

Welsh Government

Celtic Lakes NGED Substation

Green Infrastructure Statement

Reference: 293651-ARP-XX-XX-RP-YE-0007

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Job number

Ove Arup & Partners Limited

One Centenary Way
Birmingham, B3 3AY
United Kingdom
arup.com

Contents

1.	Introduction	1
2.	The Development	1
3.	Relevant Planning Policy	1
3.1	Planning Policy Wales (PPW)	1
3.2	DECCA Framework	2
4.	Green Infrastructure Assessment	3
4.1	Habitat Creation and Enhancement Summary	4
5.	Conclusion	6

Tables

Table 1	Embedded biodiversity design habitat creation summary	4
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Pictures

Picture 1	A visual representation of the stepwise approach, from PPW edition 12	2
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1. Introduction

Ove Arup and Partners Ltd ('Arup') has been commissioned by the Welsh Government (WG) to conduct an ecological assessment in support of a Section 73 application. This application seeks to amend conditions, design elements, and timescales associated with the planning application for Celtic Lakes substation (planning reference: 23/0878), as requested by Newport City Council (NCC), the Local Planning Authority (LPA).

Planning permission for this development was granted on 7 February 2024. Since the submission of the previous planning application (23/0878), Planning Policy Wales (PPW) Edition 12, published in February 2024, has introduced a requirement for all planning applications to include a Green Infrastructure Statement (GIS).

This document serves as the required Green Infrastructure Statement (GIS) accompanying the Section 73 planning application¹.

2. The Development

The proposed development will include 1no. proposed National Grid Electricity (NGED) substation (measuring approximately 96m x 70m) and associated vehicular and pedestrian access, landscaping and drainage.

These works form part of the WG's future aspirations for the site's development in line with its allocation in the LDP for employment use. The proposals are also required to support the operations of the existing development and consented development north of the site, within the Imperial Business Park. Further details of the development are contained within the Ecological Impact Assessment² (EcIA).

3. Relevant Planning Policy

The EcIA² provides comprehensive details on legislation and planning policy; hence only the planning policy specifically relevant to the GIS is outlined below.

3.1 Planning Policy Wales (PPW)³

Planning Policy Wales sets the national policies in relation to development control through the Town and Country Planning Act 1990. This is supported by a series of Technical Advice Notes (TAN), including Technical Advice Note 5 (WG, 2009), which sets out the consideration of nature conservation in the determination of planning applications. When assessing planning applications, Planning Policy Wales (PPW) instructs planning authorities to take account of and promote the resilience of ecosystems.

Chapter 6 of the Planning Policy Wales was updated with immediate effect on 18th October 2023 and updates are included within Planning Policy Wales Edition 12 (published February 2024). The changes apply to all planning applications regardless of size and scale. All schemes applying for planning permission must achieve a net benefit for biodiversity.

¹ Celtic Lakes NGED Substation, Section 73 Ecological Assessment. Arup (June 2025)

² Celtic Lakes NGED Substation Ecological Impact Assessment (EcIA) (293651-ARP-XX-XX-RP-YE-0001). Arup (12 December 2023)

³ Welsh Government (2024) Planning Policy Wales Edition 12. Available from: [Planning policy Wales | GOV.WALES](https://gov.wales/planning-policy-wales) [Accessed March 2025].

A Green Infrastructure Statement is also required with all planning applications to demonstrate the stepwise approach (stepwise approach is defined as any adverse environmental effects are firstly avoided, then minimised, mitigated, and as a last resort compensated for) and compliance with biodiversity net benefit and ecosystem resilience. The stepwise approach, as illustrated within PPW 12 is shown in Picture 1 below.



Picture 1 A visual representation of the stepwise approach, from PPW edition 12

There is a presumption against development within SSSIs unless for the management of the SSSI, or ‘wholly exceptional circumstances’ are demonstrated and where development is considered appropriate, not likely to damage a SSSI and there is broad and clear agreement for mitigation and enhancement as part of a development plan. This has been conveyed to ensure that these sites can continue to fulfil their role at the heart of resilient ecological networks.

