



## CAE DU & CAE CANOL CAMPSITES

Green Infrastructure Statement  
February 2025

Document Control			
Issued by	Land Studio		Tel: 01244 319 019
	The Old Rectory St Marys Hill Chester CH1 2DW		www.landstudio-uk.com
Client	Roberts Group		
Project Name	Cae Du and Cae Canol		
Document Title	Green Infrastructure Statement		
Document Ref	416-LST-XX-XX-RP-L-0003		
Status	S3		
Publish Date	20.12.2024		

Document Revision Record			
Issue Number	Status	Date	Revision Details
P01	For Planning	20.12.2024	
P02	For Planning	13.01.2025	
P03	For Planning	23.01.2025	
P04	For Planning	10.02.2025	
P05	For Planning	17.02.2025	
P06	For Planning	19.02.2025	

This document has been produced by Land Studio on behalf of Roberts Group. The contents of the document are intended for submission with a planning application related to the redevelopment proposals at Cae Du and Cae Canol. Land Studio has prepared this report in accordance with the instructions of the above-named client for their sole and specific use. Any third parties who may use the information contained herein do so at their own risk.

# CONTENTS

Introduction	5
<b>01 CAE DU &amp; CAE CANOL: BASELINE ANALYSIS</b>	<b>6</b>
Baseline Analysis	7
Character Areas	8
Designations	10
Ecological Networks	11
Wildlife Sites & Habitat and Species of Principal Importance	12
Access	13
<b>02 CAE DU &amp; CAE CANOL: PROPOSAL ANALYSIS</b>	<b>14</b>
The Standards Framework	15
Opportunities and Constraints	18
Proposed Site Layout	19
Ecological Enhancements	20
Planting Design	21
Plant Schedule	22
Planting Design	23
Plant Schedule	24
Step Wise Approach	25

# Hello, We Are Land Studio.

## *Connecting People with Nature*

*We are a leading, nature led, landscape architecture, ecology and engineering design studio based in North Wales and Chester where we work on a wide range of projects from visitor destination sites to education facilities and restoration landscapes. We have created a place where our designers' passion for working with nature can be fully realised within our projects.*

*The following four values are at the core of our vision, and are aligned with the twelve Building with Nature standards, and are referred to within this statement:*



## *Placemaking*

A project should have a narrative, a sense of place and a character defined by the site, its social or physical history and the wider landscape that it inhabits. Placemaking should be a core principle of the design that responds to the brief both for the people using the space and for the wider context, urban or rural.



## *Biodiversity*

How is the project responding to nature and the climate emergency? Are we protecting key habitats? Are we looking to create new or enhanced habitats? What are the unique ecological qualities of the place and how can we incorporate them into our design?



## *Water Management*

All our projects strive to have a fully integrated sustainable drainage system within the wider site design. How is the design responding to site drainage? Does the drainage strategy play an active role in the public realm? Has the design been discussed with the drainage engineer (internally or externally)?



## *Wellbeing*

A key part of our role as designers is to create spaces for people to re-connect with nature. How does the design respond to this ambition? Has the design analysed the needs and requirements of the space for people? Has there been a brief or conversation regarding the end users of the space?

# PROJECT NAME: INTRODUCTION

“Green infrastructure is the network of natural and semi-natural features, green spaces, rivers and lakes that intersperse and connect places.”

The Environment (Wales) Act 2016, provides a context for the delivery of multi-functional green infrastructure. Its protection and provision can make a significant contribution to the sustainable management of natural resources, and in particular to protecting, maintaining and enhancing biodiversity and the resilience of ecosystems in terms of the diversity within and connections between ecosystems and the extent and condition of these ecosystems, so that they are better able to resist, recover from and adapt to pressures. This means that the development of green infrastructure is an important way for local authorities to deliver their Section 6 duty.

## Section 6 of the Environment Act 2016.

### Integrating Green Infrastructure and Development

The quality of the built environment should be enhanced by integrating green infrastructure into development through appropriate site selection and use of creative design. With careful planning and design, informed by an appropriate level of assessment, green infrastructure can embed the benefits of biodiversity and ecosystem services into new development and places, help to overcome the potential for conflicting objectives, and contribute to health and well-being outcomes.

- A green infrastructure statement should be submitted with all planning applications. This will be proportionate to the scale and nature of the development proposed and will describe how green infrastructure has been incorporated into the proposal.
- The green infrastructure statement will be an effective way of demonstrating positive multi-functional outcomes which are appropriate to the site in question and must be used for demonstrating how the step-wise approach has been applied.
- Development proposals should be informed by the priorities identified in green infrastructure assessments and locally based planning guidance.

- The Building with Nature standards represent good practice and are an effective prompt for developers to improve the quality of their schemes and demonstrate the sustainable management of natural resources. Using these standards in a way which is proportionate to the nature and scale of the development proposed will be a useful way of ensuring appropriate consideration in circumstances where there is an absence of a green infrastructure assessment and planned approach or relevant local or Supplementary Planning Guidance.

Planning Policy Wales Chapter 6 (pg 135).



CAE DU & CAE CANOL: **BASELINE ANALYSIS**

01

# CAE DU & CAE CANOL: BASELINE ANALYSIS

This Green Infrastructure Statement has been produced in respect of the proposed development located at Cae Du and Cae Canol Campsites, Beddgelert, North Wales.

The document consists of the following parts;

- Part 01 : Baseline Analysis
- Part 02: Proposal Analysis

The site lies approximately 500m to the northeast of the village of Beddgelert and lies to the southwest of Plas Gwynant on the A498 and south of Ffridd Uchaf on the A4085. Vehicular access into the site is available from the A498. The site lies within Eryri National Park and key designations located within the study area include listed buildings, scheduled monuments, ancient woodland, Special Areas of Conservation (SAC) and a SSSI.

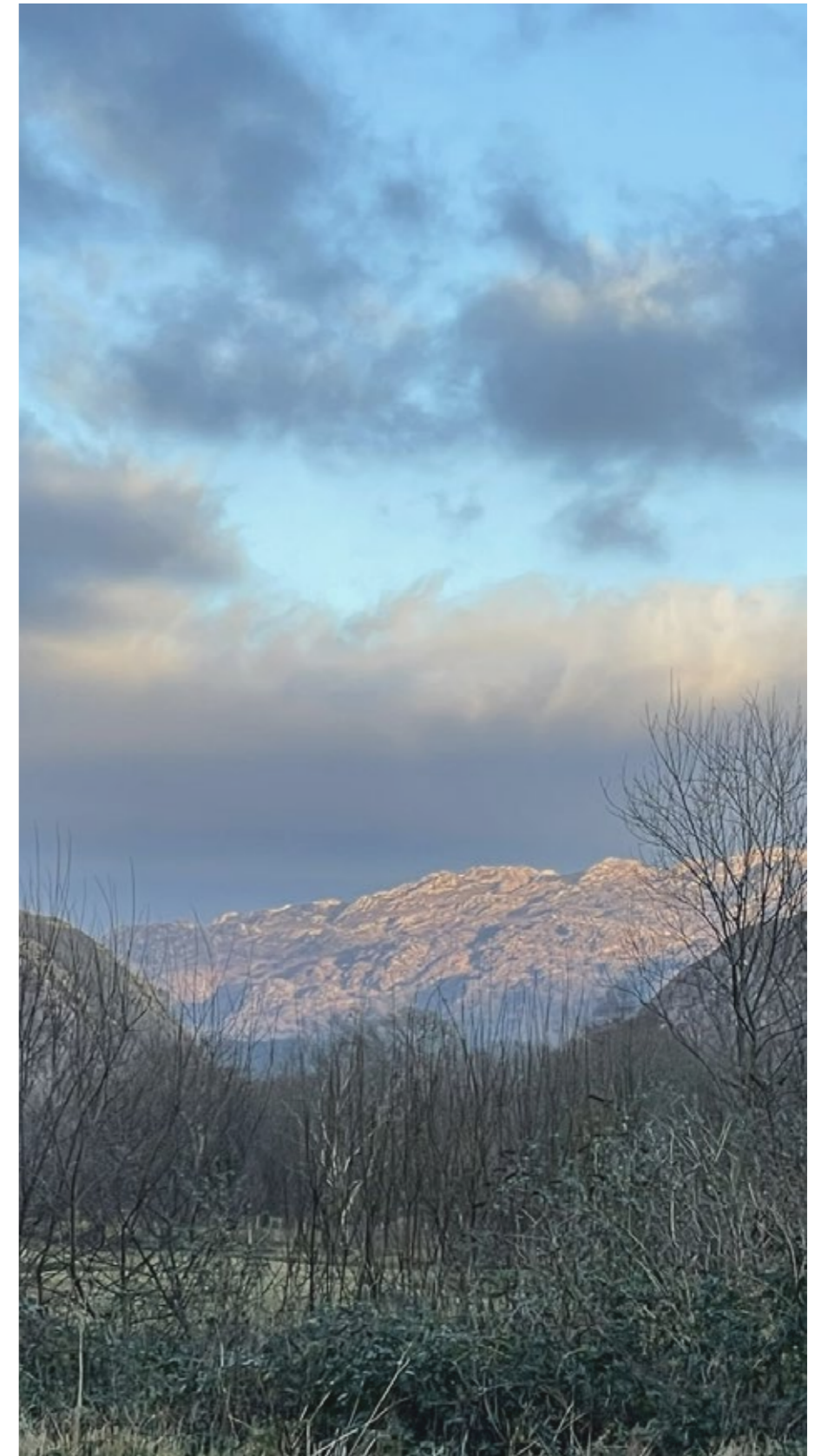
The site lies within a river valley between several peaks. The Afon Glaslyn flows along the north boundary between the site and the A498 before turning to the south and dividing the open area of the site from the developed area.

