transport Directorate state the developer must clarify ownership of the vegetation bordering the trunk road, with a detailed landscape proposal in regard to provision of adequate screening from the trunk road to avoid glare from the solar panels.</p> <p>The Transport Directorate also provide details of a required risk assessment for trunk road users that must be submitted to Welsh Government. They add that any proposed lighting must be erected so that no part of the illumination gear is visible to motorists using the trunk road.</p> <p>PEDW welcomes that a Construction Traffic Management Plan (CTMP) is being prepared and recommends this is included as a technical appendix to the ES. The Transport Directorate provide requirements for the CTMP in their response in Appendix 1.</p> <p>PEDW did not receive any comments from Wrexham CBC in regard to transport. The Applicant is advised to liaise directly with the LPA for comments on traffic and transport.</p>
ID.2	4.3.11 – 4.3.14	Air Quality	<p>NRW highlight in their response that they are generally in agreement with the justification for scoping out air quality, however, the SR has not referenced the</p>



ID	Reference in Scoping Report	Issue	Comment
			<p>institute of Air Quality Management Guidance, which includes published thresholds. NRW state that the ES should confirm potential impacts relating to the areas within the redline boundary, containing the existing roads, demonstrating the grid route options (which border / overlap with protected sites).</p> <p><b>Given these considerations, impacts on air quality cannot be scoped out at this stage, and this is therefore scoped in.</b> PEDW recommends the applicant liaises directly with NRW on this matter and if it is subsequently agreed that air quality can be scoped out, a robust rationale for this should be provided in the ES. Any departure from the advice provided by NRW should be supported by a robust rationale in the ES.</p>
ID.3	4.3.15	Population and Human Health	<p>PEDW agrees that a standalone chapter is not required, but Population and Human Health should be addressed in appropriate chapters of the ES. <b>This topic is therefore scoped in to the ES, but not as a standalone chapter.</b></p>
ID.4	4.3.16 – 4.3.20	Geology and Soils	<p>In their response included in Appendix 1, Wrexham CBC highlight that a small portion of the development will take place on Best and Most Versatile (BMV) agricultural land. They add that the development will therefore result in a loss of BMV land which in line with PPW should be conserved as a finite resource. Wrexham CBC acknowledge that the development is temporary but highlights that the agricultural versatility of the BMV land, such as for the cultivation of food crops, is effectively unavailable for the period of the development. They also note that there is risk to the BMV status of the land during construction and decommissioning as there will be disturbance to the land which could impact the soil quality. Wrexham CBC therefore suggest that Geology and Soils should be scoped in.</p> <p>The Welsh Government's (WG) Agriculture Directorate also highlight that BMV agricultural land is identified on the Predictive Map and a detailed ALC survey is required to confirm the grades and their distribution. The Applicant is directed to</p>



ID	Reference in Scoping Report	Issue	Comment
			<p>Appendix 1 for more information on requirements of the survey. They highlight that the department is available on request to validate any surveys undertaken and add that if BMV agricultural land is confirmed on site, they expect the Applicant to provide clear evidence of how PPW paragraph 3.58 and 3.59 has been addressed.</p> <p>Furthermore, the WG Agriculture Directorate advise that a Soil Management Scheme (SMS) should be prepared by the Applicant, PEDW recommends this is included as a technical appendix to the ES. The SMS should be informed by the baseline ALC report, soil resources and physical characteristics, and be considered as part of the ES process. More information on requirements for a SMS are included in Appendix 1.</p> <p><b>Geology and Soils are therefore scoped into the ES.</b></p>
ID.5	4.3.21 – 4.3.24	Flood Risk and Water Resources	<p>NRW disagree that Flood Risk and Water Resources should be scoped out of the ES. The Flood Map for Planning (FMfP) identifies the easternmost part of the application site to be at risk of flooding and is partially within Flood Zones 2 and 3 (Rivers).</p> <p>The applicant's attention is drawn to NRW's comments in Appendix 1 where they refer the applicants to the tests set out in section 6 TAN15 (please note that the new version of TAN15 was published on 31 March 2025). If the LPA consider the proposal meets the tests, then the final test is for the applicant to demonstrate through the submission of a Flood Consequences Assessment (FCA) that the potential consequences of flooding can be managed to an acceptable level.</p> <p>NRW note that there are several watercourses within the site boundary, and it is unclear if these would be affected by the proposals. The ES must clarify if any watercourse crossings or groundworks will be required for the project. NRW</p>

ID	Reference in Scoping Report	Issue	Comment
			<p>advise that a screening exercise should be completed to determine if a Water Framework Directive (WFD) Regulations 2017 compliance assessment would be needed to inform the application.</p> <p>NRW and Severn Trent Water note that the River Dee is a drinking water source and therefore effective pollution prevention measures should be implemented during construction. Severn Trent Water add that the CEMP should include operation and decommissioning as well as construction.</p> <p>NRW disagree that impacts on groundwater should be scoped out for the reasons set out below.</p> <p>The eastern array area is located on a Principal aquifer and within a Source Protection Zone (SPZ) for a potable water supply. There is no reference to this highly sensitive hydrogeological site setting within the Scoping Report. This should therefore be considered in the ES.</p> <p>The SR states that the three array areas would be linked by cabling routing following existing infrastructure such as the local highway network. NRW state that consideration of how the cable route interacts with the water environment, and whether cable trenches could impact water features (e.g. streams, springs) is needed and require a water feature survey to be completed along the cable routes and around the array areas.</p> <p>The Applicant's attention is drawn to Appendix 1 where NRW set out requirements for a preliminary site assessment, including:</p> <ul style="list-style-type: none"> <li>• identification of all water features, both surface and groundwater (e.g., ponds, springs, ditches, culverts), within a 300 metre radius of the site;</li> </ul>

ID	Reference in Scoping Report	Issue	Comment
			<ul style="list-style-type: none"> <li>• confirmation of the use of these water features. This should include the construction details of wells and boreholes and details of the lithology into which they are installed;</li> <li>• an indication of the flow regime in the spring or surface water feature, for example whether or not the water feature flows throughout the year or dries up during summer months;</li> <li>• consideration of accessibility to any spring/well</li> </ul> <p><b>Flood Risk and Water Resources is therefore scoped into the ES.</b></p>
ID.6	4.3.25 – 4.3.26	Material Assets and Waste	It will be necessary to address Material Assets and Waste in a proportionate manner in relevant chapters, especially given the requirement to address the decommissioning phase in the ES. The draft Construction Environmental Management Plan (CEMP) should also be included as a technical appendix to the ES. <b>Material Assets and Waste is therefore scoped into the ES, although not necessarily as a standalone chapter.</b>
ID.7	4.3.27	Climate Change	PEDW agree that Climate Change can be scoped out as a standalone chapter and addressed in the relevant sections of the ES. <b>Climate change is therefore scoped into the ES in a proportionate manner, but not necessarily as a standalone chapter.</b>
ID.8	4.3.28 – 4.3.29	Major Accidents and Disasters	<p>The applicant's attention is drawn to the fact that some solar panels are coated in PFAS (Per- and polyfluoroalkyl substances) which can leach over time due to wear and tear. Should the panels proposed include this, appropriate measures need to be put in place to ensure that leaching of PFAS into the local environment does not occur and this should be address in a proportionate manner in the ES.</p> <p>The SR highlights that the development will also comprise of energy storage facilities. At this stage it is not clear which type of batteries or storage facilities are proposed. PEDW notes that there is a potential fire risk associated with</p>

ID	Reference in Scoping Report	Issue	Comment
	3.3.7		<p>certain types of batteries such as lithium-ion and that safety measures are required in the design to minimise the risk of fire. PEDW considers this to be part of the EIA process in line with Schedule 4 of the EIA Regulations (Wales) 2017.</p> <p>The proposed development should include adequate measures to ensure that an isolated fire would not become widespread and lead to a major incident. The SR states that a Battery Safety Management Plan (BSMP) will be implemented, PEDW welcomes this. The BSMP should confirm that the risks are understood, accounted for and mitigated as far as practicable, in agreement with relevant consultees. The applicant is reminded of the responsibilities set by the Regulatory Reform (Fire Safety) Order 2005. The ES should ensure that risks of accidents are accounted for and mitigated in line with Schedule 4. A proportionate section on this aspect should be included in the ES.</p> <p>NRW highlighted that the storage of large battery systems contain lithium-ion electrolytes which have the potential to cause pollution in the event of fire at the site as a result of battery failure. The Battery Energy Storage Systems (BESS) elements of this proposal should be constructed in a way that, should there be a fire on site, the run-off associated with the fighting of this fire is contained and does not enter the wider environment. This should be outlined along with drainage and emergency plans in the BSMP.</p> <p>The applicant's attention is also drawn to the response from HSE highlighting areas of the proposed development fall within HSE public safety consultation zones associated with Major Accident Hazard Pipelines and Installations.</p> <p><b>PEDW does not agree that Risk of Major Accidents can be scoped out at this stage.</b></p>

ID	Reference in Scoping Report	Issue	Comment
ID.9	4.3.30 – 4.3.31	Lighting / Glare	<p>NRW note that glint and glare will be included in the Landscape and Visual Impact Assessment. They add that this should be appended as a technical assessment in accordance with best practice guidance. NRW advise that the Glint and Glare assessment should confirm if any viewpoints from within the Clwydian Range and Dee Valley (CRDV) National Landscape would be affected and explain why this has been assessed to be the case.</p> <p>NRW note that the extent of lighting for the scheme is not yet confirmed, but a Lighting Impact Assessment is proposed to be scoped out. They highlight that the dark skies of the CRDV National Landscape are recognised as being of high importance. In this context, the potential impact on dark skies should be considered in light of the Welsh Government guidance found at <a href="https://gov.wales/sites/default/files/publications/2025-02/dark-skies-guidance.pdf">gov.wales/sites/default/files/publications/2025-02/dark-skies-guidance.pdf</a>. This should be included as part of the Landscape and Visual Impact Assessment (LVIA), if lighting is proposed.</p> <p><b>Lighting / Glare is therefore scoped in as part of the Landscape and Visual Impacts chapter.</b></p>
<b>Landscape and Visual Impacts</b>			
ID.10		Clwydian Range and Dee Valley (CRDV) National Landscape	NRW highlight that their advice is related to the landscape character and visual amenity of the CRDV National Landscape (Area of Outstanding Natural Beauty) and its setting, and the statutory purpose of the designation to conserve and enhance its natural beauty.
ID.11	6.15	Landscape and Visual Impact Assessment (LVIA)	NRW agree with the general approach for the LVIA set out in the SR. They add that the guidance mentioned in the SR should be used together with ' <i>Notes and Clarifications on Aspects of Guidelines for Landscape and Visual Impact Assessment GLVIA3 Technical Guidance Note LITGN-2024-01</i> ' (August 2024)

ID	Reference in Scoping Report	Issue	Comment
			(available online at: <a href="https://www.landscapeinstitute.org/wp-content/uploads/2024/08/LITGN-2024-01-GLVIA3-NC_Aug-2024.pdf">https://www.landscapeinstitute.org/wp-content/uploads/2024/08/LITGN-2024-01-GLVIA3-NC_Aug-2024.pdf</a> )
ID.12	Figures 6.2 a-d	Study Area and Zone of Theoretical Visibility (ZTV)	<p>NRW advise that <i>Guidance Note 46: Using LANDMAP in Landscape and Visual Impact Assessments</i> (GN46 NRW) (available online at: <a href="https://naturalresources.wales/guidance-and-advice/business-sectors/planning-and-development/evidence-to-inform-development-planning/using-landmap-in-landscape-and-visual-impact-assessments-gn46/?lang=en">https://naturalresources.wales/guidance-and-advice/business-sectors/planning-and-development/evidence-to-inform-development-planning/using-landmap-in-landscape-and-visual-impact-assessments-gn46/?lang=en</a>) should be used, together with site-based experience of likely impacts on the protected landscapes, to set the extent of the search and study area. The methodology used to confirm these should be included in the ES.</p> <p>NRW notes that the boundary of the proposed search and study area for the LVIA and ZTV does not extend sufficiently to reach the CRDV National Landscape and therefore advise that the search and ZTV study area should be extended to include the CRDV National Landscape.</p> <p>PEDW recommends the applicant liaises directly with NRW and the LPA to agree an appropriate ZTV range and study area, ensuring this is clearly justified in the ES.</p>
ID.13	Table 6.1	Viewpoints	<p>NRW note that the visibility of the western and central array areas are likely to be limited due to the enclosed landscape and existing vegetation. As there is no ZTV data for the CRDV National Landscape and no viewpoints currently proposed from within it, NRW are unable to rule out whether the statutory landscape may be affected. Therefore, if additional ZTV data indicated potential visibility of the site from within the CRDV National Landscape, NRW advise that viewpoints from within the National Landscape should be included in the LVIA to assess effects on the landscape and its setting, otherwise it can be scoped out.</p> <p>PEDW recommends the applicant liaises directly with NRW and the LPA to agree appropriate viewpoints.</p>

ID	Reference in Scoping Report	Issue	Comment
ID.14	5.7 Appendix 6.1 Figure 5.1	Cumulative Effects	NRW welcome the proposed inclusion of a cumulative assessment and agree with the methodology set out in Section 5.7 of the Scoping Report and Appendix 6.1: LVIA methodology. NRW concur with the 2.5 km study area for cumulative effects as shown in Figure 5.1.
<b>Ecology and Biodiversity</b>			
ID.15			PEDW did not receive any comments from Wrexham CBC regarding Ecology. The Applicant is advised to liaise directly with the LPA for advice on ecology.
ID.16	7.2.11	Key Habitats	PEDW highlights that although the 1990 guidelines are quoted in NRW's response, NRW have previously confirmed they endorse the Handbook for Phase 1 habitat survey – a technique for environmental audit (2010, JNCC Resource Hub) as an appropriate standard: <a href="https://hub.jncc.gov.uk/assets/9578d07b-e018-4c66-9c1b-47110f14df2a">https://hub.jncc.gov.uk/assets/9578d07b-e018-4c66-9c1b-47110f14df2a</a>
ID.17	2.1.30	Protected Sites	<p>In their response NRW notes that the application site is:</p> <ul style="list-style-type: none"> <li>• bordering / partially within Johnstown Newt Sites Special Area of Conservation (SAC)</li> <li>• and Stryt Las a'r Hafod Site of Special Scientific Interest (SSSI)</li> <li>• 860 m from River Dee and Bala Lake SAC / River Dee SSSI</li> <li>• 2.6 km from Berwyn Mountains and South Clwyd Mountains SAC / Llantysilio</li> <li>• Mountains and Minera SSSI</li> <li>• 6.2 km from Shell Brook Pastures SSSI</li> <li>• 7.8 km from Llandegla Moor SSSI</li> </ul> <p>NRW highlight that the proposed western solar array is approximately 215 m from the Johnstown Newt Sites SAC and within the SAC buffer identified in Wrexham CBC's Local Planning Guidance. However, the 'Electrical Connections' section (2.1.30) of the SR and plans indicate that the westernmost</p>

ID	Reference in Scoping Report	Issue	Comment
			<p>red line boundary beyond the western solar array borders and overlaps the SAC and SSSI boundaries. NRW identify potential impacts to the Johnstown Newt Sites SAC and Stryt Las a'r Hafod SSSI in relation to disturbance to Great Crested Newt; potential habitat loss associated and grid route options; air quality; and pollution.</p> <p>NRW add that Chapter 6 of Planning Policy Wales (PPW) Edition 12 (2024) states that there is a presumption against all forms of development in a SSSI. In wholly exceptional circumstances and only where development is considered to be appropriate and is not likely to damage a SSSI and there is broad and clear agreement for mitigation and enhancement as part of a development plan should development be proposed (paragraph 6.4.27).</p> <p>As the site is within the catchment of the River Dee and Bala Lake SAC, NRW highlight that under the Habitats Regulations, Planning Authorities must consider the impact of proposed developments on water quality within SAC river catchments. It is therefore advised that as part of any future planning application submission, sufficient details of the proposed method of foul drainage are provided to inform the Habitats Regulations Assessments (HRA) or to confirm whether or not any additional wastewater would be discharged from the site. For further information on HRA, see section 8.3.</p>
ID.18		Protected Species	<p>NRW advise that the site should be assessed to determine the presence of protected species and that targeted species surveys are undertaken for all species scoped in. These should comply with current best practice guidelines.</p> <p>NRW add that if protected species are found during the surveys, information must be provided identifying the species-specific impacts in the short, medium, and long term together with any mitigation and compensation measures proposed to offset the impacts identified. NRW advise that the ES should set out</p>



ID	Reference in Scoping Report	Issue	Comment
			<p>how the long-term site security of any mitigation or compensation will be assured, including management and monitoring information and long term financial, tenure, and management responsibility.</p> <p>Where the potential for significant impacts on protected species is identified, NRW advise that a Conservation Plan is prepared and included as an Annex to the ES. In respect of European Protected Species, NRW advise consideration of Section 3.3.2 of Guidance on the strict protection of animal species of Community interest under the Habitats Directive, found online at: <a href="https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=PI_COM:C(2021)7301">https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=PI_COM:C(2021)7301</a></p> <p>NRW also advise that the ES considers biosecurity and invasive non-native species (INNS) impacts. The amphibian fungus Chytrid has been recorded in Johnstown.</p> <p>NRW add that the ES should include consideration of the requirements for a European Protected Species Licence and explain how the works will satisfy each of the three requirements as set out in the Conservation of Habitats and Species Regulations 2017 (as amended).</p>
ID.19	7.4.25 – 7.4.29	Great Crested Newt (GCN)	<p>The Applicant's attention is drawn to NRW's comments in Appendix 1 where they include a list of resources which the Applicant is advised to consider when assessing the impact on GCN in the ES.</p> <p>NRW note that the results of the eDNA surveys did not identify any ponds supporting GCN, however, they note the abundance of GCN records particularly to the north of the proposed eastern solar array. NRW highlight that whilst some water bodies may not function as breeding ponds, they may still be used by GCN as foraging habitats or for resting or sheltering purposes and advise that the ES should also consider pond functionality.</p>

ID	Reference in Scoping Report	Issue	Comment
			<p>NRW state that two eDNA surveys were carried out at the end of the advised survey period (i.e. end of June). They explain that negative results are more likely to occur at the end of June owing to the majority of adults having already dispersed from ponds. It is therefore advised that this should be considered for the ES.</p> <p>NRW note that Section 7.4.8 of Appendix 7.4: Great Crested Newt Presence or Absence (eDNA) Survey Report states that the Johnstown Newt Sites SAC and underlying Stryt Las a'r Haffod SSSI is located immediately adjacent to the cable route and therefore will be scoped into the assessment.</p> <p>The SR states that appropriate mitigation for any work within the SAC buffer would be proposed. NRW advise that clarification should also be provided in respect of any works proposed within or bordering the SAC/SSSI associated with the grid route options.</p> <p>NRW also advise that with regard to GCN / amphibian assessments, consideration is given to the SAC buffer zones referenced above; and dispersal ranges as per Section 6.2.3 of the reptile and amphibian SSSI selection guidelines (found online at: <a href="https://data.jncc.gov.uk/data/765b2344-f86b-4500-8718-dc9ecf9375b6/sssi-guidelines-18-reptiles-amphibians-2022.pdf">https://data.jncc.gov.uk/data/765b2344-f86b-4500-8718-dc9ecf9375b6/sssi-guidelines-18-reptiles-amphibians-2022.pdf</a>).</p>
ID.20	7.2.37 – 7.2.39	Bats	NRW welcome the approach set out in the SR.
ID.21	7.4.33	Otter	NRW highlight that Otter is a feature of the River Dee and Bala Lake SAC. Section 7.4.33 of the SR states that no suitable watercourses for otter are located within the site. However, NRW note that no consideration appears to have been given to the use of ponds as otter foraging habitats.

ID	Reference in Scoping Report	Issue	Comment
			Studies undertaken for NRW's legacy body, Countryside Council for Wales, in respect of this species highlighted the importance of ponds as foraging habitats for otters preying on amphibians, it is therefore advised by NRW that the scope of the ES should include impacts on otters. <b>PEDW therefore direct that otter are scoped into the ES.</b>
ID.22	7.4.36	Dormouse and Water Vole	NRW agree with the rationale set out in the SR to scope out Dormouse and Water Vole from the ES.
ID.23	7.2.28 – 7.2.33	Ornithology	<p>NRW raise the following concerns in relation to the Breeding Bird Survey (Appendix 7.2).</p> <p>The habitat on site is suitable to support Barn Owl. Barn Owl was also identified within the desktop survey, however, the species was not considered in the SR. NRW therefore advises that impacts on Barn Owl should be fully considered in the ES. This should include a species-specific survey during the breeding season and a robust mitigation/enhancement package. For further details, see NRW's comments in Appendix 1. <b>Barn owl are therefore scoped into the ES.</b></p> <p>NRW highlight that Table 1 showing the 2022 breeding bird survey results (Appendix 1 of Appendix 7.2) features the column "status" which appears to relate to breeding status, however, no definitions/criteria have been provided within the report as to how the breeding status for each species was derived. NRW advise that this should be provided within the ES to enable the impacts of the scheme on breeding birds to be fully assessed.</p>
ID.24		Conservation Status	NRW advise that the ES should consider significance (both alone and in-combination) and, where applicable, conservation status. In respect of conservation status, NRW advise that consideration is given to current conservation status (CCS), and demonstration of no likely detriment to maintenance of favourable conservation status (FCS) during construction, operation and decommissioning phases of the scheme.

ID	Reference in Scoping Report	Issue	Comment
<b>Noise and Vibration</b>			
ID.25	Chapter 8	Noise and Vibration	PEDW agree with the approach to scope Noise and Vibration into the ES and welcome that the Applicant will liaise with Wrexham CBC Environmental Health Officers to agree noise sensitive receptors, noise criteria and assessment methodology.
<b>Historic Environment</b>			
ID.26		Assessment methodology	In their response in Appendix 1, Cadw state that they agree with the contents of the chapter in regard to the proposed assessment methodology.
ID.27	Section 9.4.2	Legislation	<p>Cadw highlight that The Historic Environment (Wales) Act 2023 was enacted on the 4 November 2024. This has replaced The Ancient Monuments and Archaeological Areas Act 1979; The Historic Environment (Wales) Act 2016 and The Planning (Listed Building and Conservation Areas) Act 1990.</p> <p>Cadw adds that the Levelling Up and Regeneration Act 2023 and the Public Services (Social Value) Act, 2012 are not relevant in regard to the historic environment in Wales: However, similar provisions are made in the Well-being of Future Generations (Wales) Act 2015.</p>
ID.28	Section 9.4.23	Surveys	Cadw note that no further surveys are currently proposed, however, it is noted that geophysical surveys are being conducted on the site and it may be necessary for archaeological evaluations to be carried out in order to establish to verify the extent, and significance of possible archaeological features that have been identified. Cadw add that these evaluations would need to be carried out prior to the completion of the EIA so that their results can be incorporated into that document and the impact of the proposed development on the historic environment can be fully considered.

## 8. Other Matters

**This section does not constitute part of the Scoping Direction, but addresses other issues related to the proposal.**

### 8.1 Changes to PPW

On 11 October 2023 the Welsh Government introduced changes to Chapter 6 of PPW relating to:

- Green Infrastructure,
- Net Benefit for Biodiversity and the Step-wise Approach,
- Protection for Sites of Special Scientific Interest, and
- Trees and Woodlands.

Details are available in the relevant 'Dear Chief Planning Officer' letter:

<https://www.gov.wales/addressing-nature-emergency-through-planning-system-update-chapter-6-planning-policy-wales>

These changes have now been consolidated into a new edition of PPW (ed. 12), published on 07 February 2024: <https://www.gov.wales/planning-policy-wales>

### 8.2 Updated Guidance from the Design Commission for Wales

On 23 November 2023 the Design Commission for Wales published their updated guidance "Designing for Renewable Energy in Wales". The guidance is available online:

<https://www.gov.wales/designing-renewable-energy-wales>

### 8.3 Habitats Regulation Assessment

The Conservation of Habitats and Species Regulations 2017 require competent authorities, before granting consent for a plan or project, to carry out an appropriate assessment (AA) in circumstances where the plan or project is likely to have a significant effect on a European site (either alone or in combination with other plans or projects). The competent authority in respect of a DNS application is the relevant Welsh Minister who makes the final decision. It is the Applicant's responsibility to provide sufficient information to the competent authority to enable them to carry out an AA or determine whether an AA is required.

