

Preliminary Ecological Appraisal



**Pentir Energy Storage
Project, Pentir
14th December 2023**



**Tyler
Grange**

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Summary

- S.1. This report has been prepared by Tyler Grange Group Ltd on behalf of Lightsource BP; it sets out the findings of a Preliminary Ecological Appraisal at land west of Pentir substation (OS Grid Reference SH 55460 67856), hereafter referred to as 'the site'.
- S.2. This report describes: the important ecological features that could be affected by the proposed development, identified through desk study and a site survey; known potential ecological constraints which may need to be considered at the time of any planning application for the site and identifies the opportunities for ecological enhancements, including considerations for biodiversity net gain (BNG).
- S.3. In terms of protected sites, no adverse impacts are anticipated for the three internationally designated sites within 10km. There are no nationally designated sites within 2km of the site. There are 32 Local Wildlife Sites (LWS) within 2km of the site, with one of those sites being adjacent to the site boundary. Mitigation in the form of a robust Construction and Environmental Management Plan (CEMP), sensitive lighting and appropriate Root Protection Zone buffers are considered to be sufficient in protecting the sites from pollution, with buffers and sensitive lighting strategies protecting the LWS from the operational phase of the development.
- S.4. The site contains habitats of negligible and local ecological importance. The majority of habitats which are to be developed are of negligible ecological importance (Improved grassland), with three habitats of local ecological importance, namely scattered trees, hedgerows and line of trees. The habitats of local ecological importance will largely be retained, buffered and enhanced, with only a small section of hedgerow being removed to facilitate the access road.
- S.5. Although Biodiversity Net Gain (BNG) is not mandatory in Wales, Lightsource BP strive to provide biodiversity enhancements across their sites. As BNG provides a quantitative tool for the measurement of pre-and post-development habitats, this assessment included BNG as a means to gauge biodiversity enhancements. The baseline habitat value of the site has been calculated using the Defra 4.0 metric. The total number of baseline units was 5.76 habitat units and 1.08 hedgerow units. As demonstrated within this report, the site is able to achieve a 43.98% net gain.
- S.6. Protected and notable species are considered to be absent from site, due to unsuitable habitats and/ or conditions of those habitats. The design of the scheme avoided areas of better ecological value, for example the field to the north of the site which could offer breeding bird and reptile habitat. Recommendations have been made for pre-commencement badger checks and adherence to a CEMP and Landscape and Ecological Management Plan (LEMP).
- S.7. No issues that could affect the principle or significantly affect the quantum of development the site could support have been identified. With the recommendations and further work set out in this report, there can be confidence that the site could be developed in accordance with relevant planning policy and legislation.



Section 1: Introduction

Introduction

- 1.1. This report has been prepared by Tyler Grange Group Ltd on behalf of Lightsource BP. This report sets out the findings of a Preliminary Ecological Appraisal at land west of Pentir substation (OS Grid Reference SH 55460 67856), hereafter referred to as 'the site'. See **Figure 1.1** for the red line boundary.



Figure 1.1. Red line boundary and wider site context (© Google Aerial Imagery)

Purpose

- 1.2. This report:
- Uses available background data and results of the field surveys to describe and evaluate the ecological features present within the likely "Zone of Influence"¹ (ZoI) of potential development of the site; and
 - With reference to relevant planning policy and legislation (**Appendix 1**), describes the actual or potential ecological issues and opportunities that might arise as a result of the site's development, or identifies issues that could affect the principle or quantum of development the site could support.
- 1.3. This assessment and the terminology used are consistent with the Guidelines for Preliminary Ecological Appraisal².

¹ Defined by the CIEEM (2018) Guidelines for Ecological Impact Assessment as the area over which ecological features may be affected by biophysical changes as a result of the proposed project and associated activities. This is likely to extend beyond the project site, for example where there are ecological or hydrological links beyond the site boundaries

² CIEEM (2017) Guidelines for Preliminary Ecological Appraisal, 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester.