The proposed scheme includes the development of new camping and motorhome locations with associated access roads and parking at Cae Canol, as well as enhancement of the existing campsite at Cae Du. Two new buildings are also proposed for the sites, each with an area of 40m<sup>2</sup>. They will be a reception block and toilets close to the main entrance, and a main block with information hub and toilet facilities further into the Cae Du site.

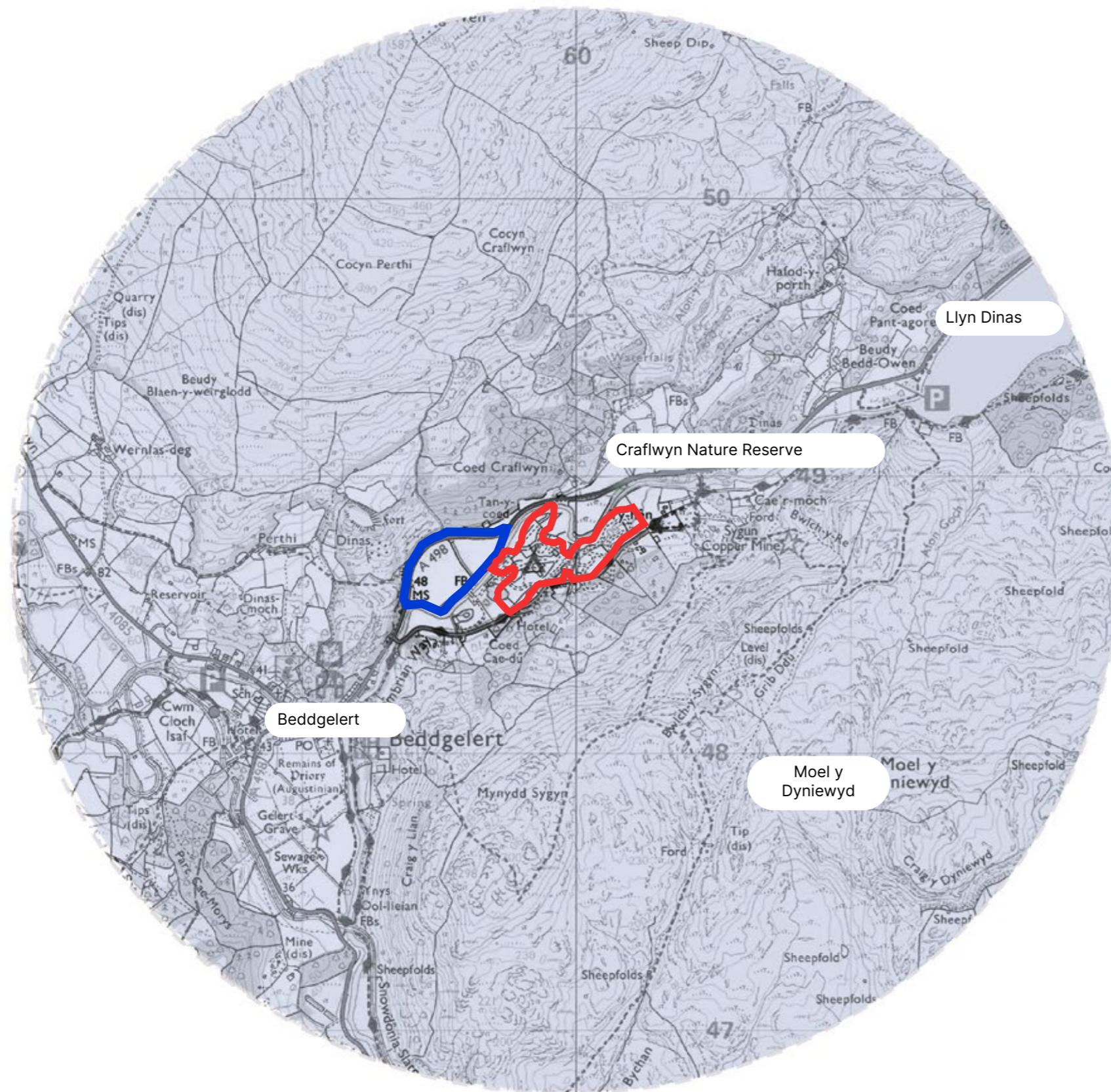
This document provides detail on the points raised above, demonstrating the Green Infrastructure context in which the site sits and identifies the potential influence on Green Infrastructure resulting from the proposed development of the site.



Site Location



# CAE DU & CAE CANOL: CHARACTER AREAS



The plan on the left illustrates the location of the landscape character areas within the study area, as specified by Natural Resources Wales LANDMAP.



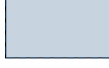
The entire study area sits within the Eryri National Character Area (6) which has the following characteristics:

Eryri (also known as Snowdonia) features a diverse landscape of mountain peaks, ridges, deep valleys, and moorland plateaus. The area's glacial past has shaped a striking upland scenery, with U-shaped valleys, such as those in Nant Ffrancon and Nant Peris, formed by glaciers. The region is rich in classic geological features like high cwms (cirques), sharp ridges, moraine-dammed lakes, glacial striations, roche moutonnees, and dramatic waterfalls. Eryri played a pivotal role in the development of geology as a discipline, and its challenging terrain has influenced transport, farming, industry, tourism, and culture.

The dominant habitats in this upland area include heather-covered moorland and acid grassland, along with extensive coniferous woodlands. The deep valleys cutting through these moorlands are marked by acid grassland and woodlands, with 17% of Eryri National Park being wooded. Coniferous forests, such as those in Coed y Brenin and Gwydir Forest, are common, though they offer limited ecological value. Deciduous woodlands are more frequent in lower areas and valleys, including Fairy Glen Woods, Coedydd Nantgwynant, and Coedydd Aber, along with various woodlands in the park's western regions.

Eryri is sparsely populated, with settlements mainly located in river valleys such as Beddgelert. Traditional building styles are consistent across the region, using local stone, render, and slate. Slate is especially common near quarry sources for walls, cladding, and fencing, while quarried stone is prominent in towns like Dolgellau, Beddgelert, and Betws-y-Coed.

## Key

-  Site Boundary
-  Study Area Boundary
-  Character Area: 6 Eryri



# CAE DU & CAE CANOL: CHARACTER



The *Afon Glaslyn* flows along northern boundary of site



Tree outcroppings within the site offer distilled views and offer some wind protection