When considering whether or not significant effects are likely, applicants should ensure that their rationale is consistent with the CJEU finding (<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A62017CN0323>) that mitigation measures (referred to in the judgment as measures which are intended to avoid or reduce effects) should be assessed within the framework of an AA and that it is not permissible to take account of measures intended to avoid or reduce the harmful effects of the plan or project on a European site when determining whether an AA is required ('screening'). The screening stage must be undertaken on a precautionary basis without regard to any proposed integrated or additional avoidance or reduction measures. Where the likelihood of significant effects cannot be excluded, on the basis of objective information the competent authority must proceed to carry out an AA to establish whether the plan or project will affect the integrity of the European site, which can include at that stage consideration of the effectiveness of the proposed avoidance or reduction measures.

Where it is effective to cross refer to sections of the ES in the HRA, a clear and consistent approach should be adopted.

The Planning Inspectorate's guidance for Nationally Significant Infrastructure Projects – Advice on Habitats Regulations Assessments may prove useful when considering what information to provide to allow the Welsh Ministers to undertake AA: <https://www.gov.uk/guidance/nationally-significant-infrastructure-projects-advice-on-habitats-regulations-assessments>

#### 8.4 SuDS Consent

Whilst a separate legislative requirement from planning permission, the Applicant's attention is drawn to the statutory SuDS regime that came into force in Wales in January 2019. The requirement to obtain SuDS consent prior to construction may require iterative design changes that influence the scheme that is to be assessed within the ES and taken through to application. As such, it is recommended that the applicant contact the local SuDS Approval Body early on.

# Appendix 1: Consultation Responses

PEDW  
Crown Buildings  
Cathays Park  
Cardiff CF10 3NQ

Eich Cyf/Your Ref  
Ein Cyf/Our ref  
Dyddiad/Date  
Gofynner am/Ask for  
Rhif Cyswllt/Contact No  
E-bost/E-mail

DNS CAS-03547-X3S2B5  
SCO/2025/0001  
13/03/2025  
Matthew Phillips

Dear Sir/Madam

**Town and Country Planning Act 1990  
The Developments of National Significance (Procedure) (Wales) Order 2016  
Town and Country Planning (Environmental Impact Assessment) (Wales)  
Regulations 2017**

**Potential DNS Application: Butterfly Solar Farm  
Site Address: Butterfly Solar Farm Land to the North of the B5426 Wrexham  
LL13 0YB  
Proposed Development: An application for the development of a ground  
mounted photovoltaic solar array with an export capacity of approximately  
99.9MW, battery energy storage system and associated ancillary development  
including an electricity connection to a National Grid substation.**

I refer to your letter dated 04/02/2025 in connection with the above.

I have reviewed the Scoping Opinion Report. I confirm agreement to the matters identified in table 4.1 as being 'scoped in'.

Whilst being generally in agreement with the majority of matters identified in table 4.2 as being 'scoped out', it is suggested that Soils and Geology should be 'scoped in'.

The submissions confirm that a small proportion of the development will take place on Best and Most Versatile Land. Having reviewed the Welsh Government's Predictive Agricultural Land Classification, it is clear that this is in fact the case.

Although the majority of the development would take place on land that is not classed as BMV, the development would nevertheless result in the loss of BMV land. Planning Policy Wales (PPW) 12 paragraph 3.58 confirms that BMV land should be conserved as a finite resource. Paragraph 3.59 states that considerable weight should be given to protecting such land from development and that BMV land should only be



developed where there is an overriding need and either previously developed land or lower grade agricultural land is unavailable for has other environmental value.

On 1 March 2022, the Minister for Climate Change clarified that considerable weight should be given to protecting BMV land from solar array developments, because of its special important, unless other significant material considerations indicate otherwise.

The Wrexham Local Development Plan includes allocated housing and employment sites on greenfield sites. The majority of the greenfield housing allocations in the LDP include BMV land, including to Key Strategic Site housing allocations. However, BMV land was a key consideration throughout the LDP Sustainability Appraisal and site selection process. Sites have only been allocated for residential development where there is an overriding need for development, and either previously development land or land in lower grades is unavailable.

The proposed development would result in the loss of additional BMV land over and above that anticipated during the preparation of the LDP.

It is acknowledged that solar PV developments are, in effect, temporary, being in situ for periods of up to 40 years, and that agricultural uses can continue whilst the solar PV arrays are in situ. However, the agricultural uses that take place when such developments are in situ are normally limited to grazing of smaller livestock such as sheep. Moreover, grazing is normally more of a vegetation management tool in order to avoid the risk of damage to the solar arrays from the use of larger livestock and/or agricultural machinery. The agricultural versatility of the BMV farmland, such as for the cultivation of food crops, is effectively unavailable for the period of the development. The application also represents a change of the primary use of the land from agricultural land to energy generation.

In addition to the limitation on or outright loss of agricultural use during the lifetime of the development, the development also gives rise to a risk to the BMV status of the land during construction and decommissioning. There will be disturbance to the land from construction vehicles, access tracks, the erection of the solar arrays and ancillary equipment. These works could damage the underlying soil structure and diminish its value to agriculture in the long term.

Having regard to the above Soils and Geology should be 'scoped in' to the Environmental Statement (ES) in acknowledgement of the importance of BMV land as a finite resource.

I trust the above is of assistance.

Yours faithfully,

Matthew Phillips

Economi a Chynllunio  
Economy and Planning

Ein cyf/Our ref: CAS-274074-D3T5  
Eich cyf/Your ref: CAS-03547-X3S2B5

Planning & Environment Decisions Wales  
Crown Buildings  
Cathays Park  
Cardiff  
CF10 3NQ  
By email: [PEDW.Infrastructure@gov.wales](mailto:PEDW.Infrastructure@gov.wales)

Date: 10 March 2025

Dear Sir/Madam,

## **ENVIRONMENTAL IMPACT ASSESSMENT SCOPING CONSULTATION**

**Town and Country Planning Act 1990  
The Developments of National Significance (Procedure) (Wales) Order 2016  
Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations  
2017**

**PROPOSAL:** An application for the development of a ground mounted photovoltaic solar array with an export capacity of approximately 99.9MW, battery energy storage system and associated ancillary development including an electricity connection to a National Grid substation

**LOCATION:** Butterfly Solar Farm, Land to the North of the B5426, Wrexham, LL13 0YB

Thank you for consulting us on the scoping opinion request for the above application, which we received on 04 February 2025.

We are commenting because we consider that the proposals are likely to give rise to significant effects.

We advise that the likely significant effects are assessed by the applicant, and we consider that they should be 'scoped in' to any future Environmental Statement (ES).

We have reviewed the information provided in the Glöyn Byw - Butterfly Solar Farm Environmental Impact Assessment Scoping Report Prepared for RWE Renewables UK; February 2025; 3456-01-SCP-01; Axis [the 'Scoping Report'].

Our following comments include those matters within NRW's remit that we consider will need to be taken into account and applied to the Environment Impact Assessment (EIA) and the resulting ES. For ease of reference, our comments are provided in the order that each relevant topic is covered in the Scoping Report.

## LANDSCAPE AND VISUAL IMPACT

The Scoping Report confirms that Landscape and Visual Effects will be scoped in. We agree with this and provide the following advice.

Our advice relates to the landscape character and visual amenity of the Clwydian Range and Dee Valley (CRDV) National Landscape (Area of Outstanding Natural Beauty) and its setting, and the statutory purpose of the designation to conserve and enhance its natural beauty.

### Baseline

The site extends to approximately 150 hectares across three parcels; these being the Western, Central and Eastern Array Areas (WAA, CAA and EAA respectively). At its closest point, the site is located 715m from the boundary of the CRDV National Landscape (Figure 6.1). However, the National Landscape is located approximately 3.5km from the nearest of the solar array areas (WAA).

To accord with Policy 18 of Future Wales: The National Plan 2040, proposals should not have an unacceptable adverse impact on the surrounding landscape, particularly on the setting of the CRDV National Landscape.

### Landscape and Visual Impact Assessment (LVIA) Methodology

We concur with the general approach for the LVIA: Appendix 6.1 following guidance by the Landscape Institute as per '*Guidelines for Landscape and Visual Impact Assessment*' (3rd Edition, 2013) (GLVIA3). This should be used together with *Notes and Clarifications on Aspects of Guidelines for Landscape and Visual Impact Assessment GLVIA3 Technical Guidance Note LITGN-2024-01* (August 2024).

### Study Area and Zone of Theoretical Visibility (ZTV) Analysis

A ZTV analysis has been prepared, and the results are shown in Figures 6.2 a-d. The ZTV/LVIA study area is asymmetrical extending approximately 1km from the centre points of each of the three array areas and including the far extents of the connection site in the west. We advise that *Guidance Note 46: Using LANDMAP in Landscape and Visual Impact Assessments* (GN46 NRW) should be used, together with site-based experience of likely impacts on the protected landscapes, to set the extent of the search and study area. The methodology used to confirm these should be included in the ES.

Section 6.2.23 of the Scoping Report includes reference to the statutory landscapes and describes the qualities of the CRDV National Landscape to be protected. However, the boundary of the proposed search and study area for the LVIA and ZTV does not extend sufficiently to reach the CRDV National Landscape. We therefore advise that the search and ZTV study area should be extended to include the CRDV National Landscape.

### Viewpoints

We note from the PEDW inception meeting (dated 8 August 2024) that visibility of the western and central array areas is likely to be limited due to the enclosed landscape and existing vegetation.

As there are no ZTV data for the CRDV National Landscape and no viewpoints currently proposed from within it, we are unable to rule out whether this statutory landscape may be affected.

Therefore, if additional ZTV data indicate potential visibility of the site from within the CRDV National Landscape, we advise that viewpoints from within the National Landscape should be included in the LVIA to assess effects on this statutory landscape and its setting, otherwise it should be scoped out.

### Glint and Glare

Table 4.2 of the Scoping Report indicates that lighting / glare are scoped out of the EIA but will nonetheless be addressed within the LVIA. A glint and glare study ordinarily forms part of an LVIA and is generally appended as a technical assessment in accordance with Best Practice ([Technical Advice Page for Scoping Solar Development - GOV.UK](#)).

We advise that the Glint and Glare assessment should confirm whether or not any viewpoints from within the CRDV National Landscape would be affected and explain why this has been assessed to be the case.

### Lighting

The extent of lighting for the scheme is not yet confirmed, but a Lighting Impact Assessment is proposed to be scoped out (Table 4.2 of the Scoping Report). Tranquillity at night is important and the dark skies of the CRDV National Landscape are recognised as being of high importance. In this context, the potential impacts on dark skies should be considered in light of the new Welsh Government guidance: [Planning for the Conservation and Enhancement of Dark Skies in Wales](#). This should be included as part of the LVIA, if lighting is proposed.

### Cumulative Effects

We welcome the proposed inclusion of a cumulative assessment and agree with the methodology set out in Section 5.7 of the Scoping Report and Appendix 6.1: LVIA methodology. We concur with the 2.5km study area for cumulative effects as shown in Figure 5.1.

## **ECOLOGY AND NATURE CONSERVATION**

The Scoping Report confirms that ecology and biodiversity will be scoped in. We agree with this and provide the following advice.

### Description of Biodiversity

The ES should identify protected species within and in the vicinity of the proposed development, together with a detailed assessment of the likely impacts and significance of those impacts.

### Key Habitats

Any habitat surveys should accord with the NCC Phase 1 survey guidelines (NCC (1990) Handbook for Phase 1 habitat survey. NCC, Peterborough). We advise that Phase 1 surveys

are undertaken and completed during the summer to ensure the best chance of identifying the habitats present. We also advise that Habitats Directive Annex 1 habitats are identified as part of this assessment.

## Protected Sites

The application site is:

- bordering / partially within Johnstown Newt Sites Special Area of Conservation (SAC) and Stryt Las a'r Hafod Site of Special Scientific Interest (SSSI)
- 860m from River Dee and Bala Lake SAC / River Dee SSSI
- 2.6km from Berwyn Mountains and South Clwyd Mountains SAC / Llantysilio Mountains and Minera SSSI
- 6.2km from Shell Brook Pastures SSSI
- 7.8km from Llandegla Moor SSSI

### Johnstown Newt Sites SAC and Stryt Las a'r Hafod SSSI

Appendix 7.1: Preliminary Ecological Assessment (PEA) states:

*“Johnstone [sic] Newt Sites SAC/ Stryt Las a'r Hafod SSSI both relate to the same area, which is located ~200m to the west (at the closest point). The north-western edge of Area 1 is located within an area identified as a SSSI 300m Buffer and impacts on this SSSI should be considered. Mitigation may be required”.*

The Johnstown Newt Sites SAC supports a breeding population of great crested newts (GCN). The proposed western solar array area is approximately 215m from the Johnstown Newt Sites SAC and within the SAC buffer identified in Wrexham County Borough Council's Local Planning Guidance. However, the 'Electrical Connections' section (2.1.30) of the Scoping Report and plans indicate that the westernmost red line boundary beyond the western solar array (which encompasses the existing roads to demonstrate the grid route options) borders and overlaps the SAC and SSSI boundaries.

Our following comments relate to potential primary and secondary impacts upon the site features, some of which are mobile species. We have identified the following potential impact pathways to features of the Johnstown Newt Sites SAC and Stryt Las a'r Hafod SSSI from this application:

1. disturbance to GCN;
2. potential habitat loss associated with grid route options;
3. air quality; and
4. pollution.

- Disturbance to Great Crested Newts

GCN are a mobile site feature and travel in search of suitable pond habitat. We consider the north-east Wales pondscape to be of European importance.

Section 7.4.8 of Appendix 7.4: Great Crested Newt Presence or Absence (eDNA) Survey Report Butterfly Solar Farm on behalf of RWE Renewables UK Limited Great Crested Newt Presence or Absence (eDNA) Survey Report; AxisL-043-1591; V2 13 November 2024, by Avian Ecology states: *“Johnstown Newt Sites SAC and underlying Stryt Las a'r Haffod [sic] SSSI is located immediately adjacent to the cable route, and therefore will be scoped into the assessment.”*

We note that appropriate mitigation for any work within the SAC buffer would be proposed, as outlined in the Scoping Report. However, clarification should also be provided in respect of any works proposed within or bordering the SAC/SSSI associated with the grid route options.

With regard to GCN / amphibian assessments, we advise consideration is given to the SAC buffer zones referenced above; and dispersal ranges as per Section 6.2.3 of the reptile and amphibian SSSI selection guidelines ([Guidelines for the Selection of Biological SSSIs. Part 2: Detailed Guidelines for Habitats and Species Groups: Chapter 18 Reptiles and Amphibians](#)).

We also advise that the ES should consider biosecurity and invasive non-native species (INNS) impacts. The amphibian fungus Chytrid has been recorded in Johnstown.

- Potential Habitat Loss

The 'Electrical Connections' section (2.1.30) of the Scoping Report and plans show that the westernmost red line boundary beyond the western solar array (including the existing roads to demonstrate the grid route options) borders and overlaps with the SAC and SSSI boundary. The potential impacts of this aspect of the works on the protected sites should therefore be considered in the ES.

Chapter 6 of Planning Policy Wales (PPW) published in Autumn 2023 and subsequently incorporated into the latest iteration of PPW (Edition 12, February 2024) states that there is a presumption against all forms of development in a SSSI, with the exception of developments necessary for the management of a SSSI and minor developments necessary to secure its role as a living landscape where effects on the features for which a site has been designated are considered acceptable (see paragraphs 6.4.25 and 6.4.26). Accordingly, it will be wholly exceptional for most forms of development to be justifiable within a SSSI. For wholly exceptional circumstances to be demonstrated, a proposed development would need to be considered appropriate and not likely cause damage to the SSSI and there must be broad and clear agreement for mitigation and enhancement as part of a development plan (see paragraph 6.4.27).

- Air Quality

We are generally in agreement with the justification for scoping out air quality and traffic impacts. However, the Scoping Report has not explicitly referenced the Institute of Air Quality Management guidance, which includes the published thresholds. We note that the distances between the protected site boundaries and the development boundary for the solar arrays exceed the screening distances: >200m for traffic impacts and >50m for dust impacts. However, confirmation should be provided in the ES regarding potential impacts relating to the areas of the redline boundary containing the existing roads demonstrating the grid route options (which border / overlap with the above protected sites).

- Pollution

The Scoping Report confirms that a Construction Environmental Management Plan (CEMP) will be produced. We agree that a full and detailed CEMP should be prepared. There is currently limited information about pollution prevention during the construction phase and this should be contained within the CEMP.

## River Dee and Bala Lake SAC and River Dee SSSI

Otter is a feature of the River Dee and Bala Lake SAC. Section 7.4.33 of the Scoping Report states that no suitable water courses for otter are located within the site. However, no consideration appears to have been given to the use of ponds as otter foraging habitats.

Studies undertaken for NRW's legacy body, Countryside Council for Wales, in respect of this species highlighted the importance of ponds as foraging habitats for otters preying on amphibians.

We therefore advise that the scope of the ES should include impacts on otters.

## Nutrient Sensitive SAC Catchment

We note the site is within the catchment of the River Dee and Bala Lake SAC. In line with our [\*Advice to Planning Authorities for Planning Applications Affecting Nutrient Sensitive River Special Areas of Conservation\*](#) (June 2024), under the Habitats Regulations, Planning Authorities must consider the impact of proposed developments on water quality within SAC river catchments.

We therefore advise that as part of any future planning application submission, sufficient details of the proposed method of foul drainage are provided to inform the competent authority's Habitats Regulations Assessment (HRA) or to confirm whether or not any additional wastewater would be discharged from the site. If additional wastewater is to be discharged, it is likely the competent authority will require further information to inform their HRA.

We refer you to Welsh Government Circular 008/2018 on private drainage, and specifically paragraphs 2.3-2.5, which stress the first presumption must be to provide a system of foul drainage discharging into a public sewer.

## **Protected Species**

The Scoping Report states that the proposed site has the potential to support GCN and bats.

## Significance and Favourable Conservation Status

We advise that the ES should consider significance (both alone and in-combination) and, where applicable, conservation status. In respect of conservation status, we advise consideration be given to current conservation status (CCS), and demonstration of no likely detriment to maintenance of favourable conservation status (FCS) during construction, operation and decommissioning phases of the scheme. Reference to CCS and FCS in accordance with [\*EC Guidance\*](#)<sup>1</sup> is advised.

## Assessment and mitigation

We advise that the site is assessed to determine the likelihood of protected species being present and that targeted species surveys are undertaken for all species scoped in. These should comply with current best practice guidelines and if the surveys deviate or there are good reasons for deviation, full justification for this is included within the ES.

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<sup>1</sup> [EUR-Lex - C\(2021\)7301 - EN - EUR-Lex \(europa.eu\)](#). See section 3.2.3.b regarding conservation status.

Should protected species be found during the surveys, information must be provided identifying the species-specific impacts in the short, medium, and long term together with any mitigation and compensation measures proposed to offset the impacts identified. We advise that the ES should set out how the long-term site security of any mitigation or compensation will be assured, including management and monitoring information and long term financial, tenure, and management responsibility.

Where the potential for significant impacts on protected species is identified, we advise that a Conservation Plan is prepared for the relevant species and included as an Annex to the ES. In respect of European Protected Species, we advise consideration of Section 3.3.2 of [Guidance on the strict protection of animal species of Community interest under the Habitats Directive](#).

Where a European Protected Species is identified and the development proposal is predicted to likely contravene the legal protection they are afforded, a licence should be sought from NRW. The ES should include consideration of the requirements for a licence and explain how the works will satisfy each of the three requirements as set out in the Conservation of Habitats and Species Regulations 2017 (as amended).

These requirements are translated into planning policy through [Planning Policy Wales \(PPW\) Edition 12](#) dated February 2024 (sections 6.4.35 and 6.4.26) and Technical Advice Note (TAN) 5, Nature Conservation and Planning (September 2009). The planning authority should take them into account when considering development proposals where a European Protected Species is present.

## GCN

We concur with the inclusion of GCN within the scope of the ES and advise that any further assessments should consider reference to the following:

- Nicolet, P. Weatherby, A, Biggs, J. Williams, P and Hatton-Ellis, T. (2007). A preliminary Assessment of Important Areas for Ponds (IAPs) in Wales. Pond Conservation. (Report produced for the Countryside Council for Wales)
- GCN modelling undertaken for the former Countryside Council for Wales and Natural Resources Wales by Amphibian & Reptile Conservation; and
- GCN Species Conservation Plan (an example good practice template can be provided to the applicant upon request)

We note the results of the eDNA surveys carried out to date. Of the ponds sampled, the results did not identify any ponds supporting GCN. However, we note the abundance of GCN records particularly to the north of the proposed eastern solar array.

Field surveillance to date has focused on Habitat Suitability Index and eDNA surveys. The survey methodology accords with our [guidance](#). However, as some water bodies may not function as breeding ponds but may still be used by GCN as foraging habitats or for resting or sheltering purposes, we advise that the ES should also consider pond functionality.

Furthermore, the two eDNA surveys were carried out at the end of the advised survey period (i.e. end of June). Negative results are more likely to occur at the end of June owing to the majority of adults having already dispersed from ponds. We therefore advise that this should be considered for the ES.



## Bats

Section 7.4.19 of the Preliminary Ecological Assessment (PEA); July 2022; Western Ecology states: *"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."*

We note and welcome bats being included within the scope of the proposed ES.

## Otter

Please see our advice on this species in the protected sites section above.

## Dormouse and Water Vole

We concur with the rationale for dormouse and water vole being scoped out of the ES.

## Ornithology

Appendix 7.2: Breeding Bird Surveys states: *"Kingfisher was the only species recorded that is listed under Schedule 1 of the WCA (1981), however this was recorded beyond the Site boundary and was assessed only as a possible breeding species"*].

We advise that the breeding and wintering bird surveys are broadly appropriate. However, we raise the following concerns in relation to the Breeding Bird Surveys (Appendix 7.2).

The habitat on site is suitable to support breeding and/or foraging barn owl (a Wildlife and Countryside Act 1981, Schedule 1 species). Barn owl was identified within the desktop survey (3.1 Desktop Survey, Table 1. Records for notable species within 1km). However, this species does not appear to have been considered within the Scoping Report. We therefore advise that impacts on barn owl should be fully considered, and additional information should be provided in the ES, as follows:

- a. a species-specific survey for barn owls during the breeding season to assess the impacts of the scheme on foraging barn owls and identify the potential for breeding barn owls (see: [Barn Owl Survey Methodology and Techniques for use in Ecological Assessment | CIEEM](#); or
- b. in lieu of additional surveys, a robust mitigation/enhancement package aimed at retaining and enhancing barn owls on site. This should include retention and management of appropriate habitat for the lifetime of the scheme, and the provision of suitable nest boxes.

Table 1 showing the 2022 breeding bird survey results (Appendix 1 of Appendix 7.2) features the column "status" which appears to relate to breeding status. However, no definitions/criteria have been provided within the report as to how the breeding status for each species was derived. This should be provided within the ES to enable the impacts of the scheme on breeding birds to be fully assessed.

Details of appropriate mitigation (following the step-wise approach) for any likely significant effects identified should be provided in the ES, along with appropriate enhancements. In some instances, mitigation may need to take the form of curtailment or redirection of activities during particular times of year. Where buffer distances are required or need to be

considered reference should be made to [Goodship & Furness 2022](#) or alternative published references for species not listed within Goodship & Furness 2022.

Determining the importance of bird species and populations identified from surveys should refer to Wales-specific resources and publications where practical. Relevant population estimates can be found in, but not limited to, [Hughes et al. 2020](#) (Wales) and [Woodward et al. 2020](#) (UK/Britain). County Bird Reports, the Welsh Bird Reports, and Birds of Wales/Adar Cymru (Pritchard et al. 2021) may also contain relevant information.

### Ancient Woodland

Part of the site area borders Restored Ancient Semi Natural Woodland. Please refer to our 'Advice to planning authorities considering proposals affecting ancient woodland' for further information: [Natural Resources Wales / Advice to planning authorities considering proposals affecting ancient woodland](#).

### Local Biodiversity Interests

We recommend that the applicant consults the local authority ecologist on the scope of the EIA to ensure that regional and local biodiversity issues are adequately considered, particularly those habitats and species listed in the relevant Local Biodiversity Action Plan, and areas that are considered important for the conservation of biological diversity in Wales.

The applicant should contact other relevant organisations for biological information/records relevant to the site and its surrounds. These include the relevant Local Records Centre and any local ecological interest groups (e.g. bat groups, mammal groups).

## **TOPICS NOT CURRENTLY SCOPED IN TO THE EIA**

### **Flood Risk**

The Scoping Report states that "*Flood Risk and Water Resources*" will be scoped out of the ES. We disagree with this and advise that flood risk should be scoped in, for the following reasons.