Methodology

- 1.4. Full methods for the data search, phase 1/UK Habitat Classification (UK Habs) survey and PRA work can be found in **Appendix 2**.
- 1.5. Biodiversity Net Gain is not a mandatory requirement in Wales; however updates to Chapter 6 of Planning Policy Wales (PPW), (**Appendix 1**) stipulates the requirement for “biodiversity net benefit”, and there is also requirement on public bodies to ensure the enhancement of biodiversity under section 6 of the Environment (Wales) Act 2016.
- 1.6. A Biodiversity Net Gain assessment provides a quantifiable measure of pre-and-post development habitats, and has therefore been used in this assessment as a means to gauge biodiversity enhancements, and therefore adhere to the PPW requirement for biodiversity net benefit. Additionally, a ‘Green Infrastructure Statement’ shall be submitted alongside the Preliminary Ecological Appraisal.
- 1.7. The BNG assessment utilised the Landscape Planting Plan (**Appendix 3**) to measure and assess potential post-development habitats.

Quality Control

- 1.8. All ecologists at Tyler Grange Group Limited are members of the Chartered Institute of Ecology and Environmental Management (CIEEM) or are working towards membership and act under the direction of members, and abide by the Institute’s Code of Professional Conduct³.

Limitations and Assumptions

- 1.9. No limitations were experienced during the assessment and no assumptions were made.

³ CIEEM (2022) Code of Professional Conduct, CIEEM, Winchester



Section 2: Ecological Features and Potential Impacts, Mitigation, and Enhancement

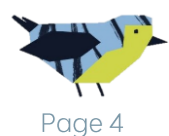
Designated Sites

- 2.1. The data search returned three Natura 2000 sites within 10 km of the site, with no statutory sites within 2km.
- 2.2. The data search returned 32 non-statutory designated sites within 2km of the site. These are detailed in **Table 2.1** over the page, along with potential impacts and mitigation measures which may be required.



Table 2.1. Designated Sites

Designated site	Distance and direction from site	Ecological Importance	Description, Potential Impacts and Requirement for Mitigation	Relevant Legislation and Policy
Y Fenai a Bae Conwy / Menai Strait and Conwy Bay (SAC)	3.5 km north	International	<p>The site is within 3.5km of this SAC, which is designated for its Annex I habitats, namely, Sanbanks which are slightly covered by sea water all the time, Mudflats and sandflats not covered by seawater at low tide and Reefs.</p> <p>The site does not contain any of the above habitats and there are no direct linking habitats, either over-land or aquatically to the SAC. Direct and potential indirect impacts are considered highly unlikely due to the small scale of development, distance from SAC, with no direct linking habitats.</p> <p>It is therefore considered that there is no requirement for a Habitat Regulations Assessment (HRA), specific mitigation or compensation.</p>	Natura 2000
Eryri / Snowdonia (SAC)	3.5 km southeast	International	<p>The site is within 3.5km of this SAC, which is designated for its Annex I habitats, namely, Oligotrophic to mesotrophic standing waters with vegetation, Siliceous alpine and boreal grasslands, Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels, Siliceous scree of the montane to snow levels, Calcareous rocky slopes with chasmophytic vegetation, Siliceous rocky slopes with chasmophytic vegetation.</p> <p>The site does not contain any of the above habitats and there are no direct linking habitats, either over-land or aquatically to the SAC. Direct and indirect impacts are considered highly unlikely due to the small scale of development, distance from SAC, with no direct linking habitats.</p> <p>It is therefore considered that there is no requirement for a Habitat Regulations Assessment (HRA), specific mitigation or compensation.</p>	Natura 2000
Traeth Lafan / Lavan Sands, Conway Bay (SPA)	6.5 km northeaast	International	<p>The site falls within 6.5 km of this SPA, which is designated for its over-wintering populations of oystercatcher <i>Haematopus ostralegus</i> and curlew <i>Numenius arquata</i>.</p> <p>The site provides unsuitable habitat for over-wintering oystercatcher and curlew. Tyler Grange have undertaken extensive wintering bird surveys on adjacent land for Lightsource BP, of which the adjacent land to the north is considered to be much more suitable for oystercatcher and curlew (large expanses of farmland), and neither species have been recorded. It is therefore considered highly unlikely that these species would be present regularly, in significant numbers at the site, which has less suitable habitat than the adjacent areas previously surveyed.</p> <p>Due to the scale and type of development, it is considered highly unlikely that both potential direct and indirect effects arising from the construction and operational phase would adversely impact the SPA.</p> <p>It is therefore considered that there is no requirement for a Habitat Regulations Assessment (HRA), specific mitigation or compensation.</p>	Natura 2000
32 non-statutory sites were returned by Cofnod, within 2km, the nearest sites (within 0.5km) are described below – details of all other Wildlife Site beyond 0.5 km can be seen in Appendix 2.				
Pentir sub-station Wildlife Site	Adjacent, east	County	Comprises the conifer plantation woodland surrounding the sub-station, located adjacent to the east of the site. Also contains the 'Plantation on Ancient Woodland Site' as described in the Baseline Habitats section below.	NPPF