Harder rock outcroppings are evident in places within the valley landscape



The hills surround the site in all directions

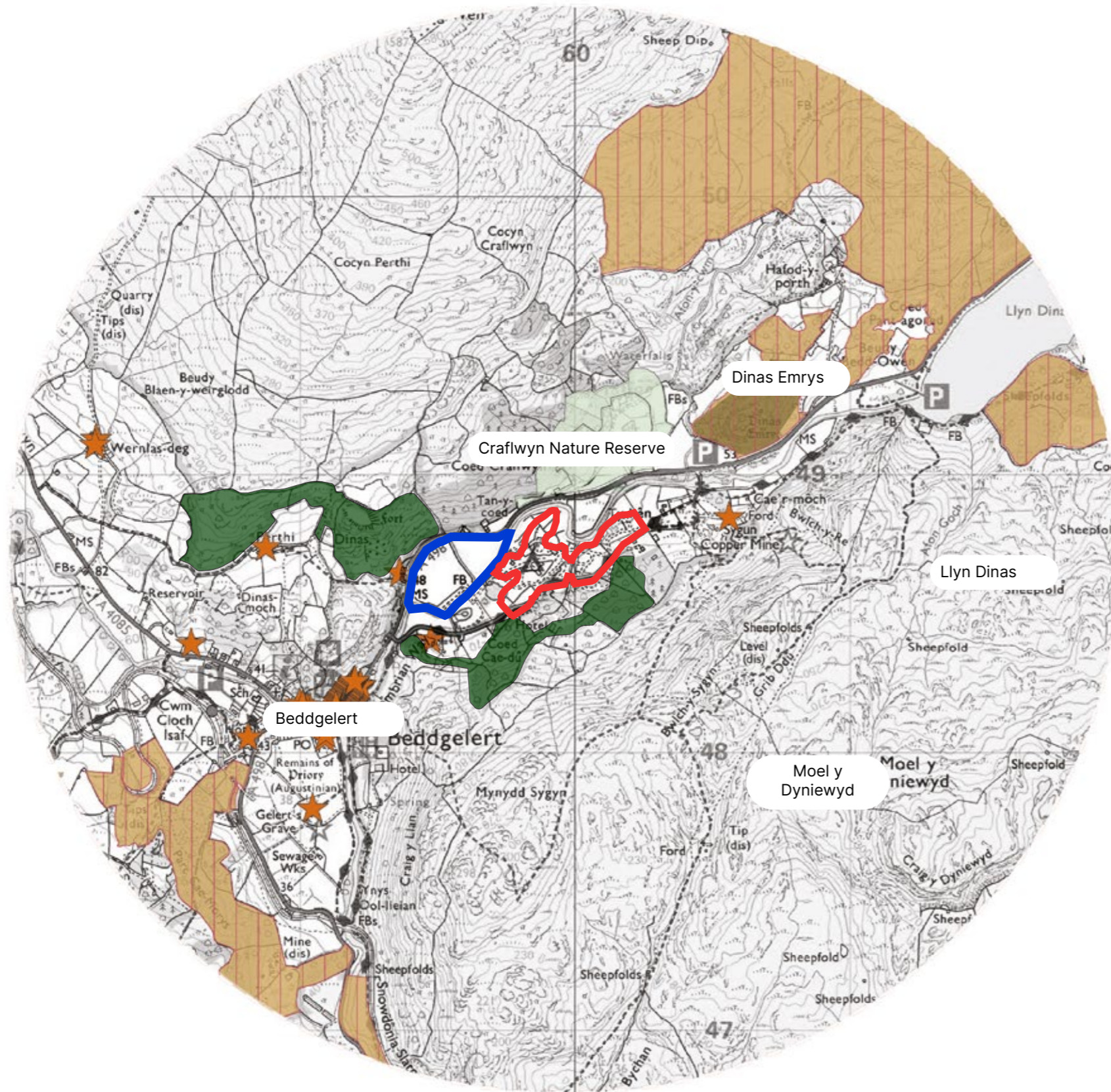


The site is relatively flat and open, with pockets of woodland and a large pond



Stone walls line the southern edge of the property

# CAE DU & CAE CANOL: DESIGNATIONS



The plan on the left illustrates the location of the statutory landscape and heritage designations present within the study area.









The entire study area is within Eryri National Park. In addition, there are five other statutory designations within the study area. These include Special Areas of Conservation (SACs), SSSIs, scheduled monuments as well as listed buildings to the east and west.

Craflwyn Hall and Nature Reserve is a registered National Trust Park and Garden to the northeast of the site. The ancient monument of Dinas Emrys (meaning "fortress of Ambrosius") is a rocky wooded hillock above the Glaslyn river further to the northeast of the site, where a castle once stood that is thought to have been erected by the Welsh Prince Llewelyn the Last.

Three SSSI / SAC sites are within the study area: Coedydd Beddgelert a Cheunant Aberglaslyn to the west and Coedydd Nantgwynant and Eryri to the east. Ancient Woodland to the south of the site is unlikely to be impacted by the development.

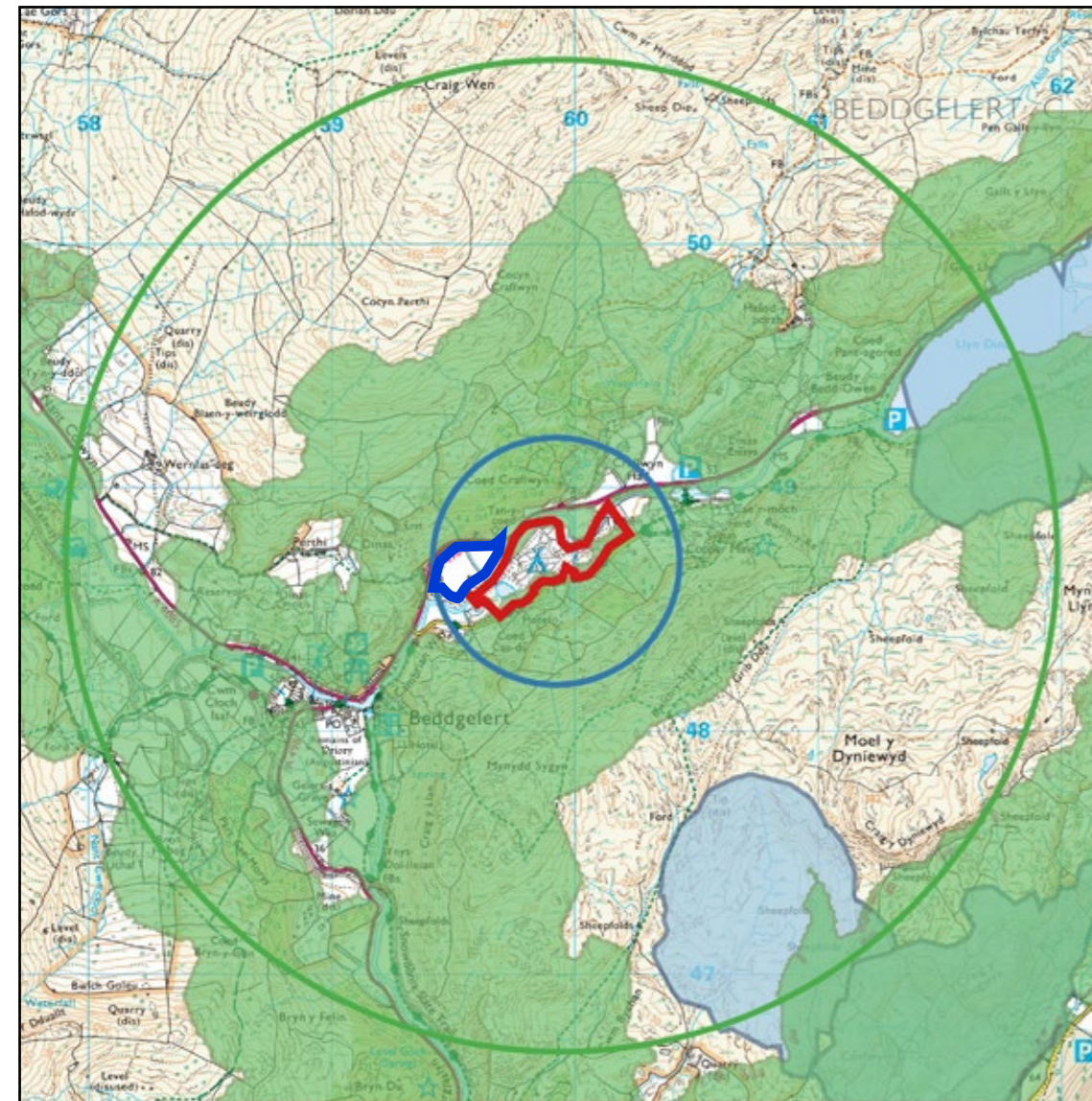
Beddgelert is also within the NRW Dark Skies designation.

## Key

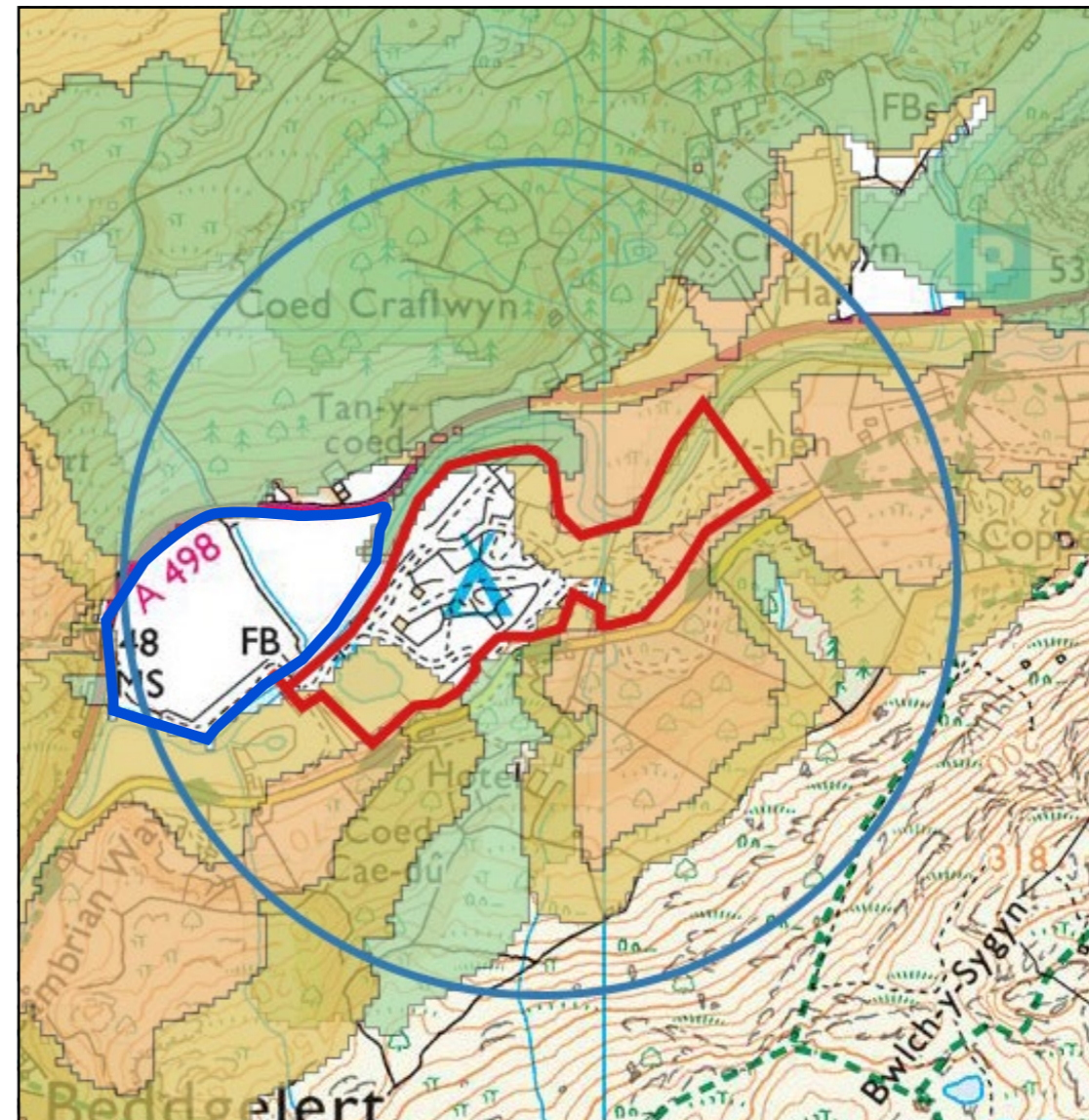
-  Site Boundary
-  Study Area Boundary
-  SSSI and RAMSAR designated site.
-  Registered Parks and Gardens
-  Special Areas of Conservation (SAC)
-  Scheduled Monuments
-  Grade II Listed Buildings
-  Ancient Woodland