In relation to non-statutory designated sites (such as Sites Important for Nature Conservation (SINCs)) there is additional need for a written opinion from the authority Ecologist and demonstrating the application of the stepwise approach. Development is presumed unacceptable in SINCs, unless ‘Where harm is unavoidable it should be minimised by mitigation measures and offset as far as possible by compensation measures designed to ensure there is no reduction in the overall conservation value of the area or feature, and a net benefit for biodiversity secured’⁴.

The policy places emphasis on the retention of trees and hedgerows, both urban and rural, with a minimum ratio of at least three trees of a similar type and compensatory size planted for every one lost. Further, the policy brings attention to the identification of managed wetland and riparian buffer zones to improve water quality as a key output of green infrastructure assessments, as they would provide positive benefits to both reduction in diffuse pollution and, through securing a net benefit for biodiversity, improving the attributes of ecosystem resilience.

3.2 DECCA Framework

The Environment (Wales) Act, the Well-Being of Future Generations Act and the Chief Planner’s letter frames biodiversity with respect to its contribution to achieving ecosystem resilience⁵.

⁴ Section 6.4.33 of Planning Policy Wales edition 12. <https://www.gov.wales/sites/default/files/publications/2024-07/planning-policy-wales-edition-12.pdf> [Accessed June 2025]

⁵ CIEEM Briefing Paper (2022). Welsh Government’s Approach to Net Benefits for Biodiversity and the DECCA Framework in the Terrestrial Planning System [Net-Benefits-briefing.pdf \(cieem.net\)](#) (cieem.net) [Accessed March 2025]

Natural Resources Wales (NRW) has developed a framework for evaluating ecosystem resilience based on five attributes and properties specified in the Environment (Wales) Act. This is referred to as DECCA: Diversity, Extent, Condition, Connectivity and Aspects of ecosystem resilience. The attributes provide a framework for considering the state of ecosystem resilience in Wales and can be applied across different habitats and land uses and for a range of different scales.

When assessing planning applications, PPW instructs planning authorities to take account of and promote the resilience of ecosystems. The DECCA attributes are explained further in NRW's Terrestrial and freshwater Resilient Ecological Networks: a guide for practitioners in Wales⁶, but as a broad summary, the definitions are as follows:

- **Diversity:** maintaining and enhancing diversity at every scale, including genetic, structural, habitat and between-habitat levels.
- **Extent:** incorporating measures which maintain and increase the area of semi-natural habitat/features and linkages between habitats.
- **Condition:** The condition of an ecosystem affected by both direct and wider impacts should be considered, for example avoiding or mitigating pressures such as climate change, pollution, invasive species, land management neglect etc.
- **Connectivity:** Developments should take opportunities to develop functional habitat and ecological networks within and between ecosystems, building on existing connectivity.
- **Aspects of ecosystem resilience (adaptability, recovery, and resistance):** Adaptability, recovery and resistance to/from a disturbance are defining features of ecosystem resilience.

The stepwise approach taken to the Green Infrastructure design and ecological design in order to provide a Net Benefit for Biodiversity (NBB) and ecosystem resilience with reference to DECCA is described below. For further detailed baseline information on species and habitats please refer to the EcIA². For the full details of the ecosystem resilience assessment and impact assessment please refer to the Section 73 Application¹ and accompanying drawings.

4. Green Infrastructure Assessment

The stepwise process as shown in Picture 1 has been followed in order to select the most appropriate site within the area available as described below.

Where possible, the location of the proposed scheme has been designed to **avoid** or **minimise** the magnitude of the potential impacts and risks following the stepwise process. Where avoidance or minimising wasn't possible, measures to **mitigate and compensate** for the impacts have been embedded into the design and into the landscape masterplan, along with **enhancements** at each stage as required by the DECCA framework. These ecologically driven designs are embedded into the proposed scheme as detailed in the EcIA² Section 7.2 Embedded Biodiversity Design'.