The planning application proposes less vulnerable development (solar farm). The application site is within Zone A and the easternmost part is slightly within Zone C2 of the Development Advice Map (DAM) contained in Technical Advice Note (TAN) 15: Development and Flood Risk (2004). Our [Flood Map for Planning](#) (FMfP) identifies the easternmost part of the application site to be at risk of flooding and is partially within Flood Zones 2 and 3 (Rivers).

As confirmed in the [letter](#) from Welsh Government dated 15 December 2021, the FMfP represents better and more up-to-date information on areas at flood risk than the DAM.

Section 6 of TAN15 requires the Local Planning Authority (LPA) to determine whether the development at this location is justified. Therefore, we refer you to the tests set out in section 6.2 of TAN15. If the planning authority consider the proposal meets the tests set out in criteria (i) to (iii), then the final test (iv) is for the applicant to demonstrate through the submission of a Flood Consequences Assessment (FCA) that the potential consequences of flooding can be managed to an acceptable level.

The criteria for the FCA, which should normally be undertaken by a suitably qualified person carrying an appropriate professional indemnity, are given in Section 7 and Appendix 1 of TAN15 (2004). The FCA should be proportionate to the development proposed. You may also refer to our [website](#), which contains technical advice and recommendations.

There could be a minor fluvial flood risk impact in the proposed eastern parcel from the Sesswick Brook main river, which borders the site. Whilst the proposed panels appear to be located primarily in FMfP Zone 2, flood risk impacts will need further consideration in the FCA. This should include ensuring that there is no ground raising, that panels are set a suitable distance above the existing ground level and that boundary fencing will not affect flood flow routes.

- Flood Risk Activity Permit

There are two main rivers bordering or within the application site (Black Brook Erddig and Sesswick Brook). The Environmental Permitting Regulations (2016) require the applicant to obtain a bespoke Flood Risk Activity Permit for any works or structures located in, under, over or within 8 metres of the bank top of a designated main river. Further advice and guidance is available on our website:

<http://www.naturalresources.wales/permits-and-permissions/flood-risk-activities/flood-risk-activity-permits-information/?lang=en>

- Lead Local Flood Authority

Wrexham County Borough Council drainage department in their capacity as lead local flood authority may be able to advise on any local problems in relation to surface water disposal and any associated flood risk.

#### Hydrology and fluvial geomorphology

Section 6.2.22 of the Scoping report states: *“the proposed grid connection route would comprise underground cables following the existing public highway between the three array areas. The connection between WAA and the Legacy National Grid Substation would follow one of two potential routes, both of which would also follow the public highway network.”* We advise that clarification should be provided on whether any watercourse crossings will be required for this project.

Given that the River Dee is a drinking water source, we also advise that effective pollution prevention measures should be implemented during construction.

#### **Ground Conditions and Contaminated Land**

The Scoping Report states that *“Ground Conditions and Contaminated Land”* will be scoped out of the ES and these matters will be dealt with via the CEMP. We disagree with this and advise that impacts on groundwater should be scoped in, for the reasons explained below.

The eastern array area is located on a Principal aquifer and within a Source Protection Zone (SPZ) for a potable water supply. There is no reference to this highly sensitive hydrogeological site setting within the Scoping Report. The site investigation and assessment should therefore consider this and some activities in the SPZ may need to be relocated or limited provided that satisfactory risk assessments are completed.

The three array areas would be linked by cabling routing following existing infrastructure such as the local highway network. Consideration of how the cable route interacts with the water environment, and whether cable trenches could impact water features (e.g. streams, springs) is needed. A water feature survey should be completed along the cable routes and around the array areas.

The applicant should therefore undertake a preliminary site assessment, which should include:

- identification of all water features, both surface and groundwater (e.g., ponds, springs, ditches, culverts), within a 300 metre radius of the site;
- confirmation of the use of these water features. This should include the construction details of wells and boreholes and details of the lithology into which they are installed;
- an indication of the flow regime in the spring or surface water feature, for example whether or not the water feature flows throughout the year or dries up during summer months;
- consideration of accessibility to any spring/well

This information should be identified on a suitably scaled map (i.e. 1:10,000) and tabulated. It would be useful to photograph each of the identified water features during the survey.

Based on the results of the survey the applicant should assess the likely impacts from the development on both quantity and quality of the surface water and groundwater. This should consider both the preferred methods of construction and the assumed hydrogeology in the vicinity of the development.

Groundwater features may need to be monitored during the proposed works. We would therefore recommend that the survey be undertaken as soon as possible to enable the applicant to carry out suitable baseline monitoring prior to the commencement of works at the site.

We also advise that part of the proposal site is located adjacent to an historic landfill. The Environment Agency provided the Local Authority with Historic Landfill data in 2007. The applicant may wish to consult the Local Authority's Environmental Health department with regard to this aspect.

## **Major Accidents and Disasters**

The storage of large battery systems contain lithium-ion electrolytes which have the potential to cause pollution in the event of fire at the site as a result of battery failure.

The Battery Energy Storage Systems (BESS) elements of this proposal should be constructed in a way that, should there be a fire on site, the run-off associated with the fighting of this fire is contained and does not enter the wider environment. This should be outlined along with drainage and emergency plans in the Outline Battery Safety Management Plan (OBSMP).

In order to prevent pollution, we advise that prior to determination it should be ensured that adequate measures will be in place for the containment or removal of contaminated firewater. We recommend that the applicant seeks advice from the relevant Fire and Rescue Service as we are not the appropriate body to provide advice regarding volumes of firewater required in the event of a fire; this information is important to determine the containment required on site.

The ES should ensure the proposal is able to demonstrate the ability to contain fire water and/or that off-site transport can be demonstrated to be feasible in consultation with other consultees such as the fire and rescue services. We therefore advise that major accidents and disasters should be scoped in, and the mitigation measures to minimise the risk of pollution from contaminated firewater should be clearly set out by the applicant in a detailed drainage scheme.

### **Water Framework Directive (WFD)**

There are several watercourses within the site boundary, including the following WFD waterbodies:

- Black Brook (Clywedog) River Waterbody
- Dee Carboniferous Coal Measures Groundwater body

There are also several “small non reportable waterbodies” present.

It is unclear if any of these would be affected by the proposals, for example by watercourse crossings or groundworks.

Based on the information submitted, we therefore have concerns that the proposed development has the potential to:

- i. cause deterioration in the overall status of waterbodies; and
- ii. jeopardise the attainment of good surface water status or of good ecological potential and good surface water chemical status by the date set out in the most recent River Basin Management Plan (RBMP).

We therefore advise that a screening exercise should be completed to determine if a WFD Regulations 2017 compliance assessment would be needed to inform the application.

In the absence of this information, we cannot eliminate adverse impacts on WFD waterbodies.

### **Other Matters**

Our advice is made without prejudice to comments we may subsequently wish to make when consulted on any planning application, the submission of more detailed information or an ES. We advise the applicant that, in addition to planning permission, it is their responsibility to ensure they secure all other permits/consents/licences relevant to their development. Please refer to our [website](#) for further details. If you have any queries on the above, please do not hesitate to contact us.

Yours faithfully,

**Tristan Williams**

Cynghorydd - Cynllunio Datblygu/Advisor - Development Planning  
Cyfoeth Naturiol Cymru/Natural Resources Wales

E-bost/E-mail: [northplanning@cyfoethnaturiolcymru.gov.uk](mailto:northplanning@cyfoethnaturiolcymru.gov.uk)

Croesewir gohebiaeth yn Gymraeg a byddwn yn ymateb yn Gymraeg, heb i hynny arwain at oedi./Correspondence in Welsh is welcomed, and we will respond in Welsh without it leading to a delay.

Planning and Environment Decisions Wales

Eich cyfeirnod  
Your reference

DNS CAS-03547-X3S2B5

Sent by email

Ein cyfeirnod  
Our referenceDyddiad  
Date

6 March 2025

Llinell uniongyrchol  
Direct line

03000 256007

Ebost  
Email:[Cadwplanning@gov.wales](mailto:Cadwplanning@gov.wales)

Dear Sir / Madam,

**EIA Scoping - Butterfly Solar Farm****DNS CAS-03547-X3S2B5**

Thank you for your letter of 4 February 2025 asking for Cadw's view on the above.

Cadw, as the Welsh Government's historic environment service, has assessed the characteristics of this proposed development and its location within the historic environment. In particular, the likely impact on designated or registered historic assets of national importance. In assessing if the likely impact of the development is significant Cadw has considered the extent to which the proposals affect those nationally important historic assets that form the historic environment, including scheduled ancient monuments, listed buildings, registered historic parks, gardens and landscapes.

These views are provided without prejudice to the Welsh Government's consideration of the matter, should it come before it formally for determination.

AdviceWithin the developer ZTV:Scheduled Monuments

DE129 Gardden Camp

DE132 Offa's Dyke: Cadwgan Hall Section, extending from River Clywedog to the Railway

DE142 Offa's Dyke: Y Gardden Camp Section

DE152 Wat's Dyke: Section extending from Erddig Park to Middle Sontley

DE153 Wat's Dyke: Section extending from Middle Sontley to Black Brook Bridge

DE154 Wat's Dyke: Section extending from Black Brook Bridge to Pentre-Clawdd

DE155 Wat's Dyke: Section extending from Pentre-Clawdd to Wynnstey Park

DE178 Offa's Dyke: Section S of Aberderfyn Road

DE194 Offa's Dyke: Section extending 120m from Railway to Bronwylfa Road, Legacy  
DE309 Eyton Old Hall Moat

Registered Parks and Gardens

PGW(C)62(WRE) Erddig  
PGW(C)67(WRE) Wrexham Cemetery  
PGW(C)72(WRE) Rosehill  
PGW(C)73(WRE) Erbistock Hall

Registered Historic Landscape:

HLW (C) 7 Maelor

Listed Buildings/ Conservation Areas:

1588	Hafod House	II
1644	Church of St. Dunawd	II*
14482	Gwaylod House	II
15175	Rose Hill (including Walled Garden)	II
	Moreton below Farmhouse (also known as Lower Moreton	
15722	Farm)	II
17089	Church of Saint John Evangelist	II
18259	Graig Cottage	II

This advice is given in response to scoping opinion as to the contents of an Environmental Impact Assessment (EIA) that will be submitted in support of an application for the Butterfly Solar Farm.

The request for a scoping opinion is accompanied by a scoping report produced by Axis with chapter 9 Historic Environment being prepared by AOC.

In general, Cadw are in agreement with the contents of this chapter in regard to the proposed assessment methodology; however, we have the following comments.

Section 9.4.2 The Historic Environment (Wales) Act 2023 was enacted on the 4 November 2024. This has replaced The Ancient Monuments and Archaeological Areas Act 1979; The Historic Environment (Wales) Act 2016 and The Planning (Listed Building and Conservation Areas) Act 1990.

The Levelling Up and Regeneration Act 2023<sup>41</sup> and the Public Services (Social Value) Act, 2012 are not relevant in regard to the historic environment in Wales: However, similar provisions are made in the Well-being of Future Generations (Wales) Act 2015.

Section 9.4.23 Whilst it is noted that no further surveys are currently proposed: However, it is noted that geophysical surveys are being conducted on the site and it may be necessary for archaeological evaluations to be carried out in order to establish to verify the extent, and significance of possible archaeological features that have been identified.

These evaluations would need to be carried out prior to the completion of the EIA so that their results can be incorporated into that document and the impact of the proposed development on the historic environment can be fully considered.

Yours sincerely

Nichola Smith  
Historic Environment Branch





Ref: DNS CAS-03127-J6W2K0

Georgia Peters  
Planning Officer  
Planning and Environment Decisions Wales  
Crown Buildings  
Cathays Park  
Cardiff  
CF10 3NQ

By Email: [PEDW.Infrastructure@gov.wales](mailto:PEDW.Infrastructure@gov.wales)

12<sup>th</sup> of March 2025.

Dear Georgia Peters,

**Re: Scoping Direction Consultation Response – DNS CAS-03547-X3S2B5 – Proposed Butterfly Solar Farm – Land to the North of the B5426, Wrexham. LL13 0YB.**

In reference to the recent e-mail from PEDW consulting the Department on the above Scoping Direction request, the Department offers the following response for your consideration regarding agricultural land quality and the use of soil resources.

For the Department, the key issues likely to be significantly affected by the development are:

- Best and Most Versatile (BMV) agricultural land.
- Maintaining soil services and functions.

**1. Agricultural Land Classification (ALC) – Information and Advice:**

The Department can confirm that we do not hold any previous ALC field survey information for the proposed sites. The Predictive ALC Map<sup>1</sup> notes:

- Western Array Area (WAA) – ALC Subgrade 3b agricultural land.
- Central Array Area (CAA) – ALC Subgrade 3b agricultural land and ‘non-agricultural’ land.
- Eastern Array Area (EAA) – approximately 16ha of ALC Subgrade 3a (BMV) and the remainder as Subgrade 3b agricultural land.

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<sup>1</sup> <https://www.gov.wales/agricultural-land-classification-predictive-map>

As per published Departmental Guidance<sup>2</sup>, if BMV is identified on the Predictive Map, a detailed ALC survey is required to confirm the grades and their distribution.

The Department has recently discussed and provided the applicant's ALC surveyor with land quality information and advice on survey requirements (as per TAN6, Annex B6 arrangements). The Department therefore advises that an ALC survey should be undertaken by the applicant on the Subgrade 3a area of the EAA, and included in the EIA assessment. The Department would be available on request to validate any surveys undertaken prior to acceptance of an application.

Should any party refuse or neglect to commission an ALC survey, or the survey is not accepted by the Welsh Government, the Predictive ALC Map Grade should be accepted by the determining authority as the best available information.

## **2. Best and Most Versatile (BMV) agricultural land policy.**

If it is confirmed the proposed site contains a BMV agricultural land, the Department expects the applicant to provide clear evidence of how PPW paragraph 3.58 and 3.59 has been addressed in:

- i. how '*considerable weight*' is given to protecting BMV land from development.
- ii. demonstrating an '*overriding need*' if BMV land needs to be developed, and
- iii. clear application of the sequential test approach.

The Department would also highlight the policy clarification in the DCPO letter of 1<sup>st</sup> March 2022 regarding '*BMV agricultural land and solar PV arrays*'.

If the validated ALC survey notes BMV agricultural land within the red-line boundary, then this should be considered as part of the assessment.

## **3. Policy Context:**

The Department considers the policies and guidance below are also applicable to this development: -

- Technical Advice Note (TAN)<sup>63</sup>
- Paragraph 3.58 and 3.59 of Planning Policy Wales (PPW)<sup>4</sup>.
- Paragraph 6.4.3 (bullet 4) of PPW
- Policy 9 of the National Development Framework (NDF) – Future Wales<sup>5</sup>

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<sup>2</sup> <https://www.gov.wales/agricultural-land-classification-predictive-map-guidance>

<sup>3</sup> <https://www.gov.wales/technical-advice-note-tan-6-planning-sustainable-rural-communities>

<sup>4</sup> <https://www.gov.wales/planning-policy-wales>

<sup>5</sup> <https://www.gov.wales/future-wales-national-plan-2040-0>

- Policy 17 of NDF Future Wales - states '*all proposals should demonstrate that they will not have an unacceptable adverse impact on the environment*'.
- Policy 18(11) of NDF Future Wales – sets out the requirement for '*...acceptable provisions relating to the decommissioning of the development at the end of its lifetime, including the removal of infrastructure and effective restoration*'.
- DCPO letter – '*BMV agricultural land and solar PV arrays*' – 1<sup>st</sup> March 2022<sup>6</sup>
- IEMA 'A New Perspective on Land and Soil in Environmental Impact Assessment' (2022).

#### **4. Baseline information:**

The location and extent of soils on site and their physical characteristics would be beneficial to assess potential impacts and inform decisions on infrastructure siting and decommissioning, restoration and beneficial after use of the site. The volumes of soil units that will be excavated for any on site infrastructure should be clear and based on survey evidence (this may be derived from the ALC survey information in part).

#### **5. Infrastructure and potential impacts on soil functions (installation and decommissioning).**

The type, location and level of infrastructure proposed as part of the development will need to be fully detailed for the assessment. The Assessment should include detailed information on the total number, depth and spacing of piles installed; the extent of cable trenching and if any imported fill materials used (e.g. cement bound sand), track extent type and location, inverter pads number and locations and areas for construction compounds, etc.

The assessment will need to provide detailed information on the methodology for the installation and decommissioning of the infrastructure and, considering the soils on site, how any likely impacts have been assessed and avoided.

The Department does not agree that soils should be scoped out of the assessment.

#### **6. Soil Management Scheme (SMS).**

Mineral, organo-mineral and peat soils are finite and provide crucial ecosystem services and functions to Wales such as food production, water regulation, carbon storage, and biological functioning. A soil management scheme should be prepared by the applicant, informed by the baseline ALC report and soil resources and physical characteristics, and be considered as part of the ES process.

The SMS should be a clear scheme and programme setting out how all soils and their function will be conserved and reinstated and that can be confidently conditioned against.

The SMS should be presented in sufficient detail for the determining authority and statutory consultees to form a judgement as to its feasibility, and should include: -

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<sup>6</sup> <https://www.gov.wales/best-and-most-versatile-agricultural-land-and-solar-pv-arrays>

- Soil stripping programme - volumes and types of soils affected.
- Soil handling techniques and procedure.
- Size, location, construction, management, and period of soil storage dumps.
- Proposed after use and restoration programme, including techniques and aftercare programme.

The advice expressed does not bind any other part of Welsh Government commenting on the proposal. I trust the above comments are clear and unambiguous.

Yours sincerely

Arwel Williams  
Soil, Peatland & Agricultural Land Use Planning  
Welsh Government  
Department for Climate Change & Rural Affairs  
Landscapes, Nature & Forestry Division  
[LQAS@gov.wales](mailto:LQAS@gov.wales)

PEDW by email

Eich cyf / Your ref CAS-03547-X3S2B5

Ein cyf / Our ref 25/NM-7109

11 March 2025

Dear Sir/Madam,

**TOWN AND COUNTRY PLANNING (DEVELOPMENT MANAGEMENT PROCEDURE) (WALES)  
ORDER 2012:**

**Butterfly Solar Farm Land to the North of the B5426 Wrexham**

**development of a ground mounted photovoltaic solar array with an export capacity of approximately 99.9MW, battery energy storage system and associated ancillary development including an electricity connection to a National Grid substation.**

I refer to your consultation of 4<sup>th</sup> February 2025 regarding the above application, and advise that the Welsh Government as highway authority for the A483 trunk road directs that planning permission is not granted at this time as the applicant has provided insufficient information to determine the application.

The applicant must provide the following information to support this application or resubmit the application with the following details;



1. The developer must clarify what tree/vegetation next to the trunk road boundary is within their ownership as well as detailing a landscape proposal, within the development boundary adjacent to the trunk road, which will provide adequate screening from the trunk road, this is to minimise distraction to motorists and reduce the risk of glare from the solar panels. This is because it is possible not all landscape features between the carriageway and the boundary of the development is within the developer's control.
  
2. RRRAP Design Manual for Roads and Bridges (DMRB) CD 377 - Privately owned highway boundary features and/or new development works near to the trunk road may have a bearing on road safety, developer must therefore clarify works within this area (within 15m of trunk road as a guide). The developer will be responsible for a review of the risks this may have on trunk road users and submit a report (risk assessment) to Welsh Government in line with Design Manual for Roads and Bridges (DMRB) CD 377. The outcome of this report may show that the developer is to provide a Road Restraint System. When the apparatus is for road safety purpose, it may be delivered through a S278 agreement (inc. commuted sums) and usually be adopted by the Highway Authority. When a review indicates that no system is required on highway grounds, risks of developing next to the trunk road will be for the developer to address within the development, this will include administering supposed risks that future occupiers/owners may have due to the development proximity to a trunk road. To clarify if a risk assessment is required or not, the developer must issue the proposals to the email address of [RRRAP@gov.wales](mailto:RRRAP@gov.wales) to gain written confirmation of specialist response.
  
3. Clarity required that if there is development lighting, it must be erected so that no part of the Illumination gear is visible to motorists using the trunk road;
  
4. This following could be condition: A Construction Site & Traffic Management Plan (CSTMP) shall be submitted and approved in writing by the Local Authority, in conjunction with Welsh Government, prior to the commencement of any site works including demolition. The CSTMP scope must be agreed prior to its development. The approved CSTMP, including any agreed improvements or works to accommodate delivery vehicles where required along the route, shall be implemented as agreed in writing prior to the commencement of any site works. The CSTMP must include (as a minimum):
  - a) Site compound location details;
  - b) Details on the temporary access from the public highway;
  - c) On site parking provisions;
  - d) Proposals for the routing of delivery vehicles (for materials and plant) from origin to site;
  - e) Scheduling and timing of deliveries taking account of trunk road embargo periods;
  - f) Travel Management Plan;
  - g) Details of on site wheel washing facilities;
  - h) Cleansing proposals of the Public Highways due to the development;
  - i) Storage of plant and material;
  - j) Information on the management of junctions for delivery vehicles and vulnerable users of the public highway;
  - k) Temporary lighting proposals to ensure that Illumination gear from any lighting source is not visible to motorists using the public highways;
  - l) **Off site construction which could impact the trunk road e.g. electricity cable routes/connections.**



If you have any further queries, please forward to the following Welsh Government Mailbox  
[NorthandMidWalesDevelopmentControlMailbox@gov.wales](mailto:NorthandMidWalesDevelopmentControlMailbox@gov.wales)

Yours faithfully

[Redacted Signature]

Jason Ingram



BUDDSODDWR MEWN POBL  
INVESTOR IN PEOPLE

Sarn Mynach  
Cyffordd Llandudno  
LL31 9RZ

[NorthandMidWalesDevelopmentControlMailbox@gov.wales](mailto:NorthandMidWalesDevelopmentControlMailbox@gov.wales)

---

**From:** AP Planning HD

**Sent:** 24 February 2025 11:18

**To:** PEDW – Seilwaith / Infrastructure

**Subject:** FW: EIA Scoping Consultation - DNS CAS-03547-X3S2B5 - Butterfly Solar Farm -  
Revised Document HD Ref P-250205-45652

ST Classification: UNMARKED

Good Morning

With reference to the above Scoping Report the Company's observations regarding sewerage are as follows.

As the proposal is outside our waste area, I can advise we have no objections to the proposals and do not require a drainage condition to be applied.

IMPORTANT NOTE: This response only relates to the public wastewater network and does not include representation from other areas of Hafren Dyfrdwy, such as the provision of water supply or the protection of drinking water quality

**Suggested Informative – affected water mains**

Before undertaking any work on site, all applicants must determine if Hafren Dyfrdwy has any assets in the vicinity of the proposed works. This can be done by accessing our records at [www.digdat.co.uk](http://www.digdat.co.uk)

Water mains have statutory protection and may not be built close to, or diverted without consent, consequently you must contact Hafren Dyfrdwy to discuss your proposals. Hafren Dyfrdwy will seek to assist you in obtaining a solution which protects both the public sewer and the proposed building.

Should you require any further information please contact us on email below.

Kind regards,

Asset Protection Team

Asset Protection

Asset Strategy and Planning

Chief Engineer

Hafren Dyfrdwy

Email: [APPlanning@hdcymru.co.uk](mailto:APPlanning@hdcymru.co.uk)

---



**From:** [NSIP Applications](#)  
**To:** [PEDW – Seilwaith / Infrastructure](#)  
**Cc:** [NSIP Applications](#)  
**Subject:** DNS - Butterfly Solar Farm - EIA Scoping Consultation - HSE response email  
**Date:** 14 February 2025 13:48:56  
**Attachments:** [image002.png](#)

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Good afternoon,

Please find below HSE response for the proposed Butterfly Solar Farm project.

**HSE's land use planning advice:**

1. With reference to Figure 1.1 Site Location (August 2024) found in [<https://planningcasework.service.gov.wales/case/> Reference: DNS CAS-03547-X3S2B5 - Butterfly Solar Farm. 2025-02-03 - EIA Scoping Request - Figure 1.1 Site Location] on which is shown a redlined *Application Boundary*, in the westernmost section of the proposed development there are areas which fall within HSE public safety consultation zones associated with Major Accident Hazard Pipeline(s) operated by Wales & West Utilities:
  - a. Rhostyllen - Acrefair (HN004 Part 1) [HSE ref: 7638, Transco ref: 1889]
  - b. Rhostyllen - Acrefair (HN004 Part 2) [HSE ref: 7639, Transco ref: 1890]
  - c. Hafod-Y-Bwch Branch (HN008) [HSE ref: 7642, Transco ref: 1893]
  - d. Johnstown Spur (Inlet Main) (VN081) [HSE ref: 7609, Transco ref: 1861]
2. The redlined *Application Boundary* also falls within the consultation distances of a Major Accident Hazard Installation(s):
  - a. H0484 - Easi-Gas (UK) Ltd. - Hafod Road Ruabon Wrexham Wales LL14 6ET
3. HSE will not advise against the proposed development, providing the proposed development does not introduce populations, either permanent or temporary, into any of HSE's public safety consultation zones which are assigned to individual Major Accident Hazard Pipeline(s) and/or Major Accident Hazard Installation(s). For more information, please refer to HSE's Land Use Planning Methodology, which can be found at <https://www.hse.gov.uk/landuseplanning/methodology.htm>
4. Please note if at any time a new Major Accident Hazard Pipeline is introduced or existing Pipeline modified prior to the determination of a future application, the HSE reserves the right to revise its advice.
5. Likewise, if prior to the determination of a future application, a Hazardous Substances Consent is granted for a new Major Hazard Installation or a Hazardous Substances Consent is varied for an existing Major Hazard Installation

in the vicinity of the proposed project, again the HSE reserves the right to revise its advice.