# CAE DU & CAE CANOL: ECOLOGICAL NETWORKS

Priority Ecological Networks



Local Ecological Networks



-  Site Boundary
-  2km radius
-  500m radius
- Priority Ecological Networks**
-  NRW Native Woodland
-  NRW Fen
- Local Ecological Networks**
-  NRW Lowland Local Network Wood
-  NRW Lowland Core Network Wood
-  NRW Lowland Focal Network Grass
-  NRW Lowland Local Network Grass
-  NRW Lowland Local Network Fen
-  NRW Lowland Focal Network Fen

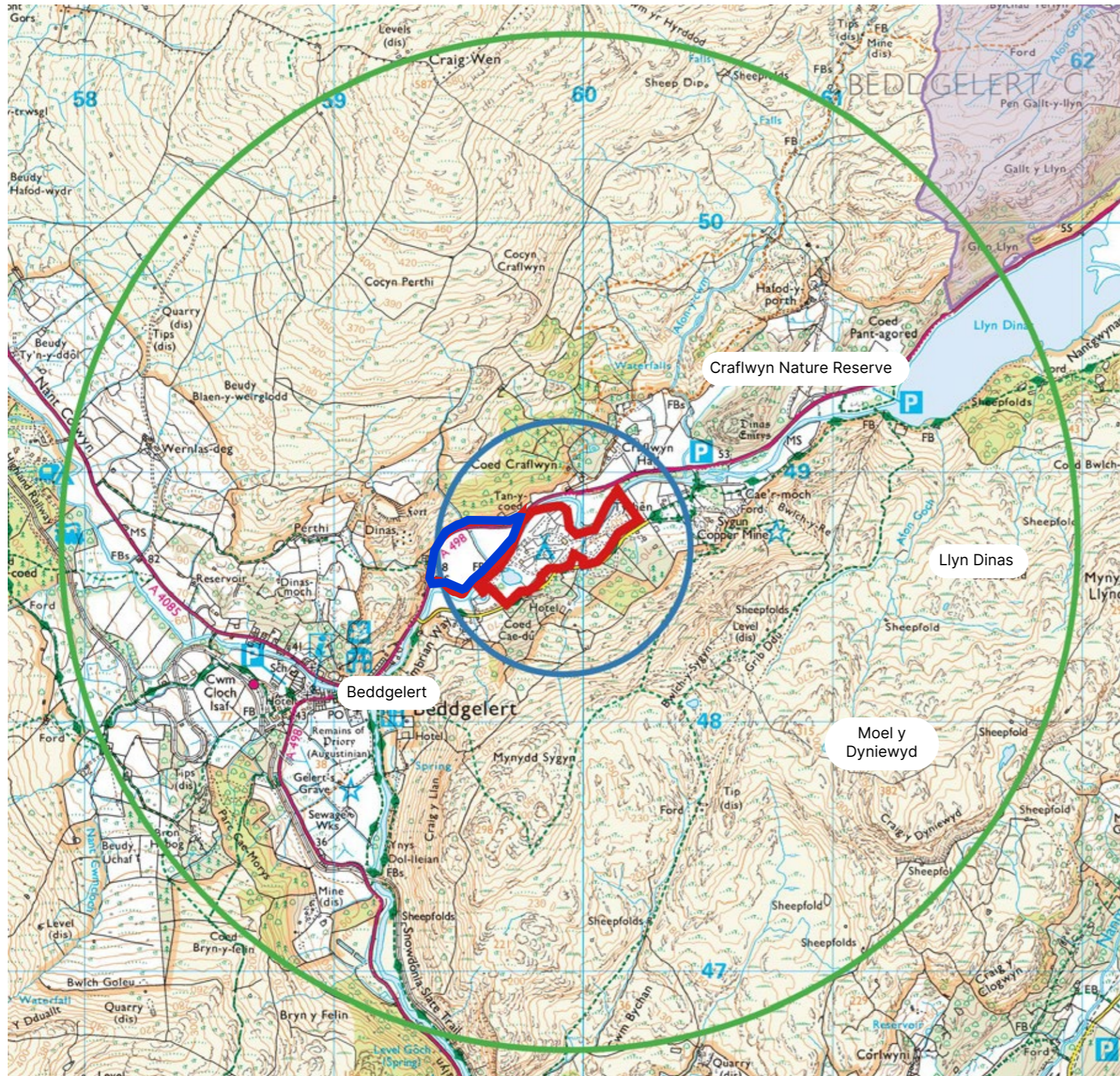
The plan on the left illustrates the location of areas identified by Natural Resources Wales (NRW) as Priority Ecological Networks present within 2km of the proposed site. This includes sections of woodland and fen priority network surrounding the proposed site.

The plan on the right illustrates the areas identified by NRW as Local Ecological Networks within 500m of the site. This map identifies a mixture of woodland, grass and fen areas surrounding the site.

One watercourse runs through the proposed site, Afon Glaslyn runs along the northern boundary of the site on the eastern side and divides the open area from the proposed development area on the western half of the site.

# CAE DU & CAE CANOL:

## WILDLIFE SITES & HABITAT AND SPECIES OF PRINCIPAL IMPORTANCE



The plan on the left shows the Eryri National Nature Reserve, and there is the Craflwyn Nature Reserve which is part of the National Trust site, and three SSSI /SAC sites as previously discussed.

According to the Gwynedd Biodiversity Action Plan (GBAP), the following species are of importance:

**MAMMALS** include Pine Marten, Brown Hare, Lesser Horseshoe Bat, Otter, Polecat and Water Vole. The Water Vole is thought to be in the most serious decline.

**BIRDS** include Barn Owl, Chough, Lapwing, Ring Ouzel, Green Woodpecker, Nightjar and farmland birds as a group.

**FISH** include Lampreys, Salmon and Arctic Charr, which is thought to be particularly sensitive to pollution.

**REPTILES & AMPHIBIANS** include Adder and newts.

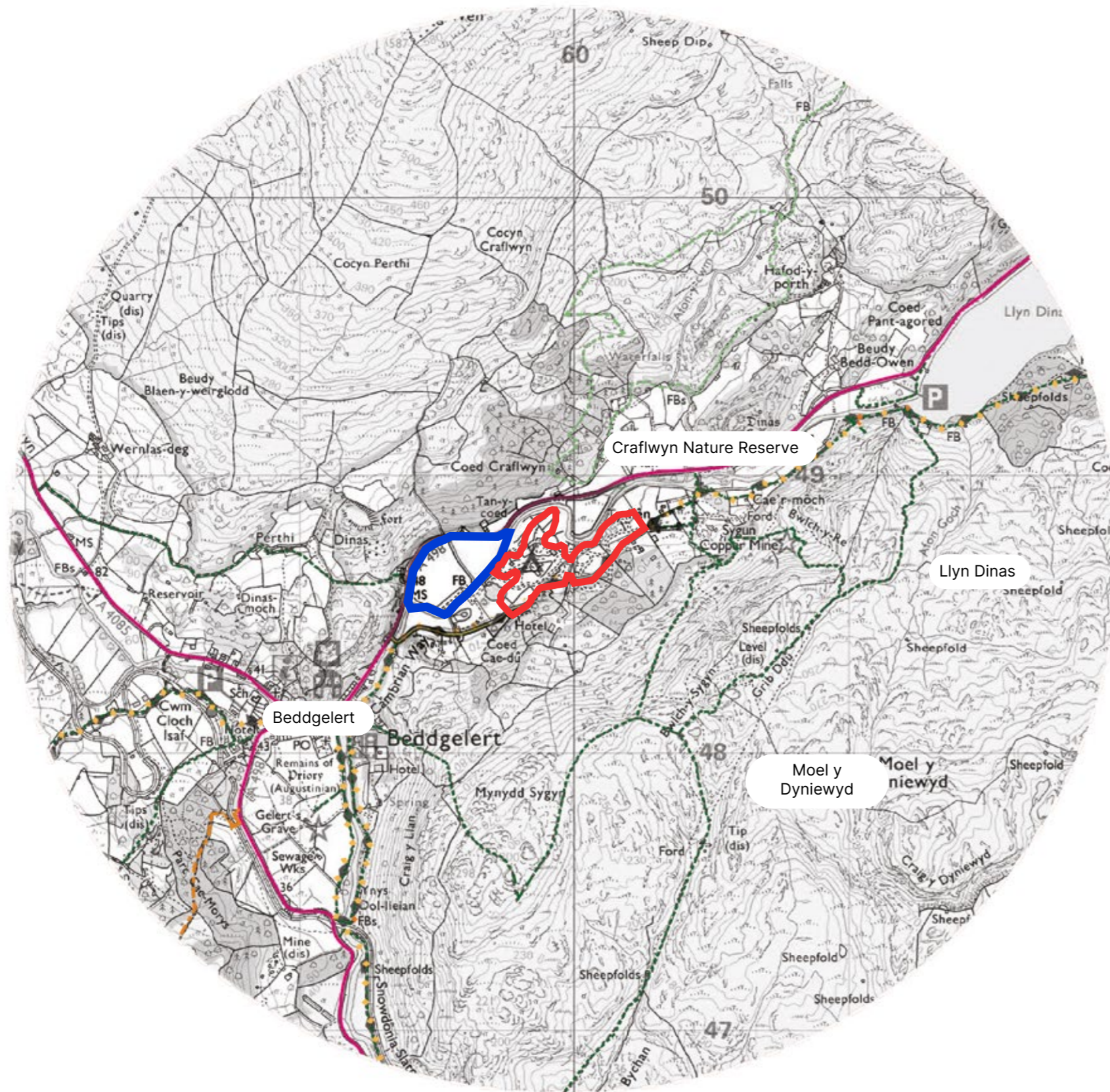
**INVERTEBRATES** include Marsh Fritillary butterfly, Freshwater Pearl Mussel, Whorl snails and the Grey Bush Cricket.