Designated site	Distance and direction from site	Ecological Importance	Description, Potential Impacts and Requirement for Mitigation	Relevant Legislation and Policy
			Proposed development has been designed to avoid and buffer the Local Wildlife Site, providing an appropriate Root Protection Zone. Negligible impacts anticipated. Mitigation in the form of a buffer (see habitats section) sensitive lighting and best practice pollution prevention measures, incorporated into a CEMP.	
Coed Nant y Garth Wildlife Site	0.3 km northwest	County	Comprises coniferous woodland; broadleaved woodland and acid grassland. Proposed development to avoid direct impacts on woodland, with linking habitats between the site and the Wildlife Site. Negligible impacts anticipated, best practice pollution prevention measures, incorporated into a CEMP.	NPPF
Near breakers yard Wildlife Site	0.3 km south	County	Comprises semi-improved neutral grassland. Proposed development to avoid direct impacts on grassland, with no linking habitats between the site and the Wildlife Site. Negligible impacts anticipated, best practice pollution prevention measures, incorporated into a CEMP.	NPPF
Coed Pont Ladiwen Wildlife Site	0.3 km southwest	County	Comprises coniferous woodland. Proposed development to avoid direct impacts on woodland, with no linking habitats between the site and the Wildlife Site. Best practice pollution prevention measures, incorporated into a CEMP.	NPPF





Habitats and Protected Species

- 2.3. The habitats and presence of, or potential for, protected species that could be affected by the proposed development are summarised below in **Tables 2.2** and **2.3 respectively**. **Table 2.2** also describes the woodland offsite and adjacent to the east, as this woodland is categorised as 'Plantation on Ancient Woodland Site'⁴.
- 2.4. Species which are considered likely absent from the site based on professional judgement following consideration of the habitats within the site, signs of species presence at the time of survey and data search records, are not discussed. The locations of habitats are shown on the Habitats Features Plan **14248 P01**.



⁴ Wales Ancient Woodland Inventory 2021: https://datamap.gov.wales/layers/inspire-nrw:NRW_ANCIENT_WOODLAND_INVENTORY_2021






Table 2.2. Habitats, their Importance, Potential Impacts and Mitigation/Enhancement Opportunities




Habitats	Ecological Importance/Suitability for Protected/Priority ⁵ species	Constraints	Description, Potential Impacts and Mitigation/Enhancement Opportunities	Photograph
Improved grassland	Negligible	No constraints for development	<p>The redline boundary covers three fields of improved grassland. The management of each field is slightly different, meaning the appearance of each field is marginally different, however all fields have low species diversity and are either heavily grazed by sheep and horses or used as silage.</p> <p>F1: used as silage and predominantly comprised Perennial ryegrass <i>Lolium perenne</i>. F2: was dominated by soft rush <i>Juncus effusus</i> and cock's foot <i>Dactylus glomerata</i> and was grazed by horses, but has a denser and higher sward than F1. F3: was dominated by soft rush, cock's foot and annual meadow grass <i>Poa annua</i> and grazed by sheep.</p> <p>Common forbs such as white clover <i>Trifolium repens</i>, ribwort plantain <i>Plantago lanceolata</i> and common daisy <i>Bellis perennis</i> were found throughout the three grasslands.</p> <p>The redline boundary covers a thin strip to the south of F2, however no works are proposed for this field (see Fauna section for avoidance reasons).</p> <p>No mitigation required.</p> <p>These habitats will be enhanced by additional species planting, including native tree, shrub, and wildflower grassland planting (see 14248 P02 for proposed post development habitats).</p>	 <p>F1</p>  <p>F2</p>