Would Hazardous Substances Consent be needed?

6. The presence of hazardous substances on, over or under land at or above set threshold quantities (Controlled Quantities) may require Hazardous Substances Consent (HSC) under the Planning (Hazardous Substances) Act 1990 as amended. The substances, alone or when aggregated with others, for which HSC is required, and the associated Controlled Quantities, are set out in The Planning (Hazardous Substances) (Wales) Regulations 2015.
7. Hazardous Substances Consent would be required if the proposed development site is intending to store or use any of the Named Hazardous Substances or Categories of Substances and Preparations at or above the controlled quantities set out in schedule 1 of these Regulations.
8. Further information on HSC should be sought from the relevant Hazardous Substances Authority.

#### **Explosive sites:**

Explosives Inspectorate has no comment to make as there are no HSE licenced explosives sites in the vicinity of the proposed development.

At this time, please send any further communication on this project directly to the HSE's designated email account for NSIP applications at [nsip.applications@hse.gov.uk](mailto:nsip.applications@hse.gov.uk). We are currently unable to accept hard copies, as our offices have limited access.

Yours sincerely

Agata Janicka

On behalf of the NSIP Team  
**Agata Janicka | Business Support Team**  
Health and Safety Executive | CEMHD - DBST  
[nsip.applications@hse.gov.uk](mailto:nsip.applications@hse.gov.uk)



**From:** [Catchment Team](#)  
**To:** [PEDW – Seilwaith / Infrastructure](#)  
**Subject:** RE: EIA Scoping Consultation - DNS CAS-03547-X3S2B5 - Butterfly Solar Farm - Revised Document HD Ref P-250205-45652  
**Date:** 24 February 2025 16:48:19  
**Attachments:** [image002.png](#)  
[image003.jpg](#)

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ST Classification: OFFICIAL PERSONAL

Good afternoon,

Thank you for contacting the Severn Trent Water and Hafren Dyfrdwy Catchment Team regarding this scoping consultation.

The CAA and EAA sites fall within our River Dee drinking water catchment and are approximately 3km upstream of one of our surface water intakes. As such, we believe that any impact on water resources, which is currently 'scoped out' of the environmental impact assessment, should be 'scoped in'. We appreciate that a construction environmental management plan (CEMP) will be created but would also like to see one included for the operation (including details such as how any cleaning materials will be prevented from entering watercourses) and decommission of the site. We understand that a substation and several battery storage units will be built on the sites. We would like to see a map of the locations of these and details as to how any potential pollution from these assets would be prevented from reaching the watercourse. For example, although we appreciate any chance of accidents is small, if a fire were to break out at the substation or battery storage units, how would any pollutants, including fire fighter foams, be prevented from reaching the watercourse.

We look forward to being consulted on the planning application, including the environmental impact assessment, when that is available.

Kind regards,

Yannick Withoos

**Dr Yannick Withoos**

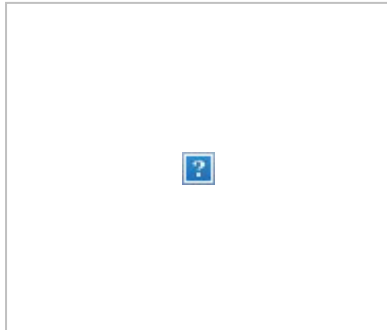
Catchment Advisor

Water Quality and Environment

Severn Trent Water



Office Location: Severn Trent Centre, 2 St Johns Street, Coventry, CV1 2LZ



***We protect our customers and nature by providing great quality water through a sustainable and thriving environment.***

Read our 'Caring for our Environment' strategy [here](#)

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200 Lichfield Lane  
Mansfield  
Nottinghamshire  
NG18 4RG

**T:** 01623 637 119 (Planning Enquiries)

**E:** [planningconsultation@coal.gov.uk](mailto:planningconsultation@coal.gov.uk)

**W:** [www.gov.uk/coalauthority](http://www.gov.uk/coalauthority)

**For the attention of: Ms G Peters – Planning Officer  
Planning and Environment Decisions Wales**

[By email: [PEDW.Infrastructure@gov.wales](mailto:PEDW.Infrastructure@gov.wales)]

5<sup>th</sup> March 2025

Dear Ms Peters

**Re: DNS CAS-03547-X3S2B5 - An application for the development of a ground mounted photovoltaic solar array with an export capacity of approximately 99.9MW, battery energy storage system and associated ancillary development including an electricity connection to a National Grid substation.; Butterfly Solar Farm, Land to the north of the B5426, Wrexham, LL13 0YB**

Thank you for your notification of the 4th February 2025 seeking the views of the Coal Authority on the above.

The Coal Authority is a non-departmental public body sponsored by the Department for Energy Security and Net Zero. As a statutory consultee, the Coal Authority has a duty to respond to planning applications and development plans in order to protect the public and the environment in mining areas.

Our records indicate that the sites identified for the solar panels and supporting infrastructure for this project fall outside of the defined Development High Risk Area. This means our records do not indicate the presence of any coal mining features at surface of shallow depth which may pose a risk to surface stability in these areas.

There are some areas of recorded coal mining features around Talwrn and Johnstown, in the area of the access route, although we acknowledge that these are existing roads. The EIA Scoping Report does not provide any consideration of coal mining features and we

have no objections to this in light of the coal mining legacy present in the area of the project, as identified by the site plan.

If you would like to discuss this matter further, please contact me on the above number.

Yours sincerely



**Melanie Lindsley** *BA (Hons), DipEH, DipURP, MA, PGCertUD, PGCertSP, MRTPI*  
**Principal Planning & Development Manager**

### **Disclaimer**

The above consultation response is provided by the Coal Authority as a statutory consultee and is based upon the latest available data and the electronic consultation records held by the Coal Authority since 1 April 2013. The comments made are also based on the information provided to the Coal Authority by the Local Planning Authority and/or information that has been published on the Council's website for consultation purposed in relation to this specific planning application. The views and conclusions contained in this response may be subject to review and amendment by the Coal Authority if additional or new data/information (such as a revised Coal Mining Risk Assessment) is provided by the Local Planning Authority or the applicant for consultation purposes.



## Peters, Georgia (CSI - Planning & Environment Decisions Wales)

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**From:** Roberts, Hannah (CSI - Planning & Environment Decisions Wales) on behalf of PEDW – Seilwaith / Infrastructure  
**Sent:** 11 March 2025 07:50  
**To:** PEDW – Cynllunio a'r Amgylchedd / Planning & Environment  
**Subject:** FW: EIA Scoping Consultation - DNS CAS-03547-X3S2B5 - Butterfly Solar Farm  
**Attachments:** SPM UMV Butterfly Solar Farm.pdf

**Follow Up Flag:** Follow up  
**Flag Status:** Completed

---

**From:** Edwards, Steven  
**Sent:** 10 March 2025 17:24  
**To:** PEDW – Seilwaith / Infrastructure  
**Subject:** EIA Scoping Consultation - DNS CAS-03547-X3S2B5 - Butterfly Solar Farm

Thank you for the opportunity to comment on the information made available as part of the recent EIA scoping consultation for the above project.

I have reviewed the proposals and provide comments for SP Energy Networks (SPEN) who operate and manage the electricity network up to 132kV in the area affected by the proposals on behalf of the asset owner, SP Manweb, as shown in part on the attached plan. SP Manweb is the statutory licence Distribution Network Operator, and has the following observations on the above project

SP Energy Networks must ensure the avoidance of any adverse impact on its network assets as we drive to maintain a network that is capable of meeting the increase in demand from an all-electric economy. The next decade will be crucial in preparing the grid for these changes and this is why we are interested in commenting on the proposals.

SP Energy Networks requires reference in any baseline studies to SPM network and assessment of the impact of the proposals on this network. The applicant can contact SP Energy Networks any time to obtain the GIS data in order to show on the relevant plans. Statutory clearances distances must be maintained. Failure to consider the impact of the proposed scheme on existing overhead lines at this EIA stage could mean further diversions are necessary and subsequent environmental impacts which themselves may result in additional environmental impacts.

There should be a draft construction management plan which has a section on utilities and explains how impact on the electricity network is to be managed and mitigated. SPEN requires there to be adequate space to maintain and operate its network in accordance with statutory obligations. Mitigation proposals will also need to take account of SPM assets and the operational requirements. In addition, SPM benefits from numerous land rights interests across the proposed site and these must be maintained and managed to ensure the network is operated in a safe and reliable manner and these rights should be included within a suitably worded agreement between SPM and the applicant.

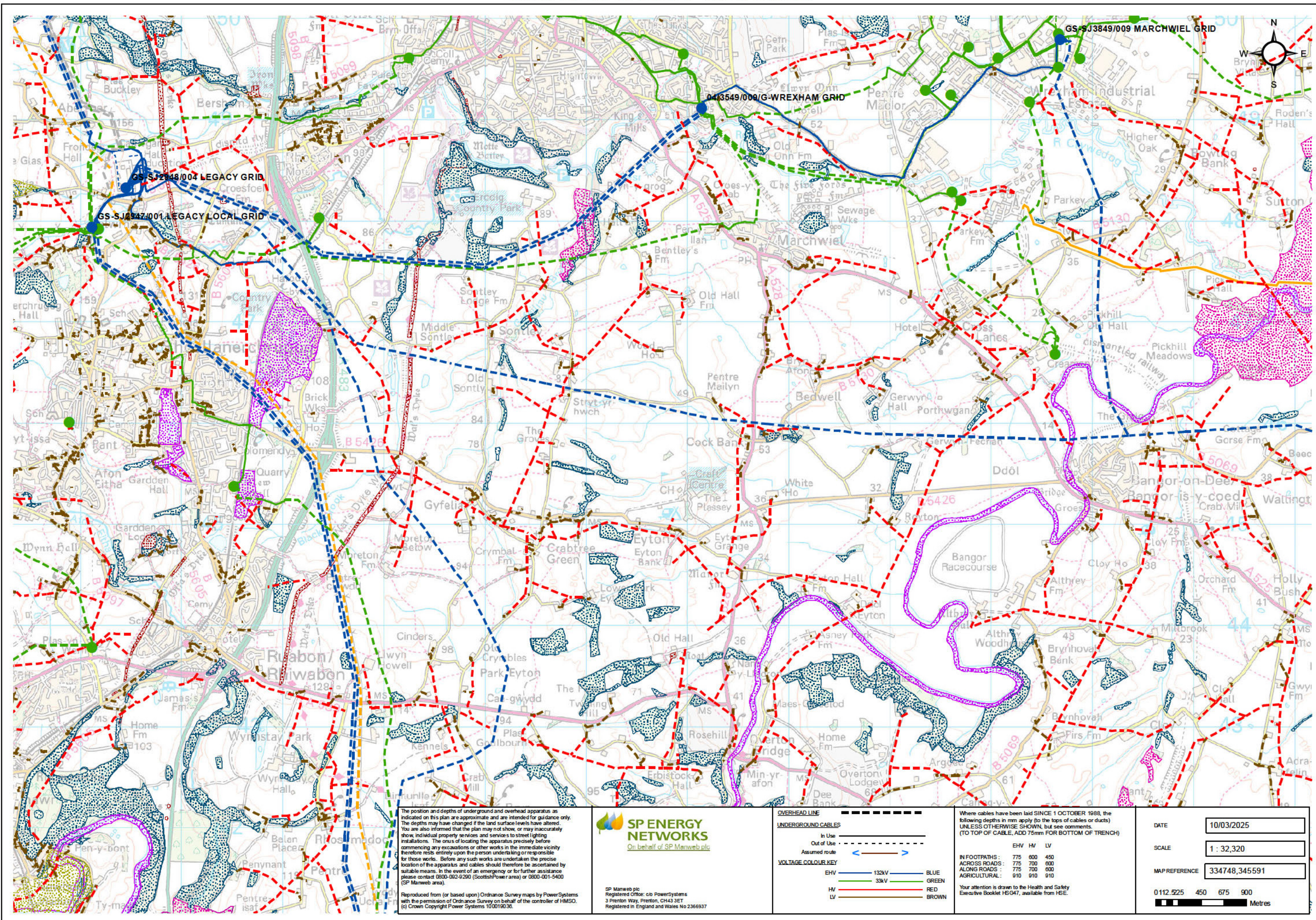
I hope the above information is useful and please let me know if you require any further information.

Please ensure SPEN is consulted at subsequent application stages of this proposal.

Regards

Steve







## Catherine Zoeftig

---

**From:** Catherine Zoeftig  
**Sent:** 26 February 2025 11:20  
**To:** 'Michelle Zenner'; Doug Bailey  
**Cc:** Laura Mackey  
**Subject:** [Filed on 2025-02-26] RE: Ref: DNS CAS-03547-X3S2B5 - Butterfly Solar Farm  
**Attachments:** 3456-01-Access Layouts.zip; FW: Request for Scoping Direction submitted to PEDW - Land to the north of the B5426, Wrexham; [Filed on 2025-02-04] Ref: DNS CAS-03547-X3S2B5 - Butterfly Solar Farm

**Categories:** Filed to CloudFiler

Hi Michelle,

Attached is everything I issued to [@Doug Bailey](#)

Excavation works / timescales are dependent upon the appointed contractor, (which is not known yet), and lies out of the scope of the planning system, but from experience, on average around 50-100m lengths of cable can be laid per day. This would be undertaken in sections with closure areas extending half-way across the carriageway to ensure that access is achievable via the other half. Each section would be backfilled at the end of the day. There are also alternative methods available such as directional tunnel boring that does not require the surface of the highway to be broken.

Catherine

Regards

**Catherine Zoeftig**

**Associate Director | BA (Hons) MCIHT**

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**From:** Michelle Zenner <[Michelle.Zenner@wrexham.gov.uk](mailto:Michelle.Zenner@wrexham.gov.uk)>

**Sent:** 26 February 2025 10:33

**To:** Catherine Zoeftig <[catherinezoeftig@axis.co.uk](mailto:catherinezoeftig@axis.co.uk)>

**Cc:** Laura Mackey <[lauramackey@axis.co.uk](mailto:lauramackey@axis.co.uk)>; Doug Bailey <[Doug.Bailey@wrexham.gov.uk](mailto:Doug.Bailey@wrexham.gov.uk)>

**Subject:** RE: Ref: DNS CAS-03547-X3S2B5 - Butterfly Solar Farm

Thanks Catherine,



I haven't seen the drawings attached either, I've asked Doug to forward them over but not seen them yet, I'm keen to see where the proposed access arrangements are.

I'll probably need to discuss the location of the cable with management, but I'm just trying to weigh up the implications of either route. Hafod Road is the quieter route of the two but there is a residential development already permitted that will have an access onto Hafod Road that is yet to be determined, there should also be amendments to the carriageway to provide a footway/cycleway. Do you know the likely excavation works / timescale of that needed?

Regards

Michelle Zenner BSc (Hons) MSc MCIHT

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*Senior Engineer Development Control  
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**From:** Catherine Zoefitig <[catherinezoefitig@axis.co.uk](mailto:catherinezoefitig@axis.co.uk)>

**Sent:** 26 February 2025 08:38

**To:** Michelle Zenner <[Michelle.Zenner@wrexham.gov.uk](mailto:Michelle.Zenner@wrexham.gov.uk)>

**Cc:** Laura Mackey <[lauramackey@axis.co.uk](mailto:lauramackey@axis.co.uk)>; Doug Bailey <[Doug.Bailey@wrexham.gov.uk](mailto:Doug.Bailey@wrexham.gov.uk)>

**Subject:** RE: Ref: DNS CAS-03547-X3S2B5 - Butterfly Solar Farm

Hi Michelle,

Please see attached which accompanied the DNS pre-app. Can you advise when you might be able to have some comments over to me please?

Catherine

Regards

**Catherine Zoefitig**

**Associate Director | BA (Hons) MCIHT**

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**From:** Michelle Zenner <[Michelle.Zenner@wrexham.gov.uk](mailto:Michelle.Zenner@wrexham.gov.uk)>

**Sent:** 25 February 2025 18:14

**To:** Catherine Zoeftig <[catherinezoeftig@axis.co.uk](mailto:catherinezoeftig@axis.co.uk)>

**Cc:** Laura Mackey <[lauramackey@axis.co.uk](mailto:lauramackey@axis.co.uk)>; Doug Bailey <[Doug.Bailey@wrexham.gov.uk](mailto:Doug.Bailey@wrexham.gov.uk)>

**Subject:** RE: Ref: DNS CAS-03547-X3S2B5 - Butterfly Solar Farm

Hi Catherine, any chance you can send me a location plan please?

Regards

Michelle Zenner BSc (Hons) MSc MCIHT

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Gwasanaethau Amgylcheddol a Thechnegol*

*Senior Engineer Development Control  
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**From:** Catherine Zoeftig <[catherinezoeftig@axis.co.uk](mailto:catherinezoeftig@axis.co.uk)>

**Sent:** 05 February 2025 14:45

**To:** Michelle Zenner <[Michelle.Zenner@wrexham.gov.uk](mailto:Michelle.Zenner@wrexham.gov.uk)>

**Cc:** Laura Mackey <[lauramackey@axis.co.uk](mailto:lauramackey@axis.co.uk)>; Doug Bailey <[Doug.Bailey@wrexham.gov.uk](mailto:Doug.Bailey@wrexham.gov.uk)>

**Subject:** RE: Ref: DNS CAS-03547-X3S2B5 - Butterfly Solar Farm

Hi Michelle,

Yes long time indeed! Good to be back in touch.

Thanks for taking a look at this application for me.

Look forward to catching up soon once you have had chance to have a look at it next week.

Feel free to give me a call on my number below if you have any questions in the meantime.

Catherine

Regards

**Catherine Zoeftig**

**Associate Director | BA (Hons) MCIHT**



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**From:** Michelle Zenner <[Michelle.Zenner@wrexham.gov.uk](mailto:Michelle.Zenner@wrexham.gov.uk)>

**Sent:** 05 February 2025 10:20

**To:** Catherine Zoeftig <[catherinezoeftig@axis.co.uk](mailto:catherinezoeftig@axis.co.uk)>

**Cc:** Laura Mackey <[lauramackey@axis.co.uk](mailto:lauramackey@axis.co.uk)>; Doug Bailey <[Doug.Bailey@wrexham.gov.uk](mailto:Doug.Bailey@wrexham.gov.uk)>

**Subject:** RE: Ref: DNS CAS-03547-X3S2B5 - Butterfly Solar Farm

Long time no speak Catherine!

We will take a look next week and get back to you soon.

Many thanks

Regards

Michelle Zenner

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*Gwasanaethau Amgylcheddol a Thechnegol*

*Senior Engineer Development Control*

*Environment and Technical Services*



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**From:** Catherine Zoefftig <[catherinezoefftig@axis.co.uk](mailto:catherinezoefftig@axis.co.uk)>  
**Sent:** 05 February 2025 08:58  
**To:** Doug Bailey <[Doug.Bailey@wrexham.gov.uk](mailto:Doug.Bailey@wrexham.gov.uk)>  
**Cc:** Laura Mackey <[lauramackey@axis.co.uk](mailto:lauramackey@axis.co.uk)>; Michelle Zenner <[Michelle.Zenner@wrexham.gov.uk](mailto:Michelle.Zenner@wrexham.gov.uk)>  
**Subject:** RE: Ref: DNS CAS-03547-X3S2B5 - Butterfly Solar Farm

Hi Doug,

Yes I am good thank you. Thank you for coming back to me so promptly.

You have interpreted correctly.

There's no huge rush but it would be helpful to have your thoughts on matters in the next few weeks or so. I am currently preparing the TS report and ES chapters to have these ready for client review by the 1<sup>st</sup> week of March.

Catherine

Regards

**Catherine Zoefftig**

**Associate Director | BA (Hons) MCIHT**

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**From:** Doug Bailey <[Doug.Bailey@wrexham.gov.uk](mailto:Doug.Bailey@wrexham.gov.uk)>  
**Sent:** 05 February 2025 08:48  
**To:** Catherine Zoefftig <[catherinezoefftig@axis.co.uk](mailto:catherinezoefftig@axis.co.uk)>  
**Cc:** Laura Mackey <[lauramackey@axis.co.uk](mailto:lauramackey@axis.co.uk)>; Michelle Zenner <[Michelle.Zenner@wrexham.gov.uk](mailto:Michelle.Zenner@wrexham.gov.uk)>  
**Subject:** RE: Ref: DNS CAS-03547-X3S2B5 - Butterfly Solar Farm

Hi Catherine

Thanks for your email. I'm well thanks and hope you are too

If I've interpreted correctly:

I see the application has also been made to WCBC planning and PEDW, so we as consultees will get a formal notification once validated by planning

In the meantime you'd like us to review the info and data collated and agree the scope of the TA in advance to save time in the final review?

I've only had time to speed read so apologies if misinterpreted. Please advise

We still have a considerable backlog of submitted applications and sectional agreements to review, so I am afraid we can't respond immediately, however, I will raise this with Michelle, our team lead for review next Wednesday or even our next 1-2-1 a week on Friday, which will be the earliest chance to even look at it looking at our diaries. (I'm only part time, and Michelle is off early next week)

Best Regards

Doug

Doug Bailey

*Rheoli Datblygu*

*Gwasanaethau Amgylcheddol a Thechnegol*

*Development Control Engineer*

*Environment and Technical Services*



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**From:** Catherine Zoefitig <[catherinezoefitig@axis.co.uk](mailto:catherinezoefitig@axis.co.uk)>

**Sent:** 04 February 2025 14:26

**To:** Doug Bailey <[Doug.Bailey@wrexham.gov.uk](mailto:Doug.Bailey@wrexham.gov.uk)>

**Cc:** Laura Mackey <[lauramackey@axis.co.uk](mailto:lauramackey@axis.co.uk)>

**Subject:** Ref: DNS CAS-03547-X3S2B5 - Butterfly Solar Farm

Good Afternoon Doug,

I hope this email finds you well. I am in the process of preparing a Transport Statement and ES Chapter (Transport scoped out) for the proposed Solar Site (Butterfly Solar Farm) situated on Land to the North of the B5425 Wrexham and wanted to run a few points past you, in advance of this.

### Introduction

The applicant is proposing to develop a solar photovoltaic electricity generating station (or 'solar farm') with an export capacity of 99.9 MW, battery storage and associated ancillary development, including a 132kV substation.

The site is located to the north of the B5426, approximately 3km to the south of the City of Wrexham and 1.5km to the east of Johnstown.

The Site is divided into three principal areas, Western, Central and Eastern Array Areas (WAA, CAA and EAA respectively). Each of the array areas are separated by approximately 1.8km and are proposed to be connected to each other via underground cabling, which in turn would link to a main onsite substation located within the WAA.

The application also includes an underground cable connection from the onsite substation to the Legacy National Grid Sub-Station, which is located approximately 1.3km to the north of Rhosllannerchrugog.

The OS grid references for each of the array areas are:

- i) WAA – 331692, 346263;
- ii) CAA – 333959, 345629; and
- iii) EAA – 336679, 346129.

The entirety of the site covers an area of approximately 150ha.

The WAA covers approximately 22ha and is located to the immediate east of the A483, approximately 1km to the east of Johnstown.

### **Access**

There is a private road leading through the WAA which provides access from Haford Road in the west (West of the A483) to a private residential dwelling, Hafod y Bont in the east. This road is also a Public Right of Way (PROW), footpath RUA/119. This private road is not proposed as an access route into the WAA. Instead, access would be gained into the WAA from the B5426 to the south (Access A). The access has been designed to accommodate two-way HGV movements, and ensures DMRB required visibility splays based on observed 85<sup>th</sup> percentile speeds.