**PLANTS** include Floating Water Plantain, Pillwort, Slender Green Feather Moss, Golden Hair Lichen, Waxcap Fungi and Bluebell. The native Bluebell is under threat not only from habitat destruction but also due to invasive Spanish Bluebells and hybrids.

Lowland habitats of importance to the GBAP include field margins, heathland, grassland meadows and pastures, and hedges. Wetlands and water courses important to the BAP that are present on the site include river corridors, fens, lakes and ponds.



# CAE DU & CAE CANOL: ACCESS












The plan on the left illustrates key access routes within the study area. The site is accessed directly from the A498.

The site lies approximately 500m to the northeast of the village of Beddgelert and lies to the southwest of Plas Gwynant on the A498 and south of Ffridd Uchaf on the A4085. Vehicular access into the site is available from the A498. The site lies within Eryri National Park the base camp for Eryri is approximately 7km to the north of Beddgelert.

The site lies within a river valley between several peaks. The Afon Glaslyn flows along the north boundary between the site and the A498 before turning to the south and dividing the open area of the site from the developed area.

A lane runs along the southern boundary of the site to access Lancashire Mountaineering Club and Sygun Fawr Hotel, connecting to the Sygun Copper Mine entrance road on the western side of the site. This picturesque lane is frequently used as a footpath by hikers and people exploring the area.

-  Site Boundary
-  2km Radius
-  A Roads
-  Recreational Routes
-  Roads more than 4m wide
-  Roads less than 4m wide
-  Public footpaths
-  Bridleways
-  Clywedog Trail

CAE DU & CAE CANOL: **PROPOSAL ANALYSIS**

02

# BUILDING WITH NATURE: THE STANDARDS FRAMEWORK



## *CORE Standards*

- Standard 01 - Optimises Multifunctionality and Connectivity
- Standard 02 - Positively Responds to the Climate Emergency
- Standard 03 - Maximises Environmental Net Gains
- Standard 04 - Champions a Context Driven Approach
- Standard 05 - Creates Distinctive Places
- Standard 06 - Secures Effective Place-keeping



## *WELLBEING Standards*

- Standard 07 - Brings Nature Closer to People
- Standard 08 - Supports Equitable and Inclusive Places



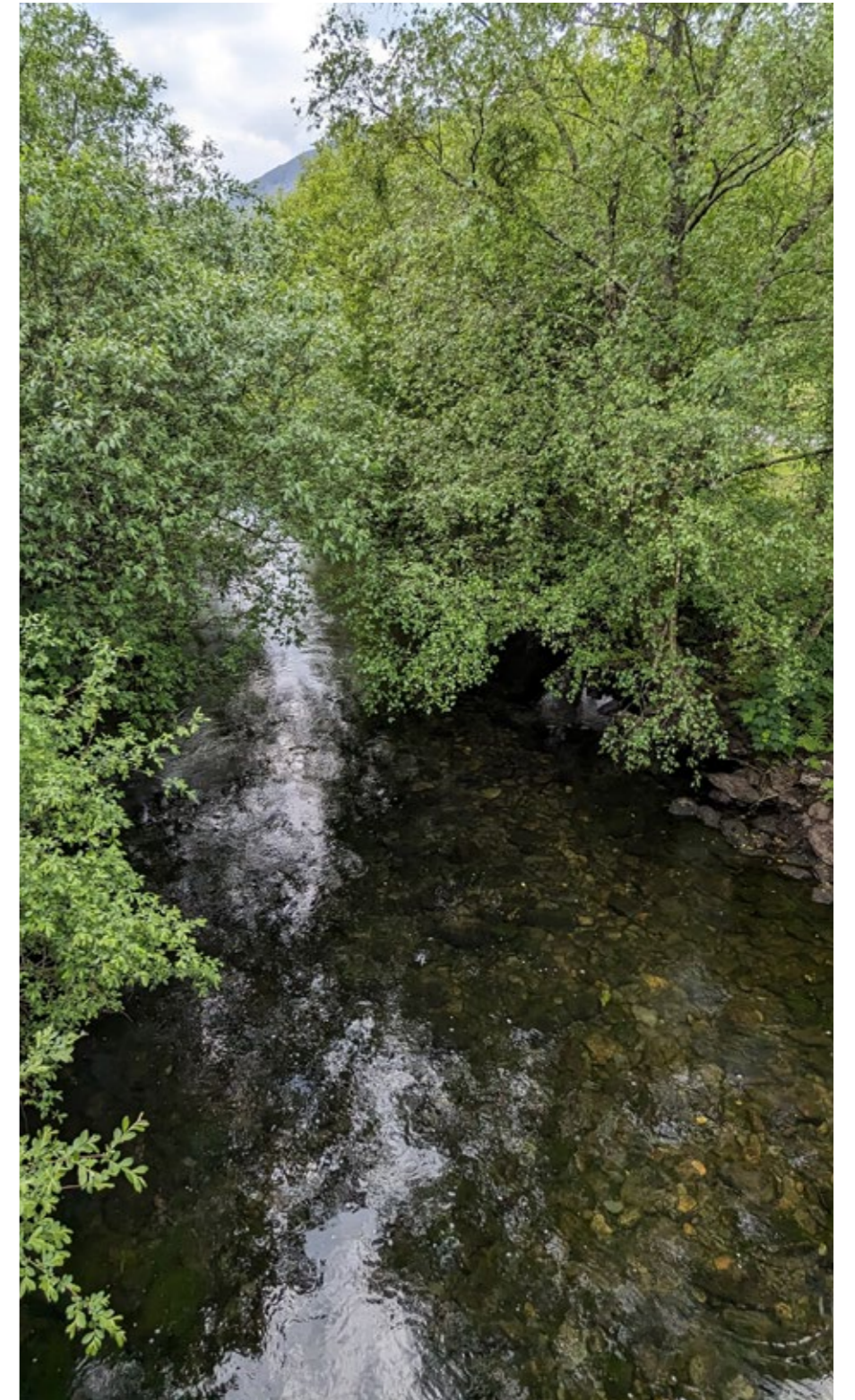
## *WATER Standards*

- Standard 09 - Delivers Climate Resilient Water Management
- Standard 10 - Brings Water Closer to People



## *WILDLIFE Standards*

- Standard 11 - Delivers Wildlife Enhancement
- Standard 12 - Underpins Nature's Recovery



# BUILDING WITH NATURE: THE STANDARDS FRAMEWORK

## CORE Standard

- Standard 01 - Optimises Multifunctionality and Connectivity
- Standard 02 - Positively Responds to the Climate Emergency
- Standard 03 - Maximises Environmental Net Gains
- Standard 04 - Champions a Context Driven Approach
- Standard 05 - Creates Distinctive Places
- Standard 06 - Secures Effective Place-keeping

## LINKED Standards

- Standard 07 - Brings Nature Closer to People
- Standard 09 - Delivers Climate Resilient Water Management
- Standard 10 - Brings Water Closer to People
- Standard 11 - Delivers Wildlife Enhancement
- Standard 12 - Underpins Nature's Recovery

As set out in the previous section, the baseline analysis has identified existing green infrastructure and ecological networks on and around the site, as well as potential gaps and opportunities, and suitable locations for new features.

This analysis has been considered in the design and has resulted in the following green infrastructure features being incorporated into the proposals that can contribute to the existing ecological networks and create links beyond the development boundary:

- Wildflower and Grassland Meadow
- Tree Planting
- Shrub, Copse and Woodland Planting
- Hedgerows
- Bird and Bat Boxes, Log Piles and Hibernacula

The southern edge of the proposed site connects to woodland that includes some ancient woodland, and the northern site boundary connects to the river corridor. Proposed Woodland tendrils are proposed to infiltrate the site and strengthen the green network between the two.

Provision of wildflower meadow, shrub planting and herpetological refugia will provide foraging, commuting and refuge habitat for a range of birds, small mammals, amphibians and invertebrates.