⁵ Priority species and habitats are those listed at Section 41 of the Natural Environment and Rural Communities (NERC) Act 2005. Section 40 of the NERC Act puts a duty on local authorities to have regard for the conservation of these species, including when considering planning allocations and applications.

Habitats	Ecological Importance/Suitability for Protected/Priority ⁵ species	Constraints	Description, Potential Impacts and Mitigation/Enhancement Opportunities	Photograph
				 <p data-bbox="2030 814 2059 842">F3</p>
Hedgerows (priority habitat)	Local Hedgerows are priority habitats	Impacts to priority habitats and habitats of ecological importance should be avoided wherever possible. Where impacts cannot be avoided, these habitats should be replaced with similar habitats of greater ecological value.	<p data-bbox="1412 848 1985 905">There are two intact hedgerows comprising the site boundaries.</p> <p data-bbox="1412 940 1985 1094">H1 comprises a species-poor hawthorn <i>Crataegus monogyna</i> and blackthorn <i>Prunus spinosa</i> hedgerow; due to the length of the hedgerow, it meets the criteria for a priority hedgerow under the hedgerow regulations⁶.</p> <p data-bbox="1412 1129 1985 1251">H2 comprises a species-poor hawthorn hedgerow; due to the length of the hedgerow, it meets the criteria for a priority hedgerow under the hedgerow regulations⁶.</p> <p data-bbox="1412 1287 1985 1440">There is a defunct hedgerow (H3) to the north of F3, where some hedgerow species have grown to maturity (hawthorn, silver birch, goat willow <i>Salix caprea</i>). Although the hedgerow is defunct, the mature trees offer ecological value.</p> <p data-bbox="1412 1476 1985 1656">The proposals include the partial and temporary removal of the defunct hedgerow H3, and a small section (approx. 12m) to the north of H2, to facilitate the access route from the energy storage. Therefore some trees/ vegetation associated with the defunct hedgerow may be required for removal.</p> <p data-bbox="1412 1692 1985 1749">Retained hedgerows should be protected during construction via a CEMP.</p>	 <p data-bbox="2030 1537 2059 1564">H1</p>

⁶ The Hedgerow Regulations 1997: <https://www.legislation.gov.uk/uksi/1997/1160/contents/made>

Habitats	Ecological Importance/Suitability for Protected/Priority ⁵ species	Constraints	Description, Potential Impacts and Mitigation/Enhancement Opportunities	Photograph
			<p>Management prescriptions and supplementary native species planting will enhance retained habitats. The site may be enhanced for this habitat by planting additional lengths of native species hedgerow.</p>	 <p>H2</p>  <p>H3, arrow showing location. Scattered trees beyond the gate</p>
Line of trees	Local	<p>Impacts to habitats of ecological importance should be avoided wherever possible. Where impacts cannot be avoided, these habitats should be replaced with similar habitats of greater ecological value.</p>	<p>There is a line of trees extending from the southern boundary into field F3. The trees comprise early mature silver birch <i>Betula pendula</i>, alder <i>Alnus glutinosa</i> and oak <i>Quercus robur</i>. The trees are of local importance as they provide additional tree cover within the wider site context.</p> <p>The proposed development intends to avoid and buffer much of the tree line, with only the northern 10m being removed.</p> <p>The retained sections shall be enhanced through additional native shrub planting to create a strengthened understorey and create a wider line of trees with additional tree species planting.</p>	