The CAA covers approximately 70ha. Marchwiel Hall Road runs up the centre of the CAA which would be used to access the CAA. The CAA is divided into four distinct parcels, two to the west of the Marchwiel Hall Road and two to the east. A total of 5 access are proposed for the CAA, these include an access directly from the B5426 to the west of Plas Eyton to the southernmost western parcel (Access B). Two accesses from Marchwiel Hall Road to the southernmost eastern parcel (Accesses C and D). An access from Marchwiel Hall Road to the western parcel (Access E) and an access from Marchwiel Hall Road to the northernmost eastern parcel (Access F).

The EAA covers approximately 54ha and access would be gained via Kiln Lane which forms the northern boundary of this parcel, and the B5436 which runs east west approximately 600m to the south. The layouts of access points A to E are illustrated in **Drawings No's: 3456-01 Accesses A to E** attached.

Footpath SES/6 runs through the eastern most parcel of the EAA. Footpath SES/9 runs along the southern boundary of the EAA and connects to footpath SES/6. There are a number of other footpaths within the vicinity of the EEA.

### **Electrical Connection (Cable Route)**

In terms of electrical connections, the application is proceeding with two route options to the Legacy Substation, which include the following:

1. The first, the Northern Option, would route west along the B5426 from the Western Array Area (WAA), before turning north along Haford Road and Corkscrew Lane, to the junction with the B5605 (Wrexham Road). The cable would then cross Wrexham Road and proceed along Smithy Lane, before routing north along Talwrn Road and then west along the unnamed B5426 to Legacy Substation entrance road; and
2. The second option, the Western Option, would route west along the B5426 from the WAA towards Johnstown where it would turn north along the B5605 (High Street/Wrexham Road). It would continue north to the junction with Smithy Lane, and then follow the same route as the Northern Option from this point to Legacy Substation.

These route options are illustrated further on **Figure 1** following:

### **Figure 1 – Alternate Route Options to Legacy Substation**





Any comments on either of these options would be gratefully received.

## Trip Generation

### Construction

#### HGVs

It is forecast that construction traffic will be limited. Average vehicle movements will be in the order of twelve deliveries (twelve inbound plus twelve outbound movements) per day over the 39 – 52 week construction period, with only be minor fluctuations in this scheduling. This has been based on the following calculations:

**Table 1 – HGV Summary (Over Entire Construction Period)**

#### HGV Summary (Over Entire Construction Period)

Temporary/Ancillary Works & Equipment	Details of load	One-Way Trips	Two-Way Trips
Welfare Delivery	HGV	40	80
Welfare Collection	HGV	40	80
Welfare Servicing (Diesel, water and waste)	HGV	250	500
Fencing	HGV	20	40
Aggregate for roadways	16T Lorry	1300	2600
Construction support total		1650	3300
PV Equipment/Components	Details of load	No. of loads	Two-Way Trips
PV panels	HGV	345	691
Metal frames	HGV	400	800
Cabling	Mixed	100	200
Inverters and transformers	Mixed	36	72
BESS Containers	Mixed	27	54
Substations	Mixed	4	8
Other	Mixed	26	51
PV Equipment/Components Total		938	1876

#### Overall HGV Summary

Movements	Total	Weekly	Weekday	Saturday
One-Way	2588	66	12	7
Two-Way	5176	133	24	14

The relatively good access and limited low frequency of traffic, split between several parcels / access points, would be managed via a Construction Traffic Management Plan (CTMP), which would assist in limiting the magnitude of impact.

#### Staff

The construction phase would require a total of 80 staff members being on site at any one time. Staff will be mini-bussed in, with a 4-person per vehicle target where required. It is therefore forecast that the total light movements during the construction period will be 20 one-way or 40 two-way trips per day.

#### Operation

Isolated and infrequent maintenance will be required, resulting in negligible operational traffic movements.

I also include a copy of our email sent to your planning team earlier this week to provide context to the above.

I look forward to receiving comments from you in respect of the above at your earliest convenience.

Catherine

Regards

**Catherine Zoefftig**

**Associate Director | BA (Hons) MCIHT**

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Mae'r neges e-bost hon ac unrhyw atodiadau wedi eu bwriadu ar gyfer yr unigolyn neu'r sefydliad y'i cyfeirir atynt yn unig. Am yr amodau llawn ynglŷn â chynnwys a defnyddio'r neges e-bost hon, ac unrhyw atodiadau, cyfeiriwch at [www.wreccsam.gov.uk/top\\_navigation/disclaimersw.htm](http://www.wreccsam.gov.uk/top_navigation/disclaimersw.htm)

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## Catherine Zoefitg

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**From:** Catherine Zoefitg  
**Sent:** 04 March 2025 14:43  
**To:** Michelle Zenner  
**Cc:** Laura Mackey; Doug Bailey  
**Subject:** [Filed on 2025-03-04] RE: Ref: DNS CAS-03547-X3S2B5 - Butterfly Solar Farm  
**Attachments:** Access Locations.pdf  
  
**Categories:** Filed to CloudFiler

Hi Michelle,

Please see attached an overview plan(s) of the proposed access points. I trust this is suitable for your requirements.

Works associated to the cable laying route were discussed in my previous email (26<sup>th</sup> February 2025) see below again for info:

*'Excavation works / timescales are dependent upon the appointed contractor, (which is not known yet), and lies out of the scope of the planning system, but from experience, on average around 50-100m lengths of cable can be laid per day. This would be undertaken in sections with closure areas extending half-way across the carriageway to ensure that access is achievable via the other half. Each section would be backfilled at the end of the day. There are also alternative methods available such as directional tunnel boring that does not require the surface of the highway to be broken'.*

As mentioned in my initial email (dated 4<sup>th</sup> February 2025), the total average daily two-way trips (based on a 39 week construction period) has been forecast at 24 HGVs and 40 light (staff vehicles). The exact split of movements between each of the access points will be determined by the contractor, however an even split is assumed between each access point (8 in total) then the daily total two-way trips at each would be only be 3 HGVs and 5 light (staff vehicles).

On other similar schemes we have successfully managed concerns regarding lack of footway / pedestrian interaction through certain mitigation measures, that could include for example, timed deliveries and the use of banksmen. With regard to potential damage to the highway again from my previous experience on similar schemes, and for example, this has been managed through appropriate conditions (dilapidation survey).

Let me know if you require any further information please. I'd be more than happy to discuss anything further over a 'Teams' call if that would assist.

Catherine

Regards

**Catherine Zoefitg**

**Associate Director | BA (Hons) MCIHT**

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T: 0344 8700 007

M: 07951 372761



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**From:** Michelle Zenner <Michelle.Zenner@wrexham.gov.uk>  
**Sent:** 04 March 2025 10:53  
**To:** Catherine Zoefftig <catherinezoefftig@axis.co.uk>  
**Cc:** Laura Mackey <lauramackey@axis.co.uk>; Doug Bailey <Doug.Bailey@wrexham.gov.uk>  
**Subject:** RE: Ref: DNS CAS-03547-X3S2B5 - Butterfly Solar Farm

Hi Catherine,

I'm afraid not, it's with management for further guidance. I'm on leave from tomorrow until next Tuesday and I was flat out with Planning Committee yesterday.

I've been through all the documents / accesses (an overview plan showing all the proposed access points on one plan would have been really helpful).

We've had some emails of concern from local Councillors on both the proposed cable locations (can you provide more details of the works that would be associated with these works) and the routing of HGVs to the various access points, especially onto Marchwiell Hall Road. I think we're going to need a more specific breakdown of the level of vehicles proposed to access daily each individual access. Concerns are raised due to the lack of footway as well as potential damage to the highway which is really not suitable for this size / weight of vehicle.

Any further information or assurances you can provide will be much appreciated.

Regards

Michelle Zenner BSc (Hons) MSc MCIHT

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*Senior Engineer Development Control  
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**From:** Catherine Zoefitig <[catherinezoeftig@axis.co.uk](mailto:catherinezoeftig@axis.co.uk)>  
**Sent:** 04 March 2025 10:41  
**To:** Michelle Zenner <[Michelle.Zenner@wrexham.gov.uk](mailto:Michelle.Zenner@wrexham.gov.uk)>; Doug Bailey <[Doug.Bailey@wrexham.gov.uk](mailto:Doug.Bailey@wrexham.gov.uk)>  
**Cc:** Laura Mackey <[lauramackey@axis.co.uk](mailto:lauramackey@axis.co.uk)>  
**Subject:** RE: Ref: DNS CAS-03547-X3S2B5 - Butterfly Solar Farm  
**Importance:** High

Morning Michelle,

Do you have any comments for me yet, please.

Looking forward to hearing from you.

Catherine

Regards

**Catherine Zoefitig**

**Associate Director | BA (Hons) MCIHT**

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**From:** Catherine Zoefitig  
**Sent:** 26 February 2025 11:20  
**To:** 'Michelle Zenner' <[Michelle.Zenner@wrexham.gov.uk](mailto:Michelle.Zenner@wrexham.gov.uk)>; Doug Bailey <[Doug.Bailey@wrexham.gov.uk](mailto:Doug.Bailey@wrexham.gov.uk)>  
**Cc:** Laura Mackey <[lauramackey@axis.co.uk](mailto:lauramackey@axis.co.uk)>  
**Subject:** [Filed on 2025-02-26] RE: Ref: DNS CAS-03547-X3S2B5 - Butterfly Solar Farm

Hi Michelle,

Attached is everything I issued to [@Doug Bailey](#)

Excavation works / timescales are dependent upon the appointed contractor, (which is not known yet), and lies out of the scope of the planning system, but from experience, on average around 50-100m lengths of cable can be laid per day. This would be undertaken in sections with closure areas extending half-way across the carriageway to ensure that access is achievable via the other half. Each section would be backfilled at the end of the day. There are also alternative methods available such as directional tunnel boring that does not require the surface of the highway to be broken.

Catherine

Regards

**Catherine Zoefftig**

**Associate Director | BA (Hons) MCIHT**



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**From:** Michelle Zenner <[Michelle.Zenner@wrexham.gov.uk](mailto:Michelle.Zenner@wrexham.gov.uk)>

**Sent:** 26 February 2025 10:33

**To:** Catherine Zoefftig <[catherinezoefftig@axis.co.uk](mailto:catherinezoefftig@axis.co.uk)>

**Cc:** Laura Mackey <[lauramackey@axis.co.uk](mailto:lauramackey@axis.co.uk)>; Doug Bailey <[Doug.Bailey@wrexham.gov.uk](mailto:Doug.Bailey@wrexham.gov.uk)>

**Subject:** RE: Ref: DNS CAS-03547-X3S2B5 - Butterfly Solar Farm

Thanks Catherine,

I haven't seen the drawings attached either, I've asked Doug to forward them over but not seen them yet, I'm keen to see where the proposed access arrangements are.

I'll probably need to discuss the location of the cable with management, but I'm just trying to weigh up the implications of either route. Hafod Road is the quieter route of the two but there is a residential development already permitted that will have an access onto Hafod Road that is yet to be determined, there should also be amendments to the carriageway to provide a footway/cycleway. Do you know the likely excavation works / timescale of that needed?

Regards

Michelle Zenner BSc (Hons) MSc MCIHT

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*Senior Engineer Development Control  
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**From:** Catherine Zoefftig <[catherinezoefftig@axis.co.uk](mailto:catherinezoefftig@axis.co.uk)>  
**Sent:** 26 February 2025 08:38  
**To:** Michelle Zenner <[Michelle.Zenner@wrexham.gov.uk](mailto:Michelle.Zenner@wrexham.gov.uk)>  
**Cc:** Laura Mackey <[lauramackey@axis.co.uk](mailto:lauramackey@axis.co.uk)>; Doug Bailey <[Doug.Bailey@wrexham.gov.uk](mailto:Doug.Bailey@wrexham.gov.uk)>  
**Subject:** RE: Ref: DNS CAS-03547-X3S2B5 - Butterfly Solar Farm

Hi Michelle,

Please see attached which accompanied the DNS pre-app. Can you advise when you might be able to have some comments over to me please?

Catherine

Regards

**Catherine Zoefftig**

**Associate Director | BA (Hons) MCIHT**

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**From:** Michelle Zenner <[Michelle.Zenner@wrexham.gov.uk](mailto:Michelle.Zenner@wrexham.gov.uk)>  
**Sent:** 25 February 2025 18:14  
**To:** Catherine Zoefftig <[catherinezoefftig@axis.co.uk](mailto:catherinezoefftig@axis.co.uk)>  
**Cc:** Laura Mackey <[lauramackey@axis.co.uk](mailto:lauramackey@axis.co.uk)>; Doug Bailey <[Doug.Bailey@wrexham.gov.uk](mailto:Doug.Bailey@wrexham.gov.uk)>  
**Subject:** RE: Ref: DNS CAS-03547-X3S2B5 - Butterfly Solar Farm

Hi Catherine, any chance you can send me a location plan please?

Regards

Michelle Zenner BSc (Hons) MSc MCIHT

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*Senior Engineer Development Control  
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**From:** Catherine Zoeftig <[catherinezoeftig@axis.co.uk](mailto:catherinezoeftig@axis.co.uk)>

**Sent:** 05 February 2025 14:45

**To:** Michelle Zenner <[Michelle.Zenner@wrexham.gov.uk](mailto:Michelle.Zenner@wrexham.gov.uk)>

**Cc:** Laura Mackey <[lauramackey@axis.co.uk](mailto:lauramackey@axis.co.uk)>; Doug Bailey <[Doug.Bailey@wrexham.gov.uk](mailto:Doug.Bailey@wrexham.gov.uk)>

**Subject:** RE: Ref: DNS CAS-03547-X3S2B5 - Butterfly Solar Farm

Hi Michelle,

Yes long time indeed! Good to be back in touch.

Thanks for taking a look at this application for me.

Look forward to catching up soon once you have had chance to have a look at it next week.

Feel free to give me a call on my number below if you have any questions in the meantime.

Catherine

Regards

**Catherine Zoeftig**

**Associate Director | BA (Hons) MCIHT**

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**From:** Michelle Zenner <[Michelle.Zenner@wrexham.gov.uk](mailto:Michelle.Zenner@wrexham.gov.uk)>

**Sent:** 05 February 2025 10:20



**To:** Catherine Zoefitig <[catherinezoeftig@axis.co.uk](mailto:catherinezoeftig@axis.co.uk)>  
**Cc:** Laura Mackey <[lauramackey@axis.co.uk](mailto:lauramackey@axis.co.uk)>; Doug Bailey <[Doug.Bailey@wrexham.gov.uk](mailto:Doug.Bailey@wrexham.gov.uk)>  
**Subject:** RE: Ref: DNS CAS-03547-X3S2B5 - Butterfly Solar Farm

Long time no speak Catherine!

We will take a look next week and get back to you soon.

Many thanks

Regards

Michelle Zenner

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*Senior Engineer Development Control  
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**From:** Catherine Zoefitig <[catherinezoeftig@axis.co.uk](mailto:catherinezoeftig@axis.co.uk)>  
**Sent:** 05 February 2025 08:58  
**To:** Doug Bailey <[Doug.Bailey@wrexham.gov.uk](mailto:Doug.Bailey@wrexham.gov.uk)>  
**Cc:** Laura Mackey <[lauramackey@axis.co.uk](mailto:lauramackey@axis.co.uk)>; Michelle Zenner <[Michelle.Zenner@wrexham.gov.uk](mailto:Michelle.Zenner@wrexham.gov.uk)>  
**Subject:** RE: Ref: DNS CAS-03547-X3S2B5 - Butterfly Solar Farm

Hi Doug,

Yes I am good thank you. Thank you for coming back to me so promptly.

You have interpreted correctly.

There's no huge rush but it would be helpful to have your thoughts on matters in the next few weeks or so. I am currently preparing the TS report and ES chapters to have these ready for client review by the 1<sup>st</sup> week of March.

Catherine

Regards

**Catherine Zoeftig**

**Associate Director | BA (Hons) MCIHT**



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**From:** Doug Bailey <[Doug.Bailey@wrexham.gov.uk](mailto:Doug.Bailey@wrexham.gov.uk)>

**Sent:** 05 February 2025 08:48

**To:** Catherine Zoeftig <[catherinezoeftig@axis.co.uk](mailto:catherinezoeftig@axis.co.uk)>

**Cc:** Laura Mackey <[lauramackey@axis.co.uk](mailto:lauramackey@axis.co.uk)>; Michelle Zenner <[Michelle.Zenner@wrexham.gov.uk](mailto:Michelle.Zenner@wrexham.gov.uk)>

**Subject:** RE: Ref: DNS CAS-03547-X3S2B5 - Butterfly Solar Farm

Hi Catherine

Thanks for your email. I'm well thanks and hope you are too

If I've interpreted correctly:

I see the application has also been made to WCBC planning and PEDW, so we as consultees will get a formal notification once validated by planning

In the meantime you'd like us to review the info and data collated and agree the scope of the TA in advance to save time in the final review?

I've only had time to speed read so apologies if misinterpreted. Please advise

We still have a considerable backlog of submitted applications and sectional agreements to review, so I am afraid we can't respond immediately, however, I will raise this with Michelle, our team lead for review next Wednesday or even our next 1-2-1 a week on Friday, which will be the earliest chance to even look at it looking at our diaries. (I'm only part time, and Michelle is off early next week)

Best Regards

Doug

Doug Bailey

*Rheoli Datblygu*

*Gwasanaethau Amgylcheddol a Thechnegol*

*Development Control Engineer*

*Environment and Technical Services*



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**From:** Catherine Zoefitig <[catherinezoefitig@axis.co.uk](mailto:catherinezoefitig@axis.co.uk)>  
**Sent:** 04 February 2025 14:26  
**To:** Doug Bailey <[Doug.Bailey@wrexham.gov.uk](mailto:Doug.Bailey@wrexham.gov.uk)>  
**Cc:** Laura Mackey <[lauramackey@axis.co.uk](mailto:lauramackey@axis.co.uk)>  
**Subject:** Ref: DNS CAS-03547-X3S2B5 - Butterfly Solar Farm

Good Afternoon Doug,

I hope this email finds you well. I am in the process of preparing a Transport Statement and ES Chapter (Transport scoped out) for the proposed Solar Site (Butterfly Solar Farm) situated on Land to the North of the B5425 Wrexham and wanted to run a few points past you, in advance of this.

### Introduction

The applicant is proposing to develop a solar photovoltaic electricity generating station (or 'solar farm') with an export capacity of 99.9 MW, battery storage and associated ancillary development, including a 132kV substation.

The site is located to the north of the B5426, approximately 3km to the south of the City of Wrexham and 1.5km to the east of Johnstown.

The Site is divided into three principal areas, Western, Central and Eastern Array Areas (WAA, CAA and EAA respectively). Each of the array areas are separated by approximately 1.8km and are proposed to be connected to each other via underground cabling, which in turn would link to a main onsite substation located within the WAA.

The application also includes an underground cable connection from the onsite substation to the Legacy National Grid Sub-Station, which is located approximately 1.3km to the north of Rhosllannerchrugog.

The OS grid references for each of the array areas are:

- i) WAA – 331692, 346263;
- ii) CAA – 333959, 345629; and
- iii) EAA – 336679, 346129.

The entirety of the site covers an area of approximately 150ha.

The WAA covers approximately 22ha and is located to the immediate east of the A483, approximately 1km to the east of Johnstown.

### Access

There is a private road leading through the WAA which provides access from Haford Road in the west (West of the A483) to a private residential dwelling, Hafod y Bont in the east. This road is also a Public Right of Way (PROW), footpath RUA/119. This private road is not proposed as an access route into the WAA. Instead, access would be gained into the WAA from the B5426 to the south (Access A). The access has been designed to accommodate two-way HGV movements, and ensures DMRB required visibility splays based on observed 85<sup>th</sup> percentile speeds.

The CAA covers approximately 70ha. Marchwiel Hall Road runs up the centre of the CAA which would be used to access the CAA. The CAA is divided into four distinct parcels, two to the west of the Marchwiel Hall Road and two to the east. A total of 5 access are proposed for the CAA, these include an access directly from the B5426 to the west of Plas Eyton to the southernmost western parcel (Access B). Two accesses from Marchwiel Hall Road to the southernmost eastern parcel (Accesses C and D). An access from Marchwiel Hall

Road to the western parcel (Access E) and an access from Marchwiel Hall Road to the northernmost eastern parcel (Access F).

The EAA covers approximately 54ha and access would be gained via Kiln Lane which forms the northern boundary of this parcel, and the B5436 which runs east west approximately 600m to the south. The layouts of access points A to E are illustrated in **Drawings No's: 3456-01 Accesses A to E** attached.

Footpath SES/6 runs through the eastern most parcel of the EAA. Footpath SES/9 runs along the southern boundary of the EAA and connects to footpath SES/6. There are a number of other footpaths within the vicinity of the EEA.

### **Electrical Connection (Cable Route)**

In terms of electrical connections, the application is proceeding with two route options to the Legacy Substation, which include the following:

1. The first, the Northern Option, would route west along the B5426 from the Western Array Area (WAA), before turning north along Haford Road and Corkscrew Lane, to the junction with the B5605 (Wrexham Road). The cable would then cross Wrexham Road and proceed along Smithy Lane, before routing north along Talwrn Road and then west along the unnamed B5426 to Legacy Substation entrance road; and
2. The second option, the Western Option, would route west along the B5426 from the WAA towards Johnstown where it would turn north along the B5605 (High Street/Wrexham Road). It would continue north to the junction with Smithy Lane, and then follow the same route as the Northern Option from this point to Legacy Substation.

These route options are illustrated further on **Figure 1** following:

### **Figure 1 – Alternate Route Options to Legacy Substation**



Any comments on either of these options would be gratefully received.

## Trip Generation

### Construction

#### HGVs

It is forecast that construction traffic will be limited. Average vehicle movements will be in the order of twelve deliveries (twelve inbound plus twelve outbound movements) per day over the 39 – 52 week construction period, with only be minor fluctuations in this scheduling. This has been based on the following calculations:

**Table 1 – HGV Summary (Over Entire Construction Period)**



#### HGV Summary (Over Entire Construction Period)

Temporary/Ancillary Works & Equipment	Details of load	One-Way Trips	Two-Way Trips
Welfare Delivery	HGV	40	80
Welfare Collection	HGV	40	80
Welfare Servicing (Diesel, water and waste)	HGV	250	500
Fencing	HGV	20	40
Aggregate for roadways	16T Lorry	1300	2600
Construction support total		1650	3300
PV Equipment/Components	Details of load	No. of loads	Two-Way Trips
PV panels	HGV	345	691
Metal frames	HGV	400	800
Cabling	Mixed	100	200
Inverters and transformers	Mixed	36	72
BESS Containers	Mixed	27	54
Substations	Mixed	4	8
Other	Mixed	26	51
PV Equipment/Components Total		938	1876

#### Overall HGV Summary

Movements	Total	Weekly	Weekday	Saturday
One-Way	2588	66	12	7
Two-Way	5176	133	24	14

The relatively good access and limited low frequency of traffic, split between several parcels / access points, would be managed via a Construction Traffic Management Plan (CTMP), which would assist in limiting the magnitude of impact.

#### Staff

The construction phase would require a total of 80 staff members being on site at any one time. Staff will be mini-bussed in, with a 4-person per vehicle target where required. It is therefore forecast that the total light movements during the construction period will be 20 one-way or 40 two-way trips per day.

#### Operation

Isolated and infrequent maintenance will be required, resulting in negligible operational traffic movements.

I also include a copy of our email sent to your planning team earlier this week to provide context to the above.

I look forward to receiving comments from you in respect of the above at your earliest convenience.

Catherine

Regards

**Catherine Zoefftig**

**Associate Director | BA (Hons) MCIHT**

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## Catherine Zoeftig

---

**From:** Michelle Zenner <Michelle.Zenner@wrexham.gov.uk>  
**Sent:** 01 April 2025 13:50  
**To:** Catherine Zoeftig  
**Cc:** Laura Mackey; Doug Bailey; highwaysplanning  
**Subject:** [Filed on 2025-04-03] RE: Ref: DNS CAS-03547-X3S2B5 - Butterfly Solar Farm

**Follow Up Flag:** Follow up  
**Flag Status:** Completed

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Hi Catherine,

I've reviewed the information alongside colleagues and have had a number of emails / contact from local Councillors and residents who are concerned about the proposals.

From a highways perspective I feel we need a robust Transportation Assessment with exceptionally thorough details of all vehicles visiting the different sites / access points, as specific as possible if you can. I don't feel there are any overarching issues with the accesses on Ruthin Road subject to the required visibility splays being provided. There are more issues and concerns around the use of Marchwiel Hall Lane and Kiln Lane, these roads have no segregated footpaths and there are concerns from local residents and Councillors that there are cyclists, pedestrians and horseriders on the highway network on these roads and therefore I would consider how you propose to accommodate and address this, you may need to take a thorough safety audit of some of these roads, as I believe banksmen may help at the access points but there may be concerns on the safe operation of local highway networks as a result of the increase in HGV's and service vehicles.