Generally speaking, new areas of planting provide habitats for wildlife and ecosystem services such as water and air quality and control and carbon sequestration, helping to contribute to climate mitigation and adaptation. Hedgerow and tree planting can also function as barriers to air pollution and protect soils from erosion.

Hedgerows providing foraging and nesting habitat and corridors for wildlife also form a key role within the built environment as permeable, living boundaries between properties. They can also function as barriers to air pollution and protect soils from erosion.



KEY	
	Planning Application Boundary
	Existing hedgerow retained
	Existing enhanced hedgerow planting: Prunus Spinosa
	Evergreen shrub planting
	Existing woodland retained
	Existing scrub retained
	Woodland enhancements to Scrub
	Bracken retained
	Marsh grassland retained
	Existing Tree
	Proposed Specimen tree
	Biodiversity Enhancements - re-seeding and management
	Scrapes
	Pond with marginal planting
	Marginal planting - wetland meadow mix
	Re-seeded Acid grassland/meadow
	Proposed scrub and shrub planting
	Moen path and tracks
	Dirt tracks 4 m wide - local aggregate
	Existing Roads and hardstanding
	Hardstanding caravanning pitches - local aggregate
	New asphalt road alignment
	Bins
	Fallen Log and deadwood
	Boulders
	Sealing
	Existing stone walls
	Watercourse crossing
	Surface water flood risk - no tent pitch allocation
	Existing watercourse/ditch
	Existing building - toilet block - Cae Du



# BUILDING WITH NATURE: THE STANDARDS FRAMEWORK

## Climate Resilience

### CORE Standard

Standard 02 - Positively Responds to the Climate Emergency

Standard 03 - Maximises Environmental Net Gains

### LINKED Standards

Standard 09 - Delivers Climate Resilient Water Management

Standard 12 - Underpins Nature's Recovery

The proposal incorporates a number of nature-based solutions that will help to tackle some of the effects of climate change and support Nature's Recovery.

The impact of climate-related hazards such as heatwaves and drought, increased rainfall, surface water run off and flooding, diseases, and storms and high winds can be mitigated through the introduction of the following features:

- Tree planting and hedgerows to provide shade, wind protection, reduce air pollution, prevent soil erosion and reduce flooding
- Pollinator-friendly planting and drought-tolerant meadow mixes
- Permeable paving to all paths

Boundary and internal wet meadow and acid grassland features, copses and trees are retained and enhanced. Provision of new woodland and scrub planting along external boundaries and some internal boundaries will strengthen the existing habitat provision. As set out in the previous page, the proposed wet meadow, acid grassland, hedgerows, trees, copses and shrub/scrub planting will strengthen existing connectivity to nearby wildlife sites situated to the north and south adding to the retained habitat along the western peripheries of the proposed development site that are identified as part of the Local Ecological Network.

## Brings Nature Closer To People

### WELLBEING Standard

Standard 01 - Optimises Multifunctionality and Connectivity

Standard 04 - Champions a Context Driven Approach

Standard 07 - Brings Nature Closer to People

### LINKED Standard

Standard 10 - Brings Water Closer to People

The existing Public Right of Way that follows the southern boundary of the site will connect to new footpaths through the site.

New footpaths within the site connect to external roads and footpaths, providing both residents and the wider community with access to the countryside, and along these routes there are trees, hedgerows and meadow or grassland plantings with pollinator-friendly and seasonal interest species.

The plantings positively contribute to a high-quality environment for people, by providing amenity value, opportunities for play and outdoor recreation, and by delivering new opportunities for people to access nature whilst increasing resilience to climate change.

Additionally for nature, the new planting features will create new habitats and improve ecological connectivity.

The addition of new camping sites makes this spectacular setting within Eryri available to people at minimal expense that might otherwise be limited by budget.

## Creates Distinctive Places

### CORE Standard

Standard 05 - Creates Distinctive Places

Standard 06 - Secures Effective Place-keeping

### LINKED Standard

Standard 11 - Delivers Wildlife Enhancement

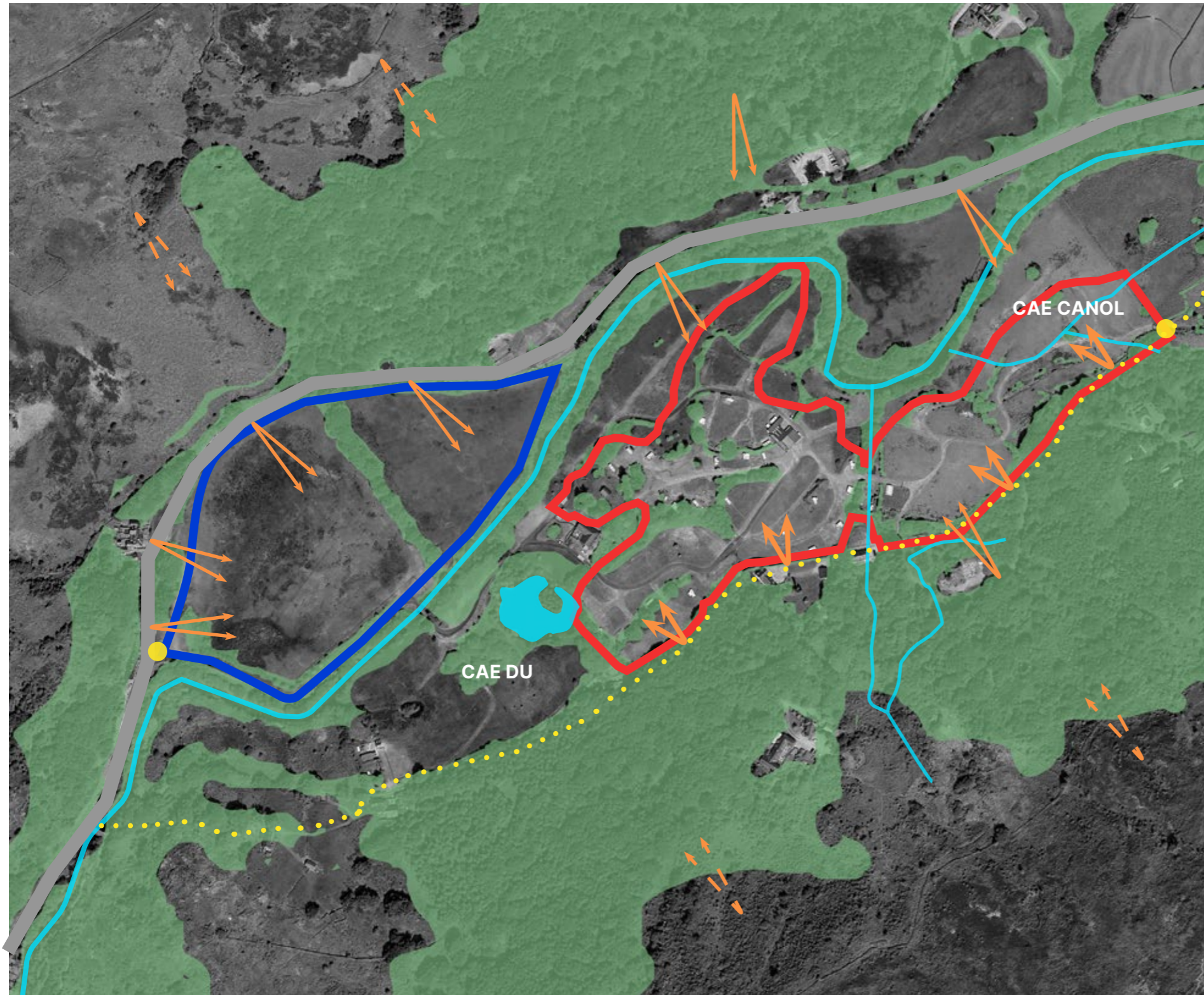
The proposed landscape design has sought to retain existing features that reflect and enhance landscape character, such as hedgerows, trees and meadows or grassland.

The design works with the natural topography to enhance valuable views into and out of the site and uses the flow of water to create a dynamic landscape.

On a landscape scale wildlife enhancement is brought about through the strengthening of existing wildlife corridors/links through provision of meadows, trees, hedgerows and copses that tie in with the wildlife networks to the north and south.

On a local level, proposed hedgerow, tree and meadow habitat provides commuting and stepping stone habitat across the proposed site. The habitat provision will create additional nesting/refuge/roosting and foraging opportunities for a range of faunal species. Nesting and roosting is provided through the addition of bat and bird boxes on proposed building and suitable trees within the site. Refugia for small mammals, amphibians and invertebrates is provided via the provision of hibernacula as part of the proposals.










# CAE DU & CAE CANOL: OPPORTUNITIES AND CONSTRAINTS



Key access points into the site include the main vehicular entrance from the A498 to Cae Du and a secondary entrance to Cae Canol from the Copper Mine to the east, with pedestrian access points from the lane running along the southern boundary. A public right of way follows the main entrance and connects with the lane.

The site has a mixed character, with an open field at the entrance and a series of enclosed spaces of varying sizes comprising the remainder of the site.