Habitats	Ecological Importance/Suitability for Protected/Priority ⁵ species	Constraints	Description, Potential Impacts and Mitigation/Enhancement Opportunities	Photograph
Scattered trees	Local	Impacts to habitats of ecological importance should be avoided wherever possible. Where impacts cannot be avoided, these habitats should be replaced with similar habitats of greater ecological value.	<p>Scattered trees are present, predominantly along the site boundary, where more mature specimens were recorded. T1 is a mature oak, T2 a mature silver birch.</p> <p>The scattered trees within the centre and northwest corner of F3 are young, self-seeded silver birch and goat willow.</p> <p>The mature scattered trees on the site boundaries shall be retained and buffered (e.g. T1 & T2).</p> <p>The early mature goat willow (T3), self-seeded young birch and goat willow (T4, T5) within the centre of F3 shall be removed to facilitate the footprint of the energy storage facility.</p> <p>See habitat features plan (14248 P01) which illustrated the trees described above.</p> <p>The proposals include extensive replacement tree planting, with 34 individual trees and two large sections of mix woodland planting.</p>	 <p>Showing T1 and T2 to the right of shot</p>  <p>Showing young birch to the left of shot</p>
Woodland (offsite)	Local	Impacts to this habitat should be avoided and provided with an appropriate buffer/ Root Protection Zone (RPZ). Impacts arising from pollutions and enhancements should be considered.	<p>This woodland is classed as 'Plantation on Ancient Woodland Site'⁷.</p> <p>The proposals have therefore included a 30m buffer from the nearest point of the development footprint (see Appendix 4) It is also recommended that herras fencing (or similar) should be installed 15m from the woodland during the construction phase, to avoid accidental damage and/ or root compaction from machinery and plant; to be removed following the completion of construction.</p> <p>Soft landscaping within the ancient woodland buffer can be undertaken, with sensitive working methods. These recommendations can be secured through an appropriately worded CEMP.</p>	

⁷ Wales Ancient Woodland Inventory 2021: https://datamap.gov.wales/layers/inspire-nrw:NRW_ANCIENT_WOODLAND_INVENTORY_2021

Table 2.3. Fauna (including Protected/Priority Species) their Importance, Potential Impacts and Mitigation/Enhancement

Fauna (including Protected/Priority Species)	Ecological Importance/Suitability for Protected/Priority ⁸ species	Constraints	Potential Impacts and Mitigation	Enhancement Measures
Badgers	<p>20 records of badger were returned, the nearest being a badger sighting close to Pentir substation, 0.25km northeast of the site.</p> <p>No evidence of badger was observed during the site visit. The plantation woodland to the east of the site was also accessed and assessed for badger setts.</p> <p>The site itself is considered unsuitable for sett-building.</p>	No constraints with respect to this species group.	A pre-commencement badger survey should be undertaken within 48 hours prior to works commencing, to confirm no badger setts within 30m of development.	Soft landscaping as detailed in the Landscape Planting Plan (Appendix 3) shall provide enhanced feeding and sheltering opportunities.
Birds	<p>Cafnod returned five records of curlew within 2km, the nearest being 1.5km west of the site, and <i>no records</i> of oystercatcher (both designated species at Conway Bay SPA).</p> <p>There were no records of protected and notable species within the site boundary, however, the field to the north (F2) was deemed suitable habitat for breeding grasshopper warbler <i>Locustella naevia</i> as there were dense swards of grass and rush. It is for this reason that development works have avoided F2.</p> <p>Boundary vegetation is suitable for nesting birds, however, much of the open grassland within the site is considered unsuitable of ground nesting species such as skylark due to the heavily grazed nature of the fields.</p> <p>It is worth noting that Tyler Grange have undertaken extensive breeding and wintering bird surveys for Lightsource BP on adjacent land, 400m to the north, which is considered to be more suitable for ground nesting and wintering birds; no ground nesting birds or overwintering birds associated with</p>	Removal of all vegetated habitats should be avoided during the nesting season (March to September inclusive, though this is not defined in law and birds may nest outside of this time) wherever possible.	<p>Should any of these habitats be cleared during the nesting bird season, pre-removal checks for nesting birds must be carried out by a suitably experienced Ecological Clerk of Works (ECoW), no more than 48 hours prior to the works commencing.</p> <p>Installation of bird boxes throughout the site shall mitigate for the minor loss of scattered trees, which may have otherwise provided nesting opportunity. Exact details on number of boxes and specifications can be included in a Planning Condition.</p>	Soft landscaping as detailed in the Landscape Planting Plan (Appendix 3) shall provide enhanced feeding and nesting opportunities for birds.