The visibility requirements will also need to be met for all site access points, on some of these roads the speed limit is 60mph road but I suspect the 85<sup>th</sup> percentile speeds will be much lower, and I would recommend it may be worth undertaking a speed survey to ensure that the visibility splays proposed are fit for purpose.

The provision of construction traffic management plan with details of how sites and accesses will be managed, staff car parking compounds / transport will be required to ensure that overflow parking doesn't result on local roads.

In regards to the cabling, I've discussed this with senior management and they are of the view that the Hafod Road route would be the most appropriate route with the least impact on local residents and businesses, however, there are businesses along Hafod Road and the works will need to be managed carefully with appropriate traffic management / Chapter 8 in place, it is envisaged that a one-way arrangement could work well during construction. But further discussion and agreement with WCBC's Traffic Team is recommended.

In light of the huge difference in circumstances during construction/ decommission and operation, the LHA would recommend that you make the highway impacts at differing stages crystal clear. It is also felt that a clearer indication of the likely numbers of vehicles accessing each individual site / entrance would be beneficial to clearly indicate the potential impacts.

Apologies for the delay in my response.

Regards

Michelle Zenner BSc (Hons) MSc MCIHT

*Uwch Beiriannydd Rheoli Datblygu  
Gwasanaethau Amgylcheddol a Thechnegol*

*Senior Engineer Development Control  
Environment and Technical Services*



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**From:** Catherine Zoeftig <catherinezoeftig@axis.co.uk>

**Sent:** 05 February 2025 14:45

**To:** Michelle Zenner <Michelle.Zenner@wrexham.gov.uk>

**Cc:** Laura Mackey <lauramackey@axis.co.uk>; Doug Bailey <Doug.Bailey@wrexham.gov.uk>

**Subject:** RE: Ref: DNS CAS-03547-X3S2B5 - Butterfly Solar Farm

Hi Michelle,

Yes long time indeed! Good to be back in touch.

Thanks for taking a look at this application for me.

Look forward to catching up soon once you have had chance to have a look at it next week.

Feel free to give me a call on my number below if you have any questions in the meantime.

Catherine

Regards

**Catherine Zoeftig**

**Associate Director | BA (Hons) MCIHT**

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**From:** Michelle Zenner <[Michelle.Zenner@wrexham.gov.uk](mailto:Michelle.Zenner@wrexham.gov.uk)>

**Sent:** 05 February 2025 10:20

**To:** Catherine Zoeftig <[catherinezoeftig@axis.co.uk](mailto:catherinezoeftig@axis.co.uk)>

**Cc:** Laura Mackey <[lauramackey@axis.co.uk](mailto:lauramackey@axis.co.uk)>; Doug Bailey <[Doug.Bailey@wrexham.gov.uk](mailto:Doug.Bailey@wrexham.gov.uk)>

**Subject:** RE: Ref: DNS CAS-03547-X3S2B5 - Butterfly Solar Farm

Long time no speak Catherine!

We will take a look next week and get back to you soon.

Many thanks

Regards

Michelle Zenner

*Uwch Beiriannydd Rheoli Datblygu  
Gwasanaethau Amgylcheddol a Thechnegol*

*Senior Engineer Development Control  
Environment and Technical Services*



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**From:** Catherine Zoeftig <[catherinezoeftig@axis.co.uk](mailto:catherinezoeftig@axis.co.uk)>

**Sent:** 05 February 2025 08:58

**To:** Doug Bailey <[Doug.Bailey@wrexham.gov.uk](mailto:Doug.Bailey@wrexham.gov.uk)>

**Cc:** Laura Mackey <[lauramackey@axis.co.uk](mailto:lauramackey@axis.co.uk)>; Michelle Zenner <[Michelle.Zenner@wrexham.gov.uk](mailto:Michelle.Zenner@wrexham.gov.uk)>

**Subject:** RE: Ref: DNS CAS-03547-X3S2B5 - Butterfly Solar Farm

Hi Doug,

Yes I am good thank you. Thank you for coming back to me so promptly.

You have interpreted correctly.

There's no huge rush but it would be helpful to have your thoughts on matters in the next few weeks or so. I am currently preparing the TS report and ES chapters to have these ready for client review by the 1<sup>st</sup> week of March.

Catherine

Regards

**Catherine Zoefftig**

**Associate Director | BA (Hons) MCIHT**



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**From:** Doug Bailey <[Doug.Bailey@wrexham.gov.uk](mailto:Doug.Bailey@wrexham.gov.uk)>

**Sent:** 05 February 2025 08:48

**To:** Catherine Zoefftig <[catherinezoefftig@axis.co.uk](mailto:catherinezoefftig@axis.co.uk)>

**Cc:** Laura Mackey <[lauramackey@axis.co.uk](mailto:lauramackey@axis.co.uk)>; Michelle Zenner <[Michelle.Zenner@wrexham.gov.uk](mailto:Michelle.Zenner@wrexham.gov.uk)>

**Subject:** RE: Ref: DNS CAS-03547-X3S2B5 - Butterfly Solar Farm

Hi Catherine

Thanks for your email. I'm well thanks and hope you are too

If I've interpreted correctly:

I see the application has also been made to WCBC planning and PEDW, so we as consultees will get a formal notification once validated by planning

In the meantime you'd like us to review the info and data collated and agree the scope of the TA in advance to save time in the final review?

I've only had time to speed read so apologies if misinterpreted. Please advise

We still have a considerable backlog of submitted applications and sectional agreements to review, so I am afraid we can't respond immediately, however, I will raise this with Michelle, our team lead for review next Wednesday or even our next 1-2-1 a week on Friday, which will be the earliest chance to even look at it looking at our diaries. (I'm only part time, and Michelle is off early next week)

Best Regards

Doug

Doug Bailey

*Rheoli Datblygu*

*Gwasanaethau Amgylcheddol a Thechnegol*



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**From:** Catherine Zoeftig <[catherinezoeftig@axis.co.uk](mailto:catherinezoeftig@axis.co.uk)>

**Sent:** 04 February 2025 14:26

**To:** Doug Bailey <[Doug.Bailey@wrexham.gov.uk](mailto:Doug.Bailey@wrexham.gov.uk)>

**Cc:** Laura Mackey <[lauramackey@axis.co.uk](mailto:lauramackey@axis.co.uk)>

**Subject:** Ref: DNS CAS-03547-X3S2B5 - Butterfly Solar Farm

Good Afternoon Doug,

I hope this email finds you well. I am in the process of preparing a Transport Statement and ES Chapter (Transport scoped out) for the proposed Solar Site (Butterfly Solar Farm) situated on Land to the North of the B5425 Wrexham and wanted to run a few points past you, in advance of this.

### Introduction

The applicant is proposing to develop a solar photovoltaic electricity generating station (or 'solar farm') with an export capacity of 99.9 MW, battery storage and associated ancillary development, including a 132kV substation.

The site is located to the north of the B5426, approximately 3km to the south of the City of Wrexham and 1.5km to the east of Johnstown.

The Site is divided into three principal areas, Western, Central and Eastern Array Areas (WAA, CAA and EAA respectively). Each of the array areas are separated by approximately 1.8km and are proposed to be connected to each other via underground cabling, which in turn would link to a main onsite substation located within the WAA.

The application also includes an underground cable connection from the onsite substation to the Legacy National Grid Sub-Station, which is located approximately 1.3km to the north of Rhosllannerchrugog.

The OS grid references for each of the array areas are:

- i) WAA – 331692, 346263;
- ii) CAA – 333959, 345629; and
- iii) EAA – 336679, 346129.

The entirety of the site covers an area of approximately 150ha.

The WAA covers approximately 22ha and is located to the immediate east of the A483, approximately 1km to the east of Johnstown.

### Access

There is a private road leading through the WAA which provides access from Haford Road in the west (West of the A483) to a private residential dwelling, Hafod y Bont in the east. This road is also a Public Right of Way (PROW), footpath RUA/119. This private road is not proposed as an access route into the WAA. Instead, access would be gained into the WAA from the B5426 to the south (Access A). The access has been designed to accommodate two-way HGV movements, and ensures DMRB required visibility splays based on observed 85<sup>th</sup> percentile speeds.

The CAA covers approximately 70ha. Marchwiel Hall Road runs up the centre of the CAA which would be used to access the CAA. The CAA is divided into four distinct parcels, two to the west of the Marchwiel Hall Road and two to the east. A total of 5 access are proposed for the CAA, these include an access directly from the B5426 to the west of Plas Eytton to the southernmost western parcel (Access B). Two accesses from Marchwiel Hall Road to the southernmost eastern parcel (Accesses C and D). An access from Marchwiel Hall Road to the western parcel (Access E) and an access from Marchwiel Hall Road to the northernmost eastern parcel (Access F).

The EAA covers approximately 54ha and access would be gained via Kiln Lane which forms the northern boundary of this parcel, and the B5436 which runs east west approximately 600m to the south. The layouts of access points A to E are illustrated in **Drawings No's: 3456-01 Accesses A to E** attached.

Footpath SES/6 runs through the eastern most parcel of the EAA. Footpath SES/9 runs along the southern boundary of the EAA and connects to footpath SES/6. There are a number of other footpaths within the vicinity of the EEA.

#### **Electrical Connection (Cable Route)**

In terms of electrical connections, the application is proceeding with two route options to the Legacy Substation, which include the following:

1. The first, the Northern Option, would route west along the B5426 from the Western Array Area (WAA), before turning north along Haford Road and Corkscrew Lane, to the junction with the B5605 (Wrexham Road). The cable would then cross Wrexham Road and proceed along Smithy Lane, before routing north along Talwrn Road and then west along the unnamed B5426 to Legacy Substation entrance road; and
2. The second option, the Western Option, would route west along the B5426 from the WAA towards Johnstown where it would turn north along the B5605 (High Street/Wrexham Road). It would continue north to the junction with Smithy Lane, and then follow the same route as the Northern Option from this point to Legacy Substation.

These route options are illustrated further on **Figure 1** following:

#### **Figure 1 – Alternate Route Options to Legacy Substation**





Any comments on either of these options would be gratefully received.

## Trip Generation

### Construction

#### HGVs

It is forecast that construction traffic will be limited. Average vehicle movements will be in the order of twelve deliveries (twelve inbound plus twelve outbound movements) per day over the 39 – 52 week construction period, with only be minor fluctuations in this scheduling. This has been based on the following calculations:

**Table 1 – HGV Summary (Over Entire Construction Period)**

#### HGV Summary (Over Entire Construction Period)

Temporary/Ancillary Works & Equipment	Details of load	One-Way Trips	Two-Way Trips
Welfare Delivery	HGV	40	80
Welfare Collection	HGV	40	80
Welfare Servicing (Diesel, water and waste)	HGV	250	500
Fencing	HGV	20	40
Aggregate for roadways	16T Lorry	1300	2600
Construction support total		1650	3300
PV Equipment/Components	Details of load	No. of loads	Two-Way Trips
PV panels	HGV	345	691
Metal frames	HGV	400	800
Cabling	Mixed	100	200
Inverters and transformers	Mixed	36	72
BESS Containers	Mixed	27	54
Substations	Mixed	4	8
Other	Mixed	26	51
PV Equipment/Components Total		938	1876

#### Overall HGV Summary

Movements	Total	Weekly	Weekday	Saturday
One-Way	2588	66	12	7
Two-Way	5176	133	24	14

The relatively good access and limited low frequency of traffic, split between several parcels / access points, would be managed via a Construction Traffic Management Plan (CTMP), which would assist in limiting the magnitude of impact.

#### Staff

The construction phase would require a total of 80 staff members being on site at any one time. Staff will be mini-bussed in, with a 4-person per vehicle target where required. It is therefore forecast that the total light movements during the construction period will be 20 one-way or 40 two-way trips per day.

#### Operation

Isolated and infrequent maintenance will be required, resulting in negligible operational traffic movements.

I also include a copy of our email sent to your planning team earlier this week to provide context to the above.

I look forward to receiving comments from you in respect of the above at your earliest convenience.

Catherine

Regards

**Catherine Zoefftig**

**Associate Director | BA (Hons) MCIHT**

E: [catherinezoefftig@axis.co.uk](mailto:catherinezoefftig@axis.co.uk)

T: 0344 8700 007

M: 07951 372761



[www.axis.co.uk](http://www.axis.co.uk)

Please note my usual working days are - Tues, Weds, Thurs, Fri



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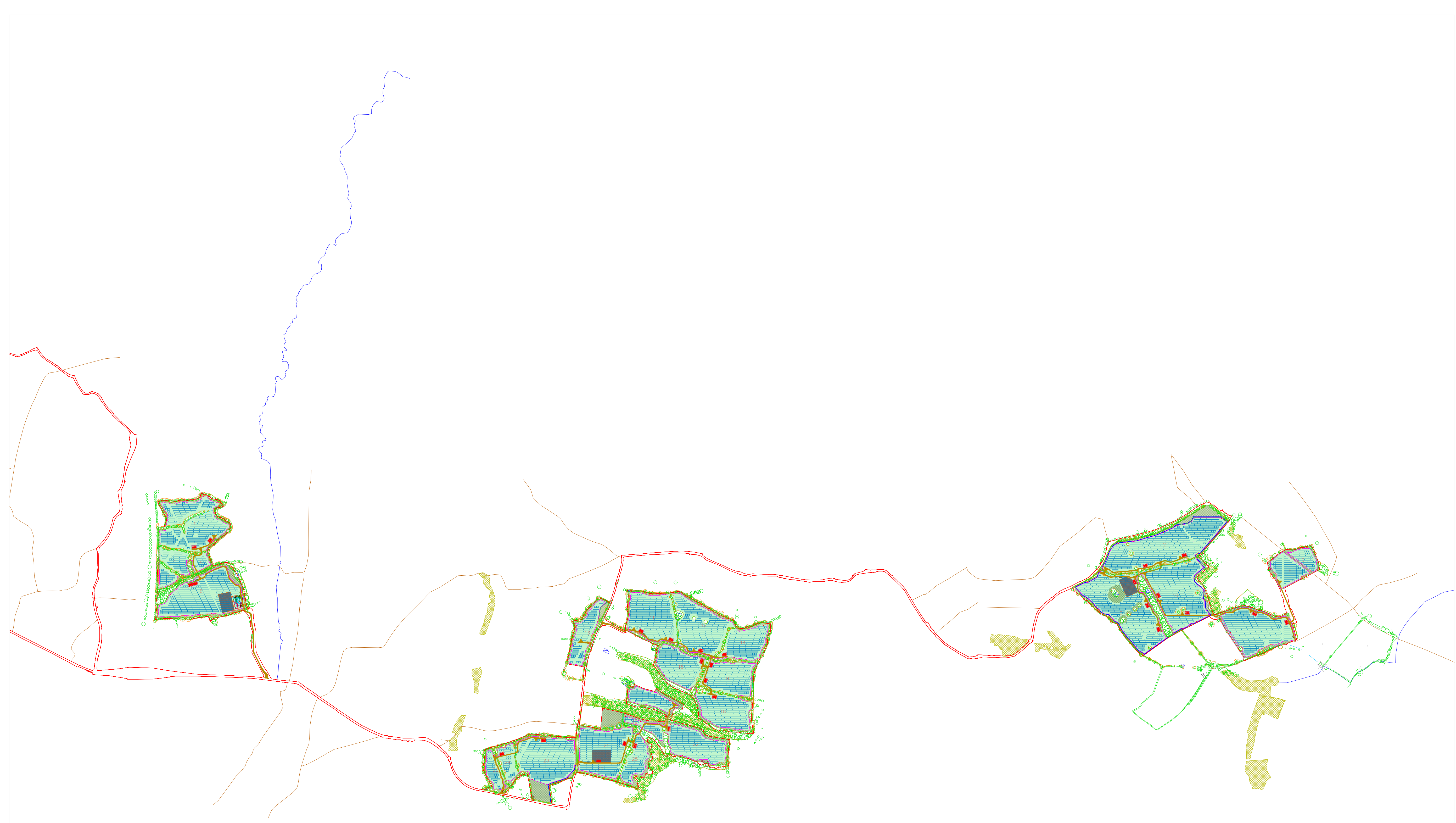
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Discipline	Summary of Scoping Direction response ( <a href="#">click on cell and review formula bar for greater detail</a> )	Response notes from technical specialist (for internal use only)	Is the scope of the assessment affected? (confirmation from specialist required)	Whether proposed fees for any scope change have been provided by the relevant specialist.	Scoped IN (as Chapter [IN-C], or In but not standalone [IN-NSA]) or Scoped OUT
Traffic and Transport	<p>It is agreed that Traffic and Transport can be scoped out of the ES, provided that the requirements set out in the Welsh Government Transport Directorate's response in Appendix 1 are met.</p> <p>The Applicant's attention is drawn to Appendix 1 where the Transport Directorate state the developer must clarify ownership of the vegetation bordering the trunk road, with a detailed landscape proposal in regard to provision of adequate screening from the trunk road to avoid glare from the solar panels.</p> <p>The Transport Directorate also provide details of a required risk assessment for trunk road users that must be submitted to Welsh Government. They add that any proposed lighting must be erected so that no part of the illumination gear is visible to motorists using the trunk road.</p> <p>PEDW welcomes that a Construction Traffic Management Plan (CTMP) is being prepared and recommends this is included as a technical appendix to the ES. The Transport Directorate provide requirements for the CTMP in their response in Appendix 1.</p> <p>PEDW did not receive any comments from Wrexham CBC in regard to transport. The Applicant is advised to liaise directly with the LPA for comments on traffic and transport.</p>				OUT

# Appendix B – Proposed Development Layout Plans





## NOTES

1. All details are indicative only.
2. Dimensions are in metres unless stated otherwise.
3. Refer to HSE document "Avoiding danger from overhead power lines – Guidance Note GS6" to ensure safe operation of machinery in proximity to overhead power lines.

## LEGEND

- Planning Red Line
- Road
- No-dig Road
- Solar panels
- Fence
- Hedges
- Trees
- Ancient Woodland
- Hybrid Inverter Container
- Spares Container
- Customer Switch Gear Container
- Indicative CCTV Locations
- Access Gate
- Construction compound
- Rivers/Ponds
- Public Rights Of Way
- Permissive Path
- Acoustic Fencing
- Grassland
- Wildflower Meadow
- Tree Belt



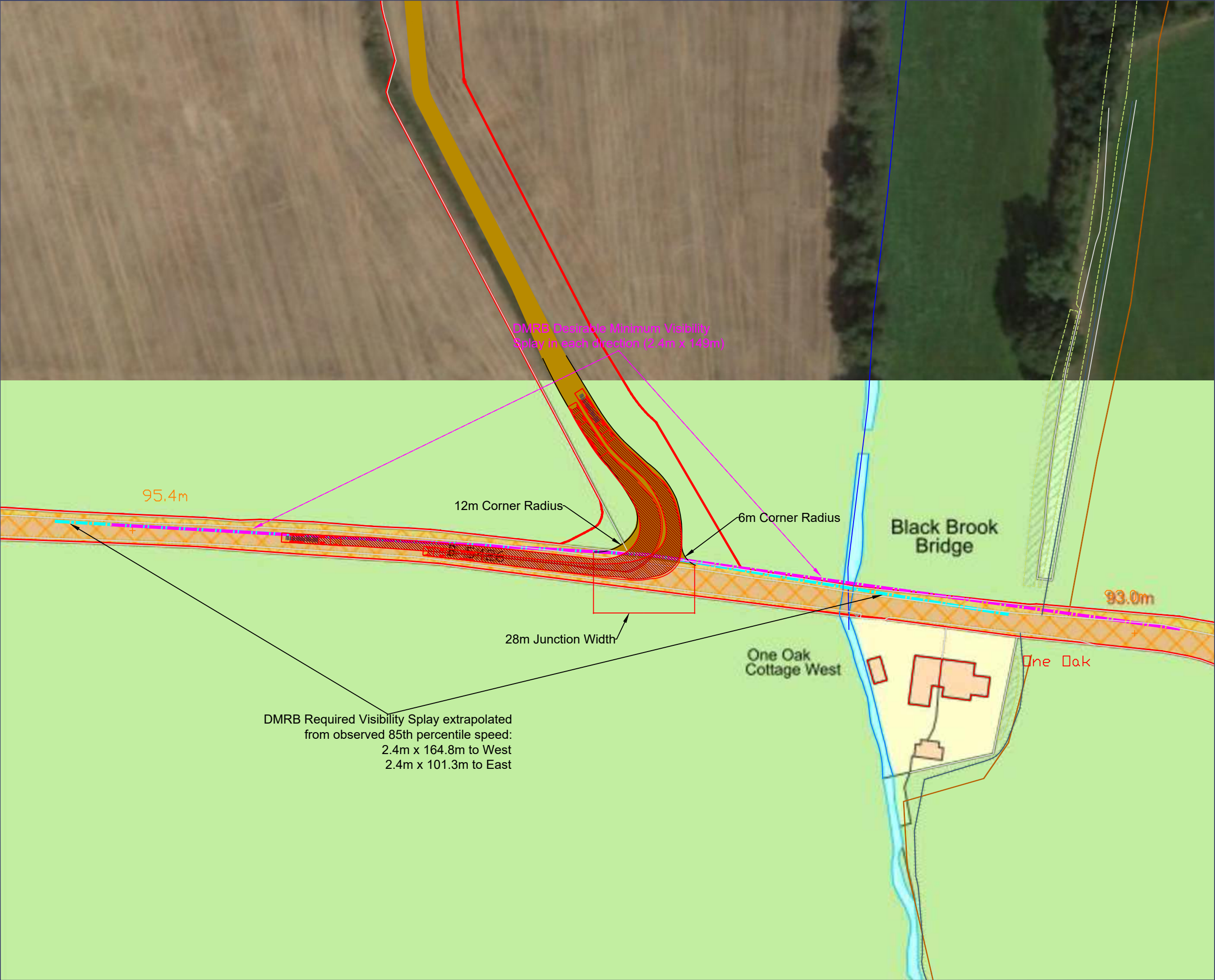
## DETAILS

TITLE	Glwyn Byw Solar Farm – General Layout – Clean
LOCATION	Near LL13 OYA
DATE	7 August 2025
CONFIGURATION	Typical fixed design
REVISION	12

# Appendix C – Highways Analysis Drawings



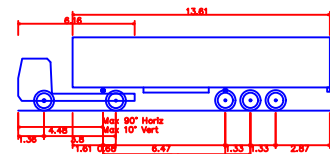




Visibility splay from observed 85th percentile speeds

DMRB desirable minimum visibility splay

Vehicle Used in Tracking



FTA Design Articulated Vehicle (1998)  
Overall Length 16.480m  
Overall Width 2.550m  
Overall Body Height 3.870m  
Min Body Ground Clearance 0.518m  
Max Track Width 2.470m  
Lock to lock time 3.00s  
Kerb to Kerb Turning Radius 6.550m