The primary focus on site location was to **avoid** locating the substation, associated infrastructure and drainage within the St Brides SSSI, to **avoid** direct impacts on the designated features. The proposed location was also driven by **avoiding** large areas of dormouse habitat, such as the dense scrub and scrub-woodland found within the wider Celtic Lakes Plot C1 and C2. However, the National Vegetation Classification (NVC) survey within the grasslands of the LG Duffryn Site 2 SINC revealed that the SINC condition has potentially declined since it was first designated or that the species for which it was designated are no longer abundant and as such were not picked up in the NVC surveys in 2021 and 2023. The grassland within the site (and thus the SINC) was found to have the fewest species of biodiversity significance and the lowest overall species count compared to less frequently mown grassland in the

⁶ NRW (2021). Terrestrial and freshwater Resilient Ecological Networks: a guide for practitioners in Wales. Available from: [Terrestrial and freshwater Resilient Ecological Networks: a guide for practitioners in Wales](#) [Accessed March 2025]

broader study area. No shrill carder bees (*Bombus sylvarum*) were recorded, and the brown-banded carder bee (*Bombus humilis*) was observed in relatively low numbers.

As such, the substation was located within the SINC grassland, with embedded biodiversity and landscaping designs supported by a detailed LEMP to ensure the retained grasslands within the SINC and surrounds were **enhanced** to improve condition and diversity within the long-term. A **written opinion** was gained from NCC on the loss of grassland within the SINC (refer to Appendix D of the Section 73 application¹) and consultation undertaken in order to ensure adequate compensation was provided. Further to this, an area of grassland, of similar condition to the grassland to be lost to the proposed scheme, was identified to the south-west, within the Welsh Government ownership and within the St Brides SSSI, which would also be **enhanced** for condition and diversity, and areas of scrub, reed and ruderal removed for grassland creation to **compensate** for the permanent loss of grassland within the SINC; this is the Grassland Compensation Area as shown on Drawing 293651-LD-XX-DR-0001, Appendix C of the Section 73 application¹.

All efforts were made to **avoid** and **minimise** impacts to dormouse habitat; however, it was not possible to avoid all areas, and therefore dormouse habitat will be impacted by the proposed development. As such, **compensatory** planting is proposed on-site as well as **enhancements** in the dormouse compensation area to the west of the site as shown on Drawing 293651-LD-XX-DR-0001 of the EcIA², this is further described below in the habitat creation and enhancement summary.

4.1 Habitat Creation and Enhancement Summary

Following avoidance and measures to minimise impacts taken during site selection, a summary of the embedded biodiversity design habitat creation and enhancement is shown in **Table 1** below, with relevant stages of the stepwise process followed highlighted in **bold**. These measures are also secured through a detailed Habitat Monitoring and Management Plan (HMMP)⁷.

Table 1 Embedded biodiversity design habitat creation summary

Landscape masterplan reference	Area/No. of created or enhanced habitat (ha/m)	Description of proposed habitat	Total area created or enhanced
Existing grassland to be reinstated and/or enhanced/restored within the site	1.38ha	The seed mix and/or plug planting will be designed to provide at least 2No. grassland Primary species and at least 5No. grassland Contributory species for Wildlife Site selection ⁸ (to be confirmed with the supplier). The mix will also include species which support shrill carder bee, such as red clover (<i>Trifolium pratense</i>), birds foot trefoil (<i>Lotus corniculatus</i>), meadow vetchling (<i>Lathyrus pratensis</i>), red bartsia (<i>Odontites vernus</i>), common knapweed (<i>Centaurea nigra</i>) and field scabious (<i>Knautia arvensis</i>).	2.41ha species rich grassland (created and/or enhanced)
Grassland to be enhanced within the compensation Area 1 (GCA)	1.03ha	Grassland enhancement within the compensation area will focus on management techniques to improve the diversity and sward structure, such as hay meadow cutting with arisings removed. Plug planting of species favoured by shrill carder bee could be considered later in the management to assist establishment of a species rich grassland.	

⁷ Celtic Lakes NGED Substation. 30-Year Habitat Management and Monitoring Plan (CLS-ARUP-EAC-XX-RP-OE-000003). Arup (August 2024)

⁸ Wales Biodiversity Partnership (2008). Guidelines for the Selection of Wildlife Sites in Wales.