⁸ Priority species and habitats are those listed at Section 41 of the Natural Environment and Rural Communities (NERC) Act 2005. Section 40 of the NERC Act puts a duty on local authorities to have regard for the conservation of these species, including when considering planning allocations and applications.



Fauna (including Protected/Priority Species)	Ecological Importance/Suitability for Protected/Priority ⁹ species	Constraints	Potential Impacts and Mitigation	Enhancement Measures
	the SPA were recorded during multiple surveys between 2021 – 2023. Survey results can be provided if required.			
Bats	<p>The vast majority of bat records within 2km related to common pipistrelle. There is one record of lesser horseshoe approximately 1.25km southwest of the site. The nearest record being common pipistrelle in the field to the north of site.</p> <p>The treelines, hedgerows, and scrub offer habitat of low suitability for commuting/foraging.</p> <p>There were no potential bat roosting features recorded on trees within the site boundary. There were no buildings present on site.</p>	Impacts to habitats which provide low suitability for commuting and foraging to be avoided, such as boundary vegetation, trees and hedgerows.	<p>Impacts to suitable habitat should be controlled via a CEMP (i.e. pollution impacts on the woodland edge, which offers suitable bat commuting and foraging habitat).</p> <p>A sensitive lighting strategy should be implemented, which should include no lighting at night during the construction phase, and no, or minimal lighting (not above 1 lux⁹) during the operational phase. Any lighting which may be require at the Proposed Development should be angled away from boundary vegetation (i.e. directionally towards the development)</p>	<p>Native species planting in unlit areas, including linear features, may enhance the site for commuting and foraging bats.</p> <p>Inclusion of bat boxes in the scheme would enhance the site for roosting bats.</p>
Great crested newt (GCN) <i>Triturus cristatus</i>	There are no records of GCN within 2km of the site. There are no ponds onsite or within 250m of the site boundary. The habitats onsite are largely unsuitable for GCN in their terrestrial state, but boundary vegetation may provide some shelter for GCN and other notable amphibians.	No constraints, this species group is considered to be absent from the site.	No specific migration required.	The site may be enhanced by native species planting to provide suitable terrestrial habitat.
Reptiles	<p>There are seven records of common lizard <i>Zootoca vivipara</i> within close proximity to the site, with three records located in the field adjacent to the substation (east of the site), one record in the field to the south of the site and three records within the plantation woodland of Coed Rhos-fawr (0.4km north).</p> <p>The heavily grazed nature of the open grassland fields provides unsuitable shelter and foraging habitat for reptiles, although this species group may use boundary vegetation for shelter and commuting through the wider landscape.</p>	Impacts to boundary habitats are to be largely avoided. Where access track works may extend through habitats, such as the defunct hedgerow, close to F2, sensitive working methods should be adopted during the construction phase.	Impacts to suitable habitats (F2) are to be avoided. Any works within 8m of F2 should be controlled via a CEMP – methods for sensitive working can include directional and phased cutting of vegetation to push reptiles back into more suitable habitats, such as field F2.	The site may be enhanced by native species planting and inclusion of reptile refugia in the scheme design

⁹ Bats and Artificial Lighting UK: bats.org.uk/uploads/pdf/Resources



Section 3: Biodiversity Net Gain (BNG) Assessment

BNG Context

- 3.1. Biodiversity Net Gain is not a mandatory requirement in Wales; however updates to Chapter 6 of the PPW (**Appendix 1**) stipulates the requirement for “biodiversity net benefit”, and there is also requirement on public bodies to ensure the enhancement of biodiversity under section 6 of the Environment (Wales) Act 2016.
- 3.2. A Biodiversity Net Gain assessment provides a quantifiable measure of pre-and-post development habitats, and therefore considered a useful tool in gauging the likely value of proposed post-development habitats. BNG was therefore included in this assessment.
- 3.3. The results are summarised below, and should be read alongside the Metric 4.0 Calculation Tool (**14248 BNG Metric 4.0 121223**). The Landscape Planting Plan (**Appendix 3**) was used to assess potential post-development habitats.