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Client

RWE Renewables

Project

Gloyn Byw / Butterfly Solar Farm

Drawing Title

Site Access - Construction Phase:  
Access A

Scale

1:1000 @A3

Date

March 2025

Dwg no

3456-01-D01

Status

Planning

Drawn

DC

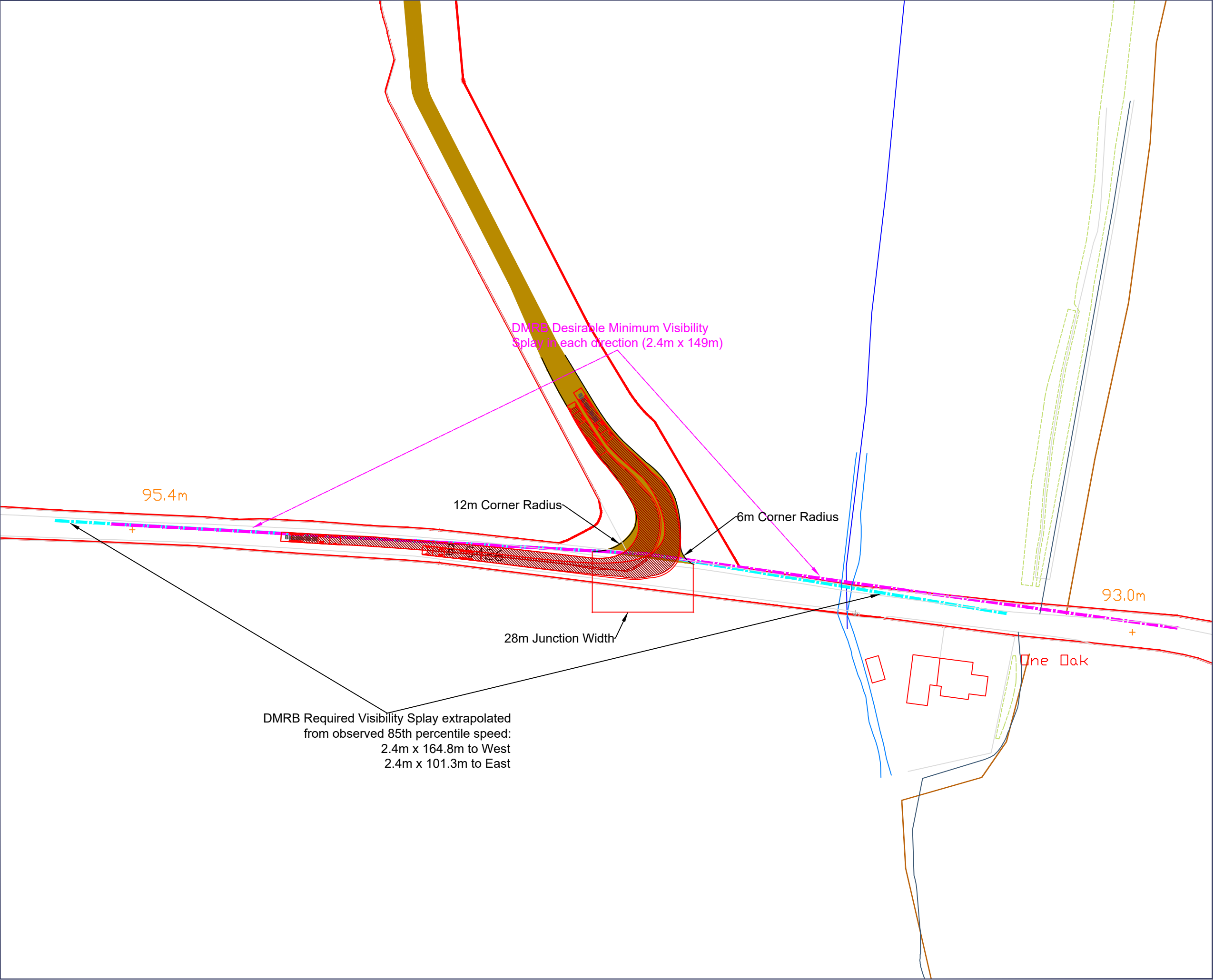
Checked

CZ

Rev

C

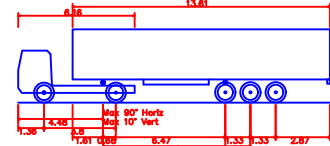




Visibility splay from observed 85th percentile speeds

DMRB desirable minimum visibility splay

Vehicle Used in Tracking



FTA Design Articulated Vehicle (1998)  
Overall Length 16.48m  
Overall Width 2.55m  
Overall Body Height 3.87m  
Min Body Ground Clearance 0.51m  
Max Track Width 2.47m  
Lock to lock time 3.00s  
Kerb to Kerb Turning Radius 6.55m



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RWE Renewables

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Gloyn Byw / Butterfly Solar Farm

Drawing Title

Site Access - Construction Phase:  
Access A

Scale

1:1000 @A3

Date

March 2025

Dwg no

3456-01-D01

Status

Planning

Drawn

DC

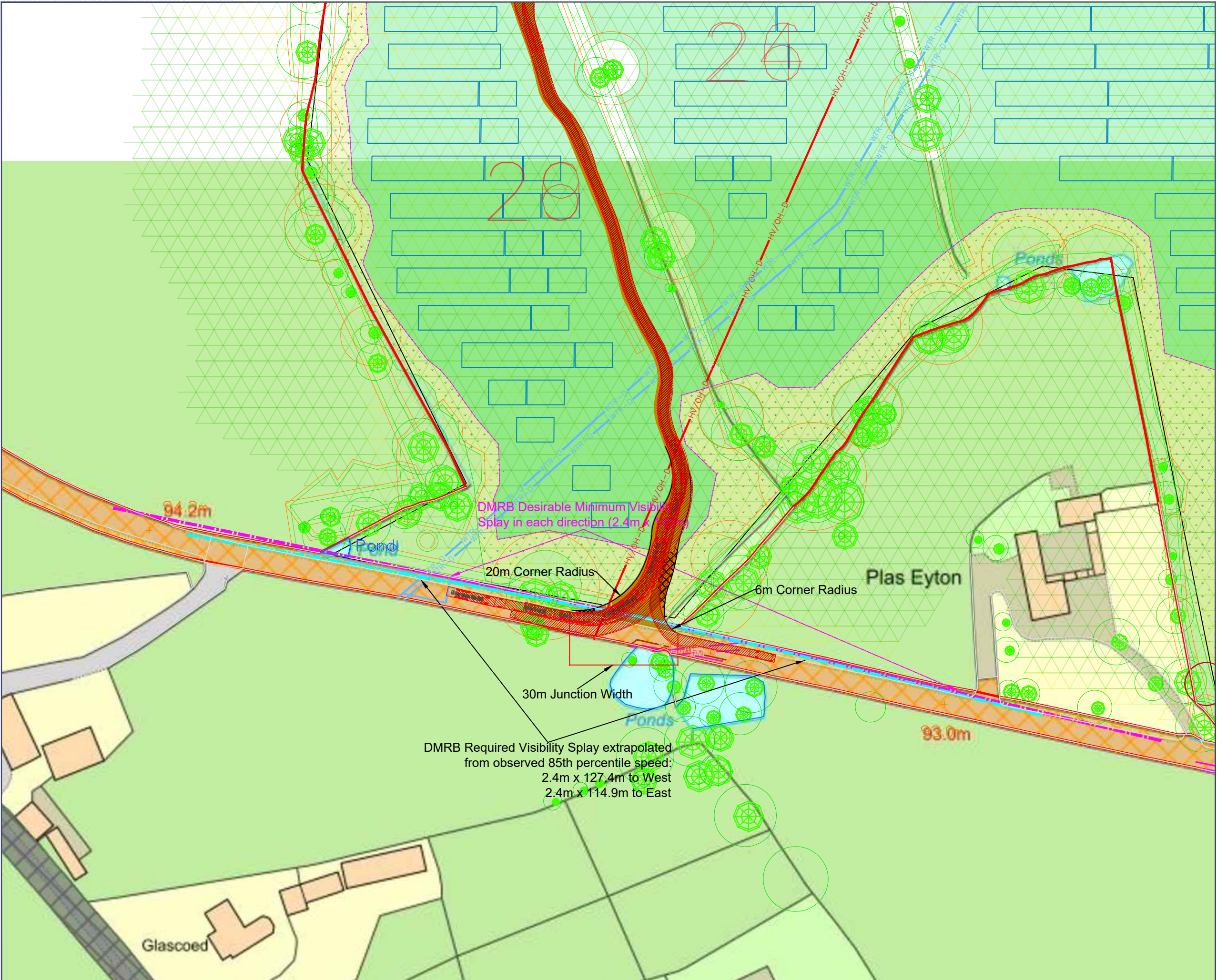
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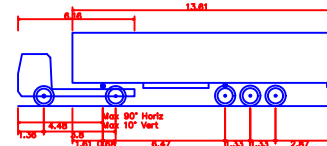
date: 08-08-25



Visibility splay from observed 85th percentile speeds

DMRB desirable minimum visibility splay

Vehicle Used in Tracking



FTA Design Articulated Vehicle (1998)

Overall Length	16.480m
Overall Width	2.550m
Overall Body Height	4.870m
Min Body Ground Clearance	0.515m
Max Track Width	2.470m
Lock to lock time	5.00s
Kerb to Kerb Turning Radius	6.550m

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**Gloyn Byw / Butterfly Solar Farm**

Drawing Title

**Site Access - Construction Phase:  
Access B**

Scale

**1:1000 @A3**

Date

**March 2025**

Dwg no

**3456-01-D02**

Status

**Planning**

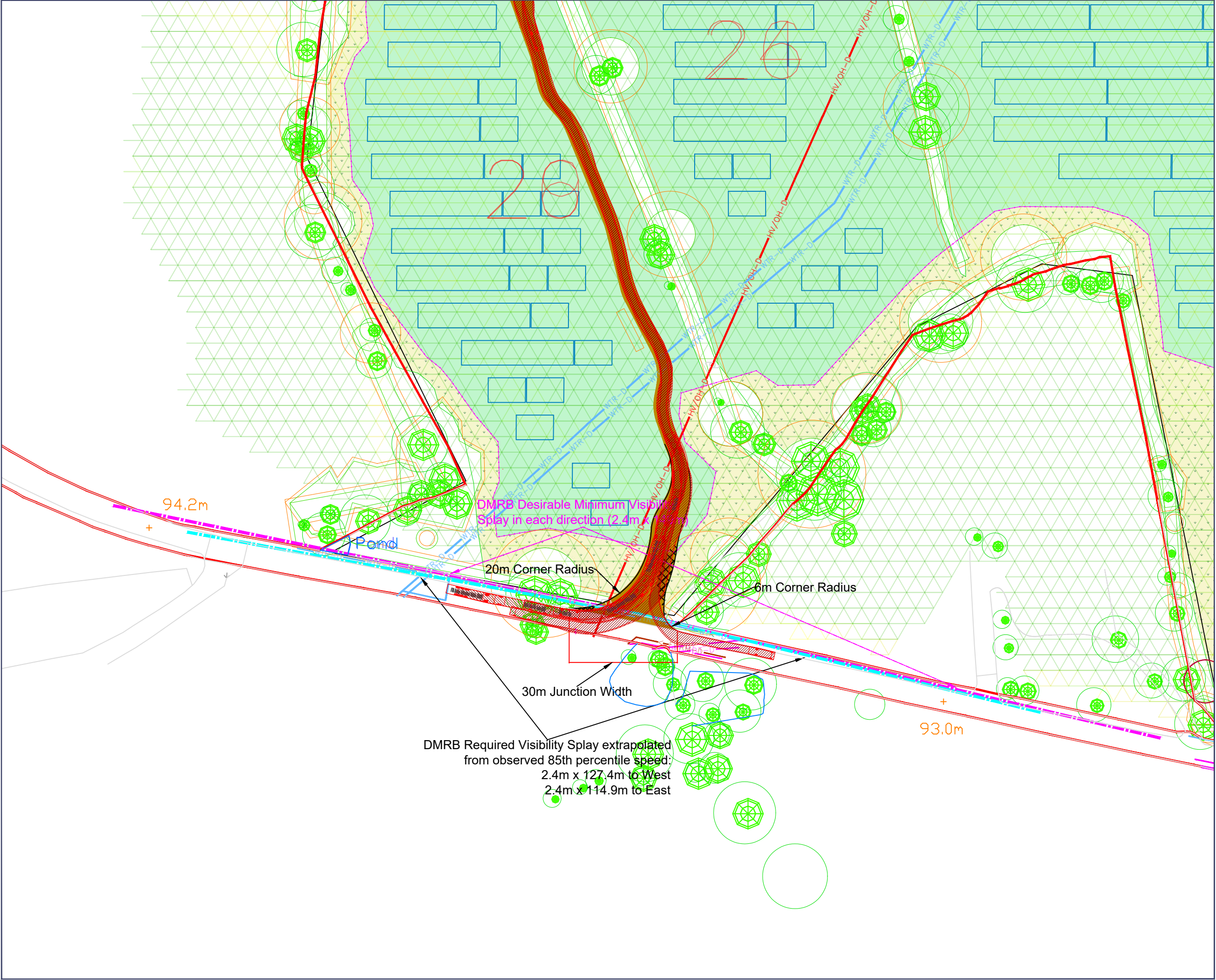
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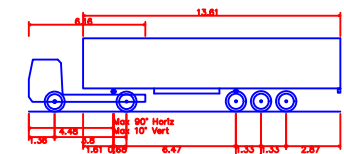
date: 08-08-25



Visibility splay from observed 85th percentile speeds

DMRB desirable minimum visibility splay

Vehicle Used in Tracking



FTA Design Articulated Vehicle (1998)

Overall Length	16.480m
Overall Width	2.550m
Overall Body Height	3.870m
Min Body Ground Clearance	0.515m
Max Track Width	2.470m
Lock to lock time	3.00s
Kerb to Kerb Turning Radius	6.550m

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Client

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Project

Gloyn Byw / Butterfly Solar Farm

Drawing Title

Site Access - Construction Phase:  
Access B

Scale

1:1000 @A3

Date

March 2025

Dwg no

3456-01-D02

Status

Planning

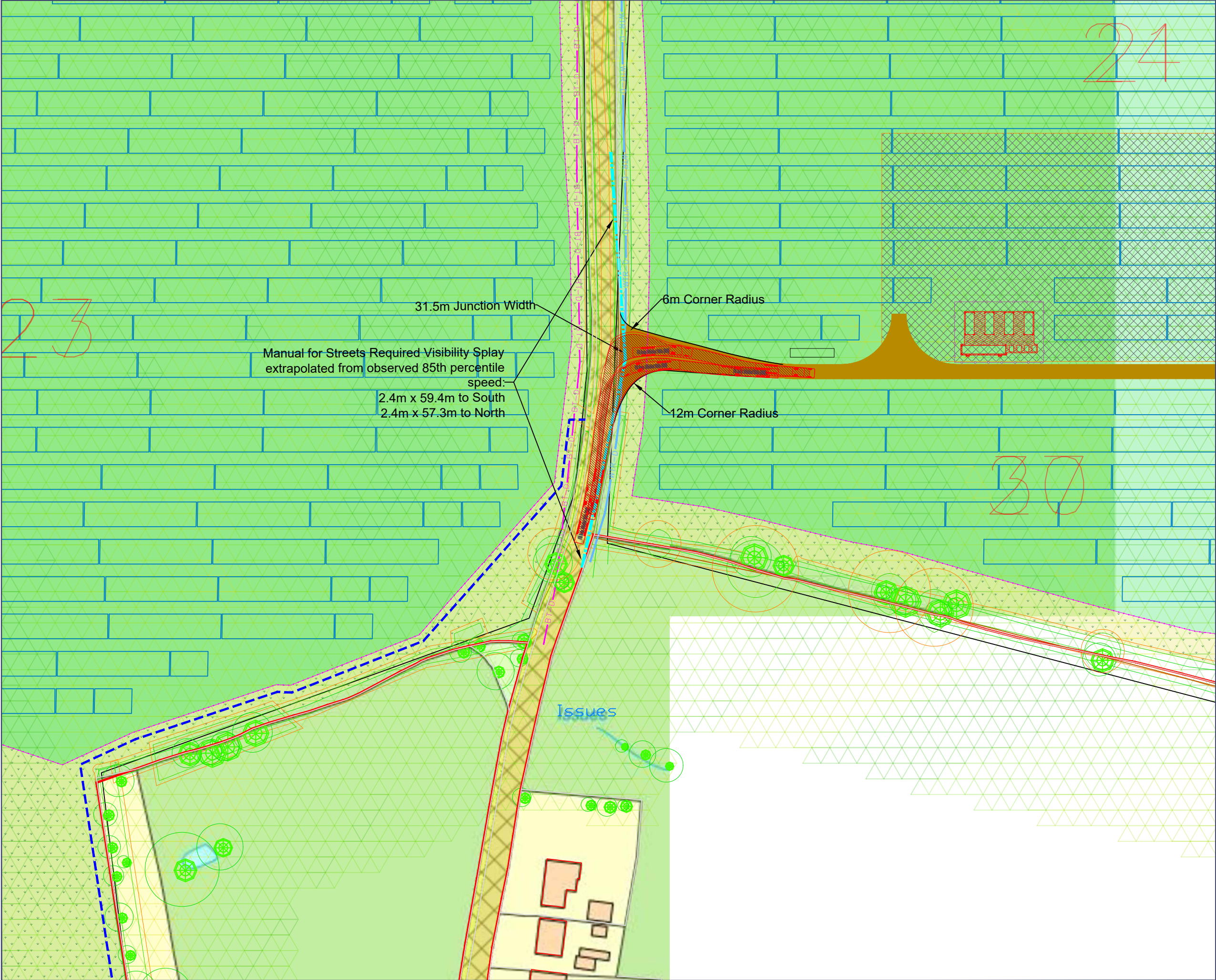
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DC

Rev

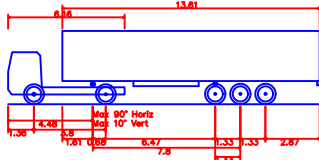
C





Visibility splay from observed 85th percentile speeds

Vehicle Used in Tracking



FTA Design Articulated Vehicle (1998)

Overall Length	18.480m
Overall Width	2.450m
Overall Body Height	3.870m
Min Body Ground Clearance	0.515m
Max Track Width	2.470m
Lock to lock time	3.00s
Kerb to kerb Turning Radius	6.550m

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Client

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Gloyn Byw / Butterfly Solar Farm

Drawing Title

Site Access - Construction Phase:  
Access C

Scale

1:1000 @A3

Date

March 2025

Dwg no

3456-01-D03

Status

Planning

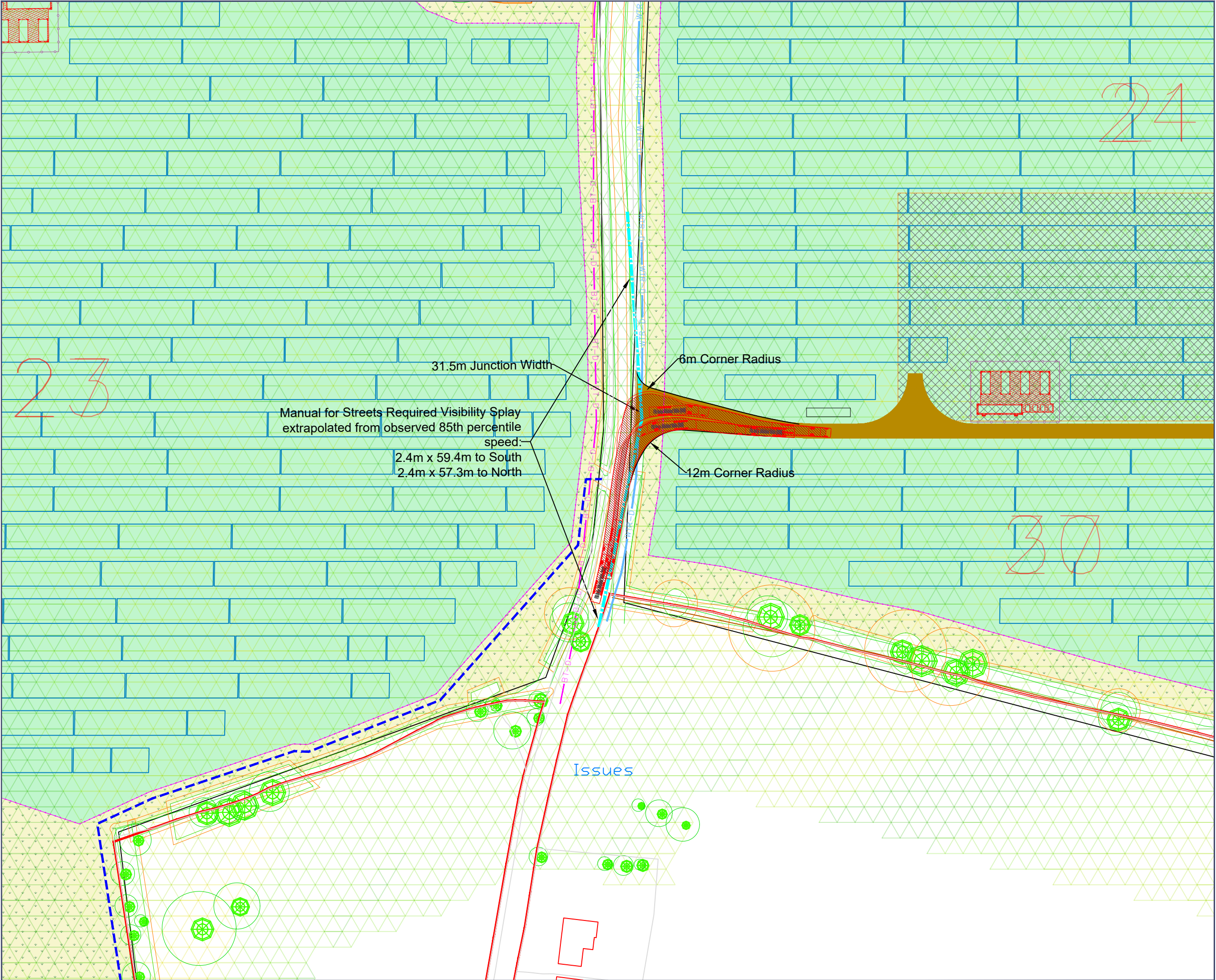
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DC CZ

Rev

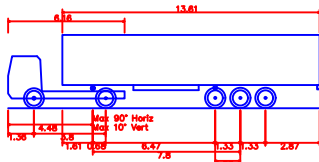
C





Visibility splay from observed 85th percentile speeds

Vehicle Used in Tracking



FTA Design Articulated Vehicle (1998)  
Overall Length 13.61m  
Overall Width 2.47m  
Overall Body Height 3.87m  
Min Body Ground Clearance 0.515m  
Max Track Width 2.470m  
Lock to lock time 3.00s  
Kerb to Kerb Turning Radius 6.550m

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Client

RWE Renewables

Project

Gloyn Byw / Butterfly Solar Farm

Drawing Title

Site Access - Construction Phase:  
Access C & C1

Scale

1:1000 @A3

Date

March 2025

Dwg no

3456-01-D03

Status

Planning

Drawn

DC CZ

Rev

C

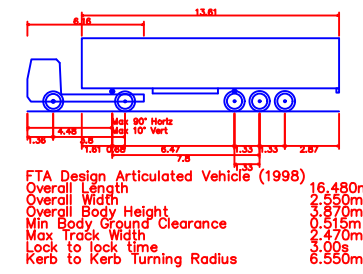


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date: 08-08-25







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Client

## RWE Renewables

Project

## Gloyn Byw / Butterfly Solar Farm

Drawing Title

### Site Access - Construction Phase: Access D & E

Scale

1:1000 @A3

Date \_\_\_\_\_

**March 2025**

Dwg no

**3456-01-D04**

Status

## Planning

Drawn      Checked

DC CZ

Rev

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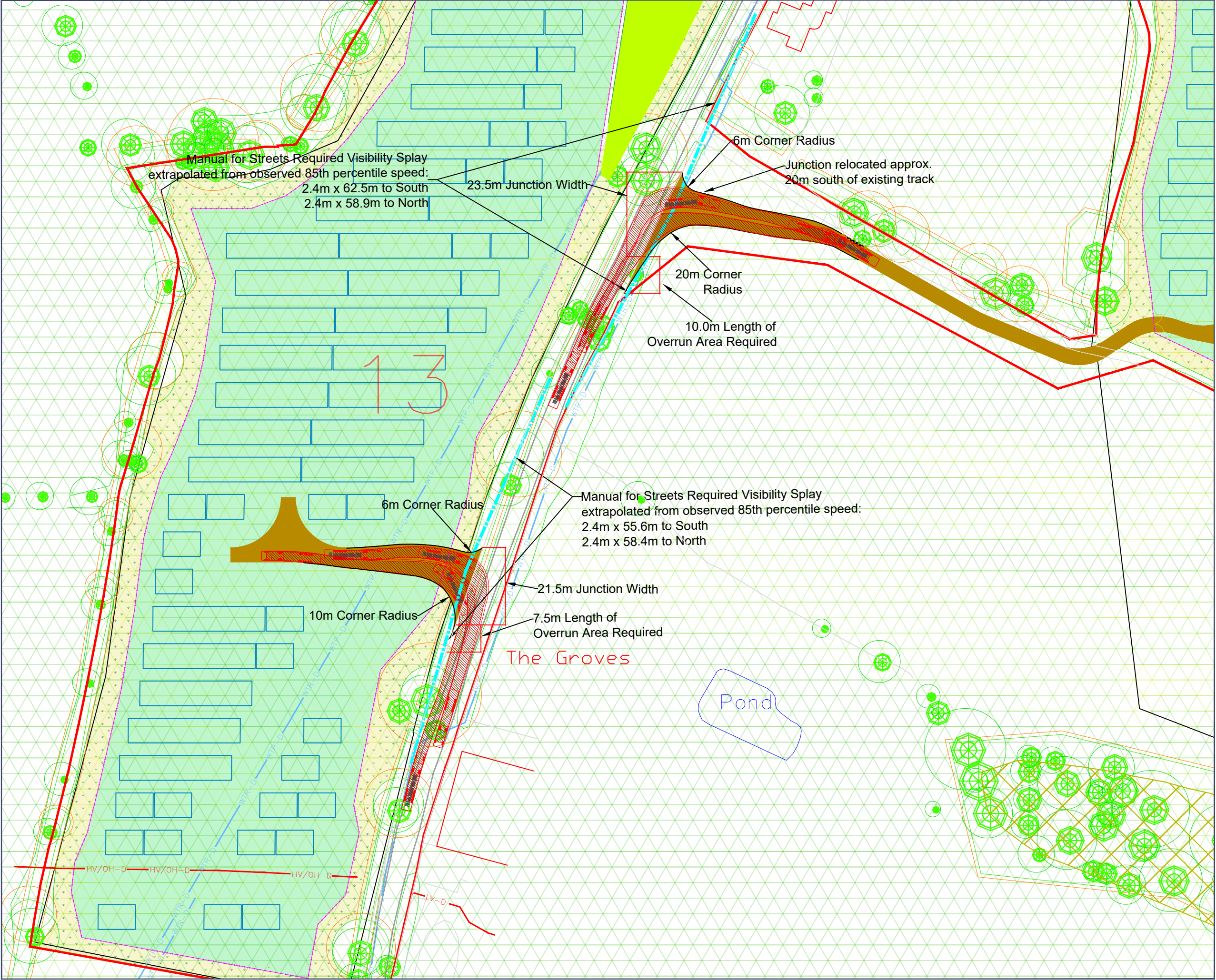