Landscape masterplan reference	Area/No. of created or enhanced habitat (ha/m)	Description of proposed habitat	Total area created or enhanced
Species-rich hedgerow	406m	The species-rich hedgerow will be a staggered double hedgerow comprising a range for species suitable for the local area and designed for foraging and nesting requirements for dormice. Planting will favour hawthorn (<i>Crataegus monogyna</i>), blackthorn (<i>Prunus spinosa</i>) and hazel (<i>Corylus avellana</i>), with other species listed below making up no more than about 15-20% of the mixture in total: Field maple (<i>Acer campestre</i>), holly (<i>Ilex aquifolium</i>), wild cherry (<i>Prunus avium</i>), pedunculate oak (<i>Quercus robur</i>), Common dog rose (<i>Rosa canina</i>) and guelder rose (<i>Viburnum opulus</i>). Native climbers such as honeysuckle (<i>Lonicera periclymenum</i>) will also form part of new hedgerows.	406m species-rich hedgerow (created) ⁹
Diversification planting in the grassland zone of the Dormouse Compensation Area	0.28ha	Twenty-six hazel trees in the Dormouse Compensation Area to diversify and enhance the foraging and nesting opportunities of the dormouse population within the establishing woodland habitat which is naturally developing within historic grassland area. This developing woodland is already relatively species diverse with species such as oak (<i>Quercus sp</i>), willow (<i>Salix</i>) species, hawthorn, blackthorn, common dog rose, dogwood (<i>Cornus sanguinea</i>) and bramble, but lacks hazel with only two saplings recorded.	0.28 ha diversification planting in native broadleaved woodland (enhanced)
New woodland - tree and scrub planting within the site connected to existing habitat	0.79ha	New scrub and woodland-scrub areas will be created within the site using native flowering and fruiting shrub and broadleaved tree species which will provide habitat scrub and scrub-woodland for dormouse, with hazel at 25% of the mix.	0.79ha scrub (created and enhanced)
Attenuation pond and marginal habitat and seeding	0.17ha new pond 0.09ha marginal planting 0.08ha aquatic plug planting	Overall pond area increased as well as the riparian buffer zone. The pond edges will be gently sloping to allow species such as amphibians to access the water, as well as provide habitat for marginal aquatic planting. Species to be included within the marginal and aquatic planting include; marsh marigold (<i>Caltha palustris</i>), yellow flag iris (<i>Iris pseudacorus</i>), water mint (<i>Mentha aquatica</i>), purple loosestrife (<i>Lythrum salicaria</i>) and ragged robin (<i>Silene flos-cuculi</i>). Plug planting of species associated with the SSSI will also be incorporated, such as arrowhead. Scattered broadleaved trees will be planted around the pond's periphery, and a suitable grassland mix will be sown on the slopes.	0.34ha pond and marginal planting (restored and enhanced)

A separate assessment of ecosystem resilience has been undertaken and is included in Table 5 within the Section 73 application¹; this considers the existing ecosystem resilience of the future baseline and how likely this is to change as a result of the implementation of the scheme. The assessment considers the key attributes of DECCA, namely resilience: diversity, extent, condition and connectivity, for each broad ecosystem type.

⁹ Note that although no existing woodland or hedgerows were removed on site (thus not requiring the 3:1 replacement ratio stated in PPW 12), any scrub that was removed has been replaced with creation of diverse native broadleaved woodland and diverse woody scrub and a species rich hedgerow. Refer to Table 5 in the Section 73 application for more information.

The assessment concludes that with the habitat creation and enhancement measures, there is an overall anticipated increase in ecosystem resilience and therefore achievement of Net Benefit for Biodiversity as required by PPW 12³ across all habitat types.

5. Conclusion

The proposals are considered to fulfil the objectives of PPW 12, having followed the stepwise process, with a particular focus on site selection to avoid the most valuable habitats on site (step 1 avoidance) and later following through the remaining steps 2-4 of minimising, mitigation/restoring and compensating both onsite and offsite.

With the proposed habitat creation and enhancement measures there is also an overall anticipated increase in ecosystem resilience and therefore achievement of Net Benefit for Biodiversity as required by PPW 12³ across all habitat types.