Methodology

- 3.4. The habitat survey conducted as part of the Extended Phase 1 detailed above, provides the condition assessment for the sites biodiversity baseline. All habitats were assessed utilising the relevant condition criteria for the relevant habitat type under Metric 4.0, which included confirming 'pass' / 'fail' criteria taken from the UK Habitat/Phase 1 methodology where necessary
- 3.5. The Biodiversity Metric 4.0 operates by calculating the number of biodiversity units associated with a particular habitat type (both pre-and post-development) – the ‘unit’ value associated with each habitat type is calculated based on the following parameters:
 - Size (in hectares)/Length (in km);
 - Distinctiveness (i.e. how rare/valuable a given habitat is);
 - Condition (i.e. how well the recorded habitat fits [or will fit] the standardised description of that habitat); and
 - Strategic significance (i.e. if the existing or proposed habitat is within an area formally adopted in the local plan for green infrastructure or biodiversity improvements).
- 3.6. When considering the creation of new habitats in the post-development site, other factors are also considered when calculating the ‘unit’ value of a given habitat and these are:
 - Time to reach the target condition of each habitat; and
 - Difficulty category for the creation of a given habitat.



Baseline Conditions

- 3.7. The baseline habitats and their condition are summarised in **Table 3.1 and Table 3.2** below and are illustrated on the Habitat Features Plan **14248 P01**.



Table 3.1: Habitat areas and condition

Habitat Type	Area (hectares)	Condition	Unit Value
Improved/ Modified grassland (Combined area of modified/ improved grassland)	2.58	Poor – All fields failing Criteria 1, which requires a minimum of 6-8 species per m ² .	5.16
Rural trees (T1, T2, east of site)	0.07	Moderate – Passing 3 of 6 criteria	0.56
Rural trees (two young/ sapling trees, centre of site)	0.01	Poor – Passing 2 of 6 criteria	0.04

Table 3.2: Linear habitats and condition

Habitat Type	Lenth (km)	Condition	Unit Value
Line of trees LT1	0.04	Moderate – Passing 4 of 5 criteria	0.16
Native Hedgerow H1	0.13	Moderate – Does not fail A1, A2 and B1, B2	0.52
Native Hedgerow H2	0.16	Poor – Failing five criteria (inc height and width)	0.32
Native Hedgerow H3	0.04	Poor – Failing five criteria (inc height and width)	0.08

Proposed Habitats

- 3.8. The proposed habitats are shown on the Landscape Planting Plan (**Appendix 3**), which was used to calculate the proposed habitat areas, and also illustrated on the Post-development habitats plan (**14248 P02**). The created habitats are summarised in **Table 3.3** and **Table 3.4** below.



Table 3.2: Created habitats and proposed condition

Habitat Type	Area (hectares)	Proposed Condition	Unit Value
Other neutral grassland (Combined area of wildflower meadow)	0.88	Moderate	5.89
Other neutral grassland (Combined area of neutral grassland)	0.07	Poor	0.26
Other woodland; broadleaved (combined areas of woodland planting mix)	0.18	Moderate	0.84
Developed land (combined area of hardstanding)	1.28	N/A	0.0
Rural trees (Combined area of 34 newly planted trees)	0.13	Moderate	0.40

Table 3.2: Created linear habitats and proposed condition

Habitat Type	Lenth (km)	Condition	Unit Value
Species-rich hedgerow with trees H4	0.13	Moderate	1.09

Results Summary

- 3.9. As described within the Defra 4.0 metric **14248 BNG Matric 4.0 Calculation Tool** and summarised below in **Figure 3.1**, based on the habitats present on site that will be lost and those to be created, the development would result in a gain of 8.29 habitat units, and a gain of 2.13 hedgerow units. This is a percentage gain of **43.98%** in habitat units and **97.45%** in hedgerow units