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date: 08-08-25

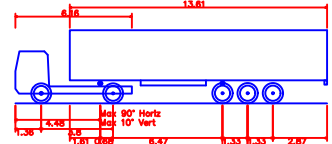






--- Visibility splay from observed 85th percentile speeds

Vehicle Used in Tracking



FTA Design Articulated Vehicle (1998)  
Overall Length 16.480m  
Overall Width 2.550m  
Overall Body Height 3.870m  
Min Body Ground Clearance 0.515m  
Max track Width 2.470m  
Lock to lock time 3.00s  
Kerb to Kerb Turning Radius 6.550m

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date: 08-08-25



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Client

RWE Renewables

Project

Gloyn Byw / Butterfly Solar Farm

Drawing Title

Site Access - Construction Phase:  
Access D & E

Scale

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Date

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Dwg no

3456-01-D04

Status

Planning

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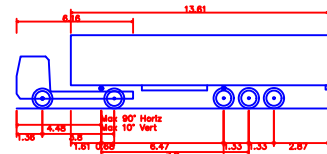




Visibility splay from observed 85th percentile speeds

DMRB desirable minimum visibility splay

Vehicle Used in Tracking



FTA Design Articulated Vehicle (1998)

Overall Length	16.480m
Overall Width	2.550m
Overall Body Height	3.870m
Min Body Ground Clearance	0.513m
Max Track Width	2.470m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	6.550m

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Client

RWE Renewables

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Gloyn Byw / Butterfly Solar Farm

Drawing Title

Site Access - Construction Phase:  
Access F

Scale

1:1000 @A3

Date

March 2025

Dwg no

3456-01-D05

Status

Planning

Drawn

DC

Checked

CZ

Rev

C

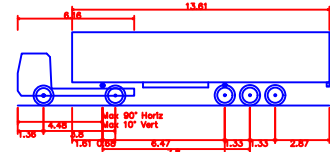




Visibility splay from observed 85th percentile speeds

DMRB desirable minimum visibility splay

Vehicle Used in Tracking



FTA Design Articulated Vehicle (1998)

Overall Length	13.81m
Overall Width	2.550m
Overall Body Height	3.870m
Min Body Ground Clearance	0.515m
Max Track Width	2.470m
Lock to lock time	3.00s
Kerb to Kerb Turning Radius	6.550m

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date: 08-08-25



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Client

RWE Renewables

Project

Gloyn Byw / Butterfly Solar Farm

Drawing Title

Site Access - Construction Phase:  
Access F

Scale

1:1000 @A3

Date

March 2025

Dwg no

3456-01-D05

Status

Planning

Drawn Checked

DC CZ

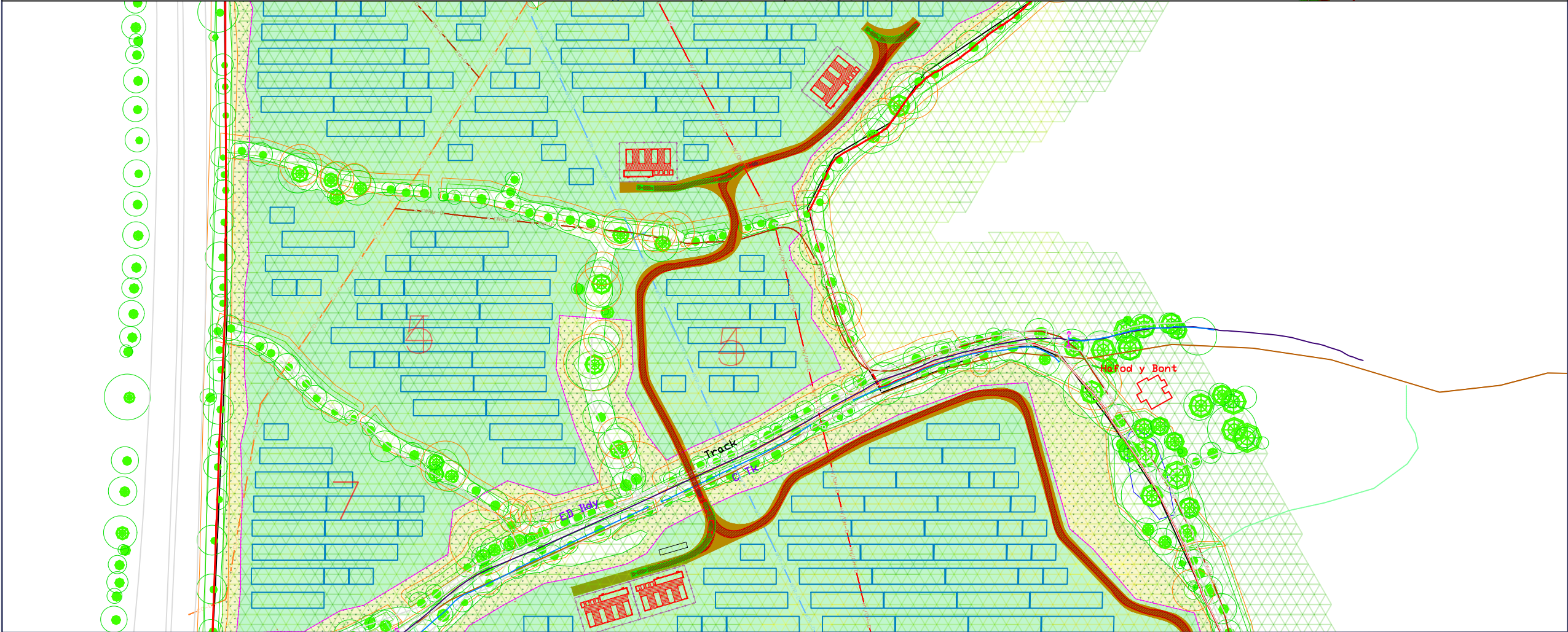
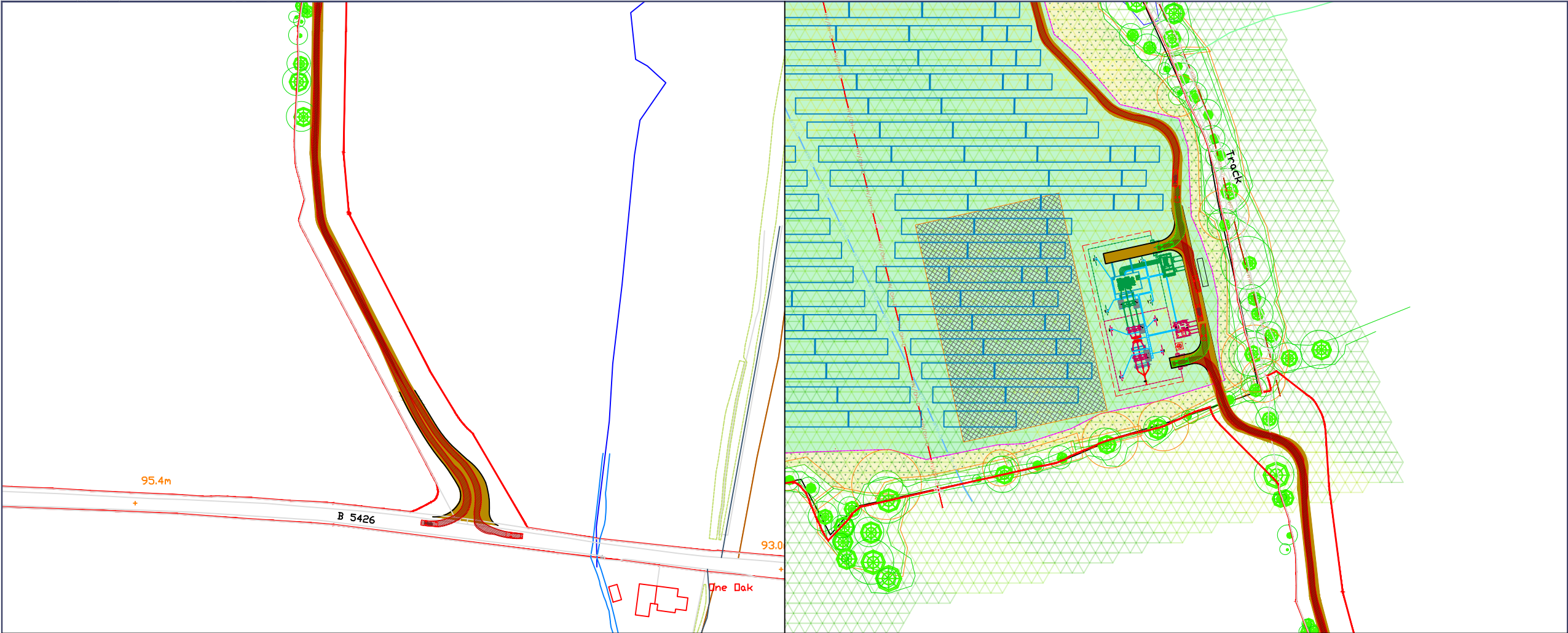
Rev

C

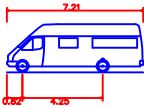
## **Appendix D – Internal Swept Path Analysis (Operational Access)**







Vehicle Used in Tracking



7.5t Panel Van  
Overall Length 7.210m  
Overall Width 2.192m  
Overall Body Height 2.544m  
Min Body Ground Clearance 0.316m  
Track Width 1.865m  
Lock to lock time 4.00s  
Kerb to kerb turning Radius 7.400m

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revision: C desc: Revised Site Layout (PAC 3b)

date: 08-08-25



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Client

**RWE Renewables Ltd**

Project

**Gloyn Byw / Butterfly Solar Farm**

Drawing Title

**Internal Operational Access - Western  
Array Area**

Scale

**1:2000 @A3**

Date

**March 2025**

Dwg no

**3456-01-ATR01**

Status

**Planning**

Drawn Checked

**CZ DC**

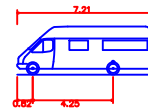
Rev

**C**





#### Vehicles Used in Tracking



7.5t Panel Van	7.210m
Overall Length	2.192m
Overall Width	2.544m
Overall Body Height	0.316m
Min Body Ground Clearance	1.835m
Track Width	4.00s
Lock to lock time	7.400m
Kerb to Kerb Turning Radius	

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Client

**RWE Renewables Ltd**

Project

**Gloyn Byw / Butterfly Solar Farm**

Drawing Title

**Internal Operational Access - Central  
Array Area**

Scale

**1:2500 @A3**

Date

**March 2025**

Dwg no

**3456-01-ATR02**

Status

**Prelim**

Drawn

**CZ**

Checked

**DC**

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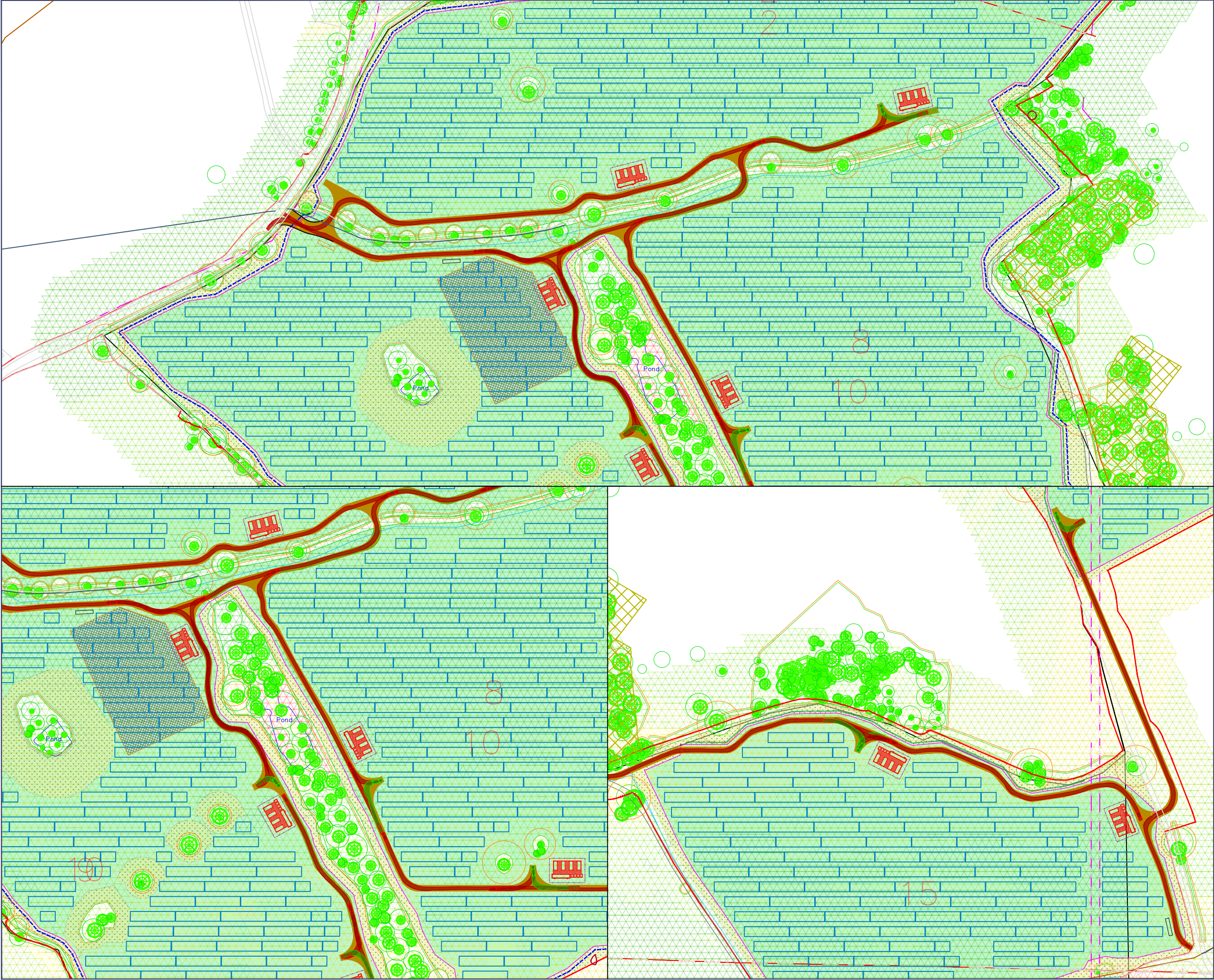


revision: C desc: Revised Site Layout (PAC 3b)

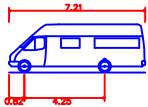
date: 08-08-25







Vehicle Used in Tracking



7.5t Panel Van  
Overall Length 7.210m  
Overall Width 2.192m  
Overall Body Height 2.544m  
Min Body Ground Clearance 0.316m  
Track Width 1.86m  
Lock to Lock time 4.00s  
Kerb to Kerb Turning Radius 7.400m

0344 8700 007  
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Client

RWE Renewables Ltd

Project

Gloyn Byw / Butterfly Solar Farm

Drawing Title

Internal Operational Access - Eastern  
Array Area

Scale

1:2500 @A3

Date

March 2025

Dwg no

3456-01-ATR03

Status

Planning

Drawn Checked

CZ DC

Rev

C

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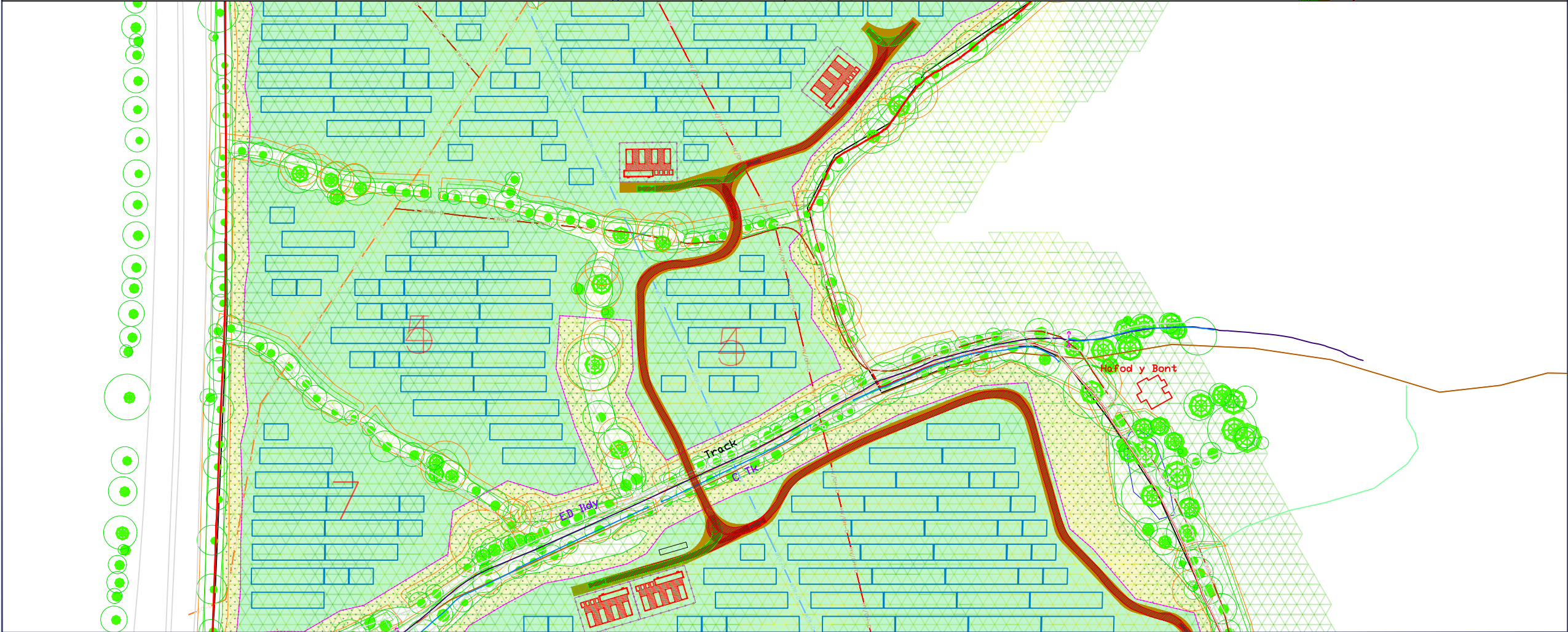
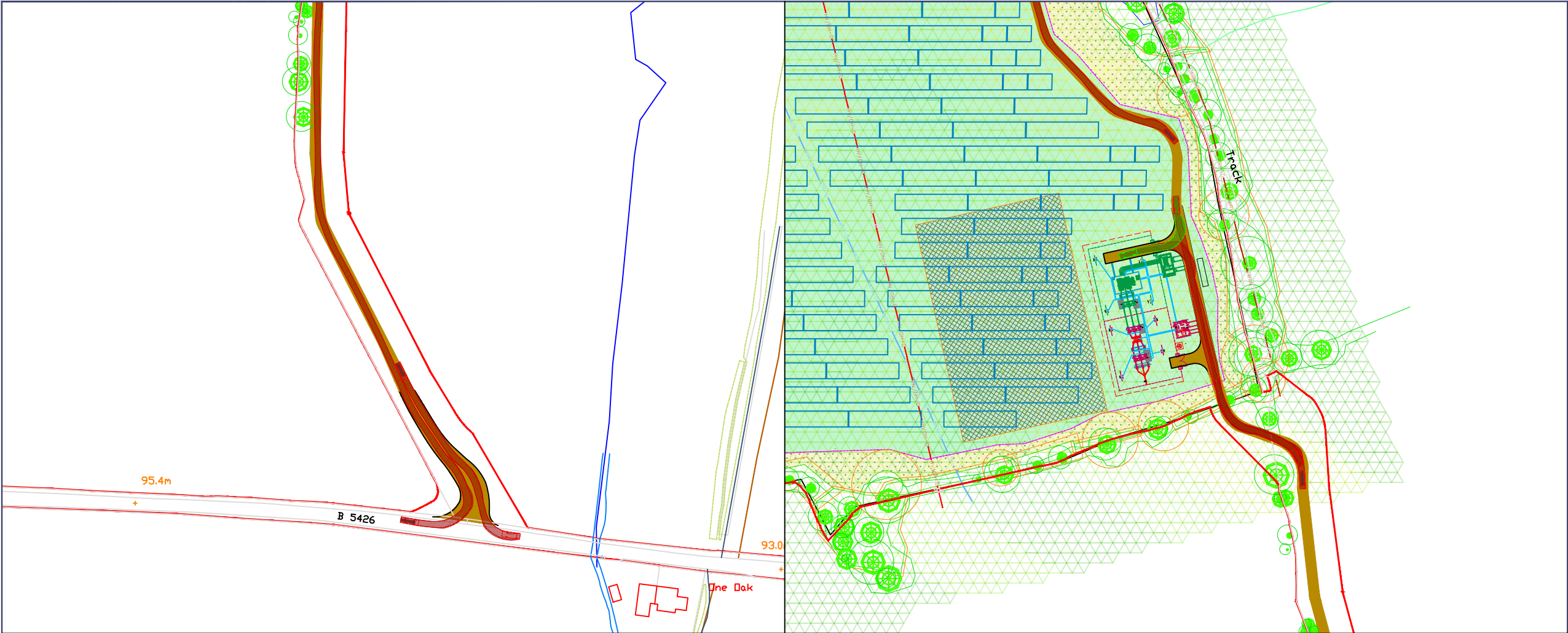


revision: C desc: Revised Site Layout (PAC 3b)

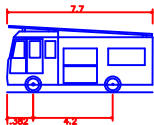
date: 08-08-25







Vehicle Used in Tracking



Dennis Sabre Fire Tender (LWB)	7.700m
Overall Length	7.700m
Overall Width	4.200m
Overall Body Height	2.300m
Min Body Ground Clearance	0.397m
Track Width	2.380m
Lock to lock time	5.00s
Kerb to Kerb Turning Radius	7.400m

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revision: C desc: Revised Site Layout (PAC 3b)

date: 08-08-25



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Client

RWE Renewables Ltd

Project

Gloyn Byw / Butterfly Solar Farm

Drawing Title

Internal Operational Access - Western  
Array Area

Scale

1:2000 @A3

Status

Planning

Date

March 2025

Drawn

CZ

Checked

DC

Dwg no

3456-01-ATR04

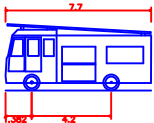
Rev

C





Vehicles Used in Tracking



Dennis Sabre Fire Tender (LWB)	
Overall Length	22.700m
Overall Width	4.200m
Overall Body Height	2.700m
Min Body Ground Clearance	0.397m
Track Width	2.380m
Lock to lock time	5.00s
Kerb to Kerb Turning Radius	7.400m

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revision: C desc: Revised Site Layout (PAC 3b)

date: 08-08-25



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Client

**RWE Renewables Ltd**

Project

**Gloyn Byw / Butterfly Solar Farm**

Drawing Title

**Internal Operational Access - Central  
Array Area**

Scale

**1:2500 @A3**

Date

**March 2025**

Dwg no

**3456-01-ATR05**

Status

**Prelim**

Drawn

**CZ**

Checked

**DC**

Rev

**C**



A diagram of a bus with the following dimensions:

- Total length: 7.7
- Wheelbase: 4.2
- Front overhang: 1.382

Dennis Sabre Fire Tender (LWB)	
Overall Length	7.700m
Overall Width	2.430m
Overall Body Height	3.512m
Min Body Ground Clearance	0.397m
Track Width	2.380m
Lock to lock time	5.00s
Kerb to Kerb Turning Radius	7.400m



**3456-01-ATR06**

C

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date: 08-08-25