## Key

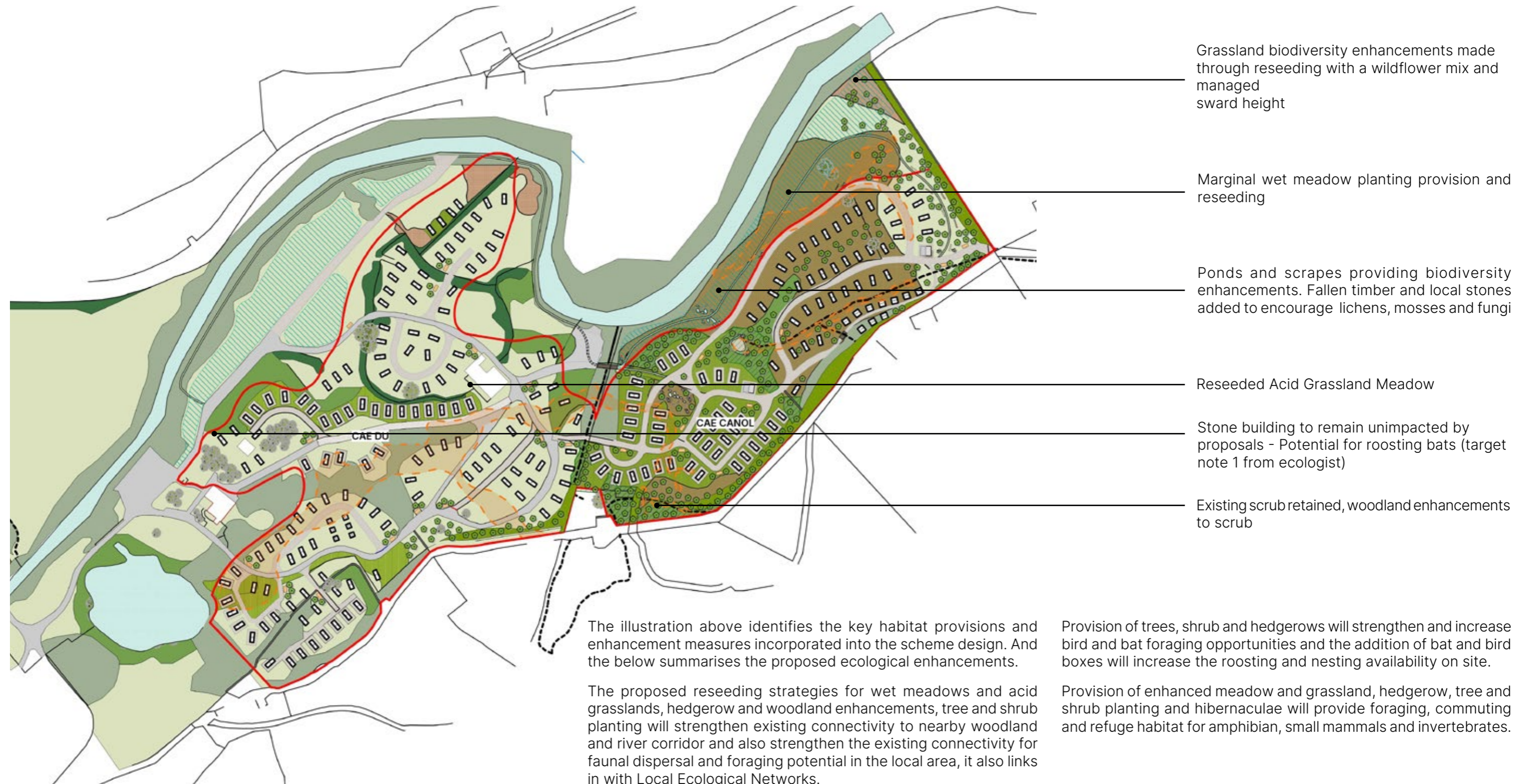
-  A498
-  Site Boundary
-  Access points into site
-  Public right of way
-  Filtered Views
-  Assumed views from hills
-  Open close range views
-  Existing vegetation
-  Watercourses / Ponds

# CAE DU & CAE CANOL: PROPOSED SITE LAYOUT

The landscape proposals are for enhancements to the existing campground at Cae Du, including new habitat and plantings to increase the biodiversity offer on the site. Cae Canol is to include a more comprehensive approach to planting and screening that will not only increase biodiversity and climate resilience on the site but will protect views of the surrounding landscape.



# CAE DU & CAE CANOL: ECOLOGICAL ENHANCEMENTS



# CAE DU : PLANTING DESIGN

TREE SCHEDULE



GRASSLAND AND GROUNDCOVER SCHEDULE



KEY	
	Planning Application Boundary
	Existing hedgerow retained
	Existing enhanced hedgerow planting: Prunus Spinosa
	Evergreen shrub planting
	Existing woodland retained
	Existing scrub retained
	Woodland enhancements to Scrub
	Bracken retained
	Marsh grassland retained
	Existing Tree
	Proposed Specimen tree
	Biodiversity Enhancements - re-seeding and management
	Scrapes
	Pond with marginal planting
	Marginal planting - wetland meadow mix
	Re seeded Acid grassland/meadow
	Proposed scrub and shrub planting
	Mown path and tracks

# CAE DU : PLANT SCHEDULE

## Scrub Mix 1 (S1) Scrub and shrub planting to boundary

To be planted as a mix below existing woodland and along new areas as marked up on planting plan drwg no.

Species	Specification	% Mix	Metres sq	Density per metre sq	Total plants
Salix cinerea subsp. Oleifolia (Common Sallow)	1+1 bare root, 40-60cm whip	10	83	2	167
Viburnum opulus (Guelder Rose)	1+1 bare root, 40-60cm whip	10	83	2	167
Rosa canina (Dog Rose)	1+1 bare root, 40-60cm whip	10	83	2	167
Vaccinium myrtillus (Bilberry)	1.5 L Pot	10	83	3	250
Frangula alnus (Alder buckthorn)	1 + 1 bare root, 40 - 60cm whip	10	83	2	167
Greater Tussock Sedge (Carex paniculata)	2 L Pot	10	83	3	250
Corylus avellana (Hazel)	1+1 bare root, 40-60cm whip	10	83	2	167
Crataegus monopygna (Comon Hawthorn)	1+1 bare root, 40-60cm whip	10	83	2	167
Ilex Aquifolium (Holly)	1+1 bare root, 40-60cm whip	20	167	2	333
<b>Total m<sup>2</sup>:</b>	<b>833</b>	<b>100</b>	<b>833</b>		<b>1833</b>

## New Woodland Belts - Along Southern boundary

To be planted as specified in the planting plan drwg no.

Species	Specification	% Mix		no. of trees	Total plants
AG - Alnus glutinosa (Alder)	300-350cm height, 10-12cm girth, RB	15	1	3	3
FS - Fagus Sylvatica (Beech)	300-350cm height, 10-12cm girth, RB	10	1	4	4
SC - Salix cinerea subsp. Oleifolia (Common Sallow)	300-350cm height, 10-12cm girth, RB	25	1	6	6
QR - Quercus robur (Pendunculate Oak)	300-350cm height, 10-12cm girth, RB	50	1	9	9
<b>TOTAL</b>		<b>100</b>		<b>22</b>	<b>22</b>

## Tree planting around Amenities and buildings

To be planted in groups of 2-3

Species	Specification	% Mix		Area/m <sup>2</sup>	Total plants
PP - Prunus padus (Bird Cherry)	300-350 height, 10-12 girth, RB	50	1	16	16
SAC - Sorbus aucuparia (Rowan/Mountain Ash)	300-350cm height, 10-12cm girth, RB	50	1	16	16
<b>TOTAL</b>		<b>100</b>			<b>32</b>

## (H1) Native Hedgerow - Evergreen Hedgerow Mix

To be planted in double staggered row at 1m intervals with existing Beech (Fagus Sylvatica) Hedgerow

Species	Specification	% Mix	Linear Metres	Density per linear metre	Total plants
Rosa Canina	1+1 bare root, 40-60cm whip	50	29	0.5	29
Ilex Aquifolium	1+1 bare root, 40-60cm whip	50	29	0.5	29
<b>Total linear m:</b>	<b>57</b>	<b>100</b>	<b>57</b>		<b>58</b>

## Mix 1 (M1)- Meadow Mixture for areas that flood and are damp all year round

Sown in area of marsh grassland enhancements

Species	Specification	% Mix	Area/m <sup>2</sup>	Grams per square metre	Total Grams
Meadow Seed Mixture for seasonally wet soil - 20% native wildflower, 80% Grasses	Naturescape seeds N7 - Wetland Meadow Mix	100	5312	5	26558
<b>Total m<sup>2</sup>:</b>	<b>5312</b>	<b>100</b>	<b>5312</b>		<b>26558</b>

## Mix 2 (M2)- Woodland Flower Mix - for shaded areas within new tree planting and underneath established woodland canopy

Species	Specification	% Mix	Area/m <sup>2</sup>	Grams per square metre	Total Grams
A mix of 19 native wildflower tolerant to heavy shade - 100% wildflower	Naturescape N10F Woodland Mix	100	7624	2	15248
<b>Total m<sup>2</sup>:</b>	<b>7624</b>	<b>100</b>	<b>7624</b>		<b>15248</b>

## Mix 3 (M3)- Acid Grassland Mix - for new areas of acid grassland

Species	Specification	% Mix	Area/m <sup>2</sup>	Grams per square metre	Total Grams
Flowering Seed Mixture requiring shade- 20% native Wildflower, 80% Grasses	Naturescape N12 Acid soils meadow mix	100	2169	5	10845
<b>Total m<sup>2</sup>:</b>	<b>2169</b>	<b>100</b>	<b>2169</b>		<b>10845</b>

Cae Du is the focus of reseeded and enhancement of existing green infrastructure offer. The plant palette is native and pollinator friendly species to encourage the highest possible wildlife benefit to site and blend seamlessly with the wider Eryri ecological grid.