FINAL RESULTS		
Total net unit change <small>(Including all on-site & off-site habitat retention, creation & enhancement)</small>	<i>Habitat units</i>	2.53
	<i>Hedgerow units</i>	1.05
	<i>Watercourse units</i>	0.00
Total net % change <small>(Including all on-site & off-site habitat retention, creation & enhancement)</small>	<i>Habitat units</i>	43.98%
	<i>Hedgerow units</i>	97.45%
	<i>Watercourse units</i>	0.00%



Management

- 3.10. As BNG is not a mandatory planning requirement in Wales, the 30 year management period as stipulated in BNG,
- 3.11. Details of habitat establishment and long-term management will be provided through the production of a Landscape and Ecological Management Plan (LEMP). The LEMP would set out the prescriptions for the establishment and maintenance of the habitats on site for 30 years.



Section 4: Conclusions and Recommended Further Work

Key Issues

4.1. The key impacts of the development are as follows:

- *Designated sites:* impacts on internationally designated sites within 10km are not anticipated. No SSSI's or nationally important designations within 2km of the site.
- Of the 32 wildlife sites within 2km of the site, one is adjacent (woodland of Pentir substation); the woodland shall be avoided and provided with an appropriate buffer. The remaining sites are considered sufficient distance away from the site to avoid adverse impacts, should a Construction and Environmental Management Plan be adopted, which shall minimise/ negate indirect impacts arising from pollution during construction.

Habitats:

- The proposed development has been designed to avoid the more ecologically important habitats such as the 'Plantation on Ancient Woodland Site', where a minimum 30m buffer has been provided, and field F2. Much of the development shall fall within habitats of negligible ecological importance, such as F1 and F3. Some loss of vegetation is anticipated (T3, T4, T5, partial loss of the line of trees and vegetation associated with defunct H3); however, mitigation in the form of additional tree, hedgerow, shrub, woodland and grassland species planting shall be adopted across the site.
- The Plantation on Ancient Woodland Site to the east should remain unlit, through a sensitive lighting strategy, fencing at 15m from the woodland should be installed to avoid accidental damage during construction and a CEMP should include measures to avoid pollution during the construction phase. Newly created habitats shall be managed through the production and adoption of a Landscape and Ecological Management Plan (LEMP), controlled through planning conditions.

Species:

- The proposals have been designed to avoid F2 which provides suitable habitat for protected and notable bird and reptile species; however, the following is recommended with regard to species considerations:
 - Badger: pre-commencement check to confirm the absence of badger setts within the woodland block. Survey to be carried out within 48 hours, prior to works commencing;
 - Bats: boundary vegetation should remain unlit, retaining dark areas across the site, bat boxes should be installed on retained trees;



- Birds: removal of all vegetation should be timed outside of the nesting bird season, if not possible a Suitably Qualified Ecologist (SQE) should attend the site during vegetation removal;
- Reptiles: Field F2 offers the only suitable habitat within the site, and therefore development works have avoided this field. Any works within 8m of F2 should be subject to methods for sensitive working, which can include directional and phased cutting of vegetation to push any reptiles back into the centre of F2 immediately prior to construction works commencing.

Potential Control Mechanisms

- 4.2. A CEMP will be produced (to be controlled through a planning condition) to control potential adverse effects during the construction phase. Measures should include (but not limited to) installation of the Root Protection Zone, located 15m from the woodland to the east; prescriptions for sensitive working methods for soft landscaping within the RPZ; sensitive lighting during the construction phase (i.e. no lighting during nighttime hours); pollution prevention measures to minimise run-off and air pollution.
- 4.3. A Landscape and Ecological Management Plan (LEMP) can be conditioned to ensure long-term management of habitats post-development.

Conclusion

- 4.4. No issues that could affect the principle or significantly affect the quantum of development the site could support have been identified. With the recommendations and further work set out in this report, there can be confidence that the site could be developed in accordance with relevant planning policy and legislation.



Appendix 1: Legislation and