Corylus avellana



Ilex aquifolium



Wetland meadow planting

# CAE CANOL: PLANTING DESIGN

## TREE SCHEDULE



## GRASSLAND AND GROUNDCOVER SCHEDULE



# CAE CANOL: PLANT SCHEDULE

## TREES, SHRUBS AND SCRUB SCHEDULE

### Woodland tree planting - Scrub enhancement areas

To be planted in groups of 3-5 species mix. Species selection to be informed by neighbouring trees to retain a sense of naturally occurring woodland.

Species	Specification	% Mix	per/m <sup>2</sup>	Area/m <sup>2</sup>	Total plan
QR - Quercus robur (Pendunculate Oak)	350 - 400 height, 14-16cm girth, RB	30	1	24	24
Bpub - Betula pubescens (Downy Birch)	250-300 cm height, 8-10 cm girth, RB	20	1	16	16
AG - Alnus glutinosa (Alder)	300-350cm height, 10-12cm girth, RB	30	1	23	23
Bpen - Betula pendula (Silver Birch)	250-300 cm height, 8-10 cm girth, RB	20	1	14	14
<b>TOTAL</b>		<b>100</b>			<b>77</b>

### Tree Planting - Wetter areas within floodplain

To be planted in groups of 3-5

Species	Specification	% Mix	per/m <sup>2</sup>	no. trees	Total plan
AG - Alnus glutinosa (Alder)	300-350cm height, 10-12cm girth, RB	40	1	22	22
SC- Salix cinerea subsp. Oleifolia (Common Sallow)	300-350cm height, 10-12cm girth, RB	30	1	17	17
SA- Salix alba (White Willow)	300-350cm height, 10-12cm girth, RB	30	1	16	16
<b>TOTAL</b>		<b>100</b>		<b>55</b>	<b>55</b>

### New Woodland Belts - Along Southern and eastern boundary

To be planted as specified in the planting plan dwrg no.

Species	Specification	% Mix	per/m <sup>2</sup>	no. trees	Total plan
AG - Alnus glutinosa (Alder)	300-350cm height, 10-12cm girth, RB	5	1	2	2
FS - Fagus Sylvatica (Beech)	300-350cm height, 10-12cm girth, RB	15	1	10	10
SC- Salix cinerea subsp. Oleifolia (Common Sallow)	300-350cm height, 10-12cm girth, RB	30	1	15	15
QR - Quercus robur (Pendunculate Oak)	300-350cm height, 10-12cm girth, RB	50	1	25	25
<b>TOTAL</b>		<b>100</b>		<b>52</b>	<b>52</b>

### Tree planting around Amenities and buildings

To be planted in groups of 2-3

Species	Specification	% Mix	per/m <sup>2</sup>	no. trees	Total plan
PP - Prunus padus (Bird Cherry)	300-350 height, 10-12 girth, RB	50	1	20	20
SAC- Sorbus aucuparia (Rowan/Mountain Ash)	300-350cm height, 10-12cm girth, RB	50	1	18	18

### Scrub Mix 1 (S1) Scrub and shrub planting to boundary

To be planted as a mix below existing woodland and along new areas as marked up on planting plan dwrg no.

Species	Specification	% Mix	Metres sq	Density per metre sq	Total plants
Salix cinerea subsp. Oleifolia (Common Sallow)	1+1 bare root, 40-60cm whip	10	186	2	371
Viburnum opulus (Guelder Rose)	1+1 bare root, 40-60cm whip	10	186	2	371
Rosa canina (Dog Rose)	1+1 bare root, 40-60cm whip	10	186	2	371
Vaccinium myrtillus (Bilberry)	1.5 L Pot	10	186	3	557
Frangula alnus (Alder buckthorn)	1 + 1 bare root, 40 - 60cm whip	10	186	2	371
Greater Tussock Sedge (Carex paniculata)	2 L Pot	10	186	3	557
Corylus avellana (Hazel)	1+1 bare root, 40-60cm whip	10	186	2	371
Crataegus monogyna (Comon Hawthorn)	1+1 bare root, 40-60cm whip	10	186	2	371
Ilex Aquifolium (Holly)	1+1 bare root, 40-60cm whip	20	371	2	742
<b>Total m<sup>2</sup>:</b>		<b>100</b>	<b>1856</b>		<b>4083</b>

## GRASSLANDS AND GROUND COVER PLANTING SCHEDULE

### Meadow Mix 1 (M1)- Meadow Mixture for areas that flood and are damp all ye:

Sown in area of marsh grassland enhancements

Species	Specification	% Mix	Area/m <sup>2</sup>	Grams per square metre	Total Grams
Meadow Seed Mixture for seasonally wet soil - 20% native wildflower, 80% Grasses	Naturescape seeds N7 - Wetland Meadow Mix	100	5632	5	28160
<b>Total m<sup>2</sup>:</b>		<b>100</b>	<b>5632</b>		<b>28160</b>

### Meadow Mix 2 (M2)- Woodland Flower Mix - for shaded areas within new tree planting and underneath established woodland canopy

Species	Specification	% Mix	Area/m <sup>2</sup>	Grams per square metre	Total Grams
A mix of 19 native wildflower tolerant to heavy shade - 100% wildflower	Naturescape N10F Woodland Mix	100	4516	2	9032
<b>Total m<sup>2</sup>:</b>		<b>100</b>	<b>4516</b>		<b>9032</b>

### Meadow Mix 3 (M3)- Acid Grassland Mix - for new areas of acid grassland

Species	Specification	% Mix	Area/m <sup>2</sup>	Grams per square metre	Total Grams
Flowering Seed Mixture requiring shade- 20% native Wildflower, 80% Grasses	Naturescape N12 Acid soils meadow mix	100	3740	5	18700
<b>Total m<sup>2</sup>:</b>		<b>100</b>	<b>3740</b>		<b>18700</b>

Cae Canol is the focus of extensive replanting and intensive enhancement of existing green infrastructure offer. The plant palette is native and pollinator friendly species to encourage the highest possible wildlife benefit to site and blend seamlessly with the wider Eryri ecological grid.



Rosa canina



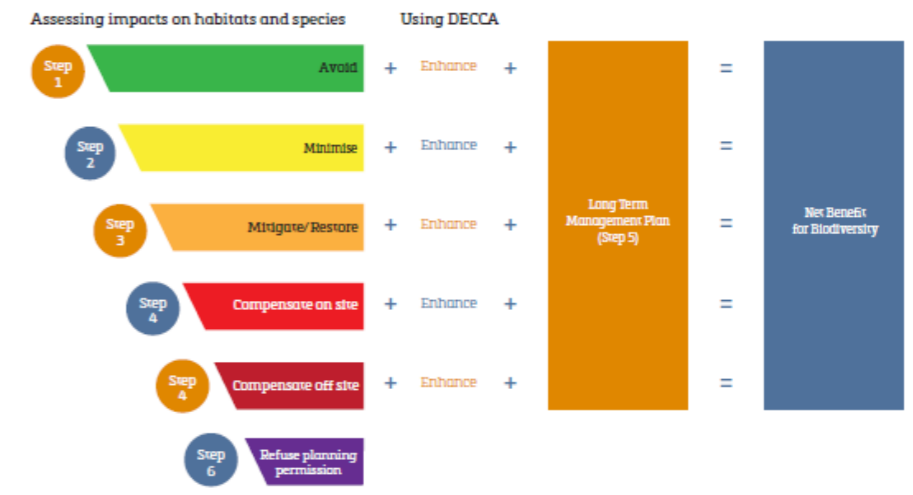
Viburnum opulus



Prunus spinosa



# CAE DU & CAE CANOL: STEP WISE APPROACH



On the site, wet meadow and acid grassland features (priority habitat) and trees are retained (including trees identified with low bat roost potential). Provision of new overseeded meadow and scrub/woodland planting along external boundary and some internal boundaries will strengthen the existing local habitat provision.

On a local level, proposed habitat provides commuting and stepping stone habitat across the site through provision of wet meadow, enhanced and protected acid grassland, hedgerow, tree and shrub planting. It is considered that the site's functionality to provide foraging and commuting habitat for local fauna will be enhanced as a result of the proposals. Additional nesting and roosting habitat is provided through provision of bat and bird boxes. Refugia for small mammals, amphibians and invertebrates is provided via the provision of log piles as part of the proposals.

On a more landscape scale, the proposed planting will strengthen existing connectivity to nearby wildlife sites situated to the north and south and add to the retained habitats identified as NRW acid grassland and fen Local Ecological Network.

Generally speaking, new areas of planting features provide habitats for wildlife and ecosystem services such as water and air quality and control and carbon sequestration, helping to contribute to climate mitigation and adaptation. Hedgerow and tree planting can also function as barriers to air pollution and protect soils from erosion.

# BIBLIOGRAPHY:

Environment Act 2016 Section 6

Planning Policy Wales Chapter 6 (Edition 12)

Building with Nature Standards Framework (version 2.0)

Natural Resources Wales mapping: <https://datamap.gov.wales/maps/>

Landscape Masterplan 416-LST-XX-XX-DR-L-0102

Cae Du Planting Plan 416-LST-XX-XX-DR-L-0301

Cae Canol Planting Plan 416-LST-XX-XX-DR-L-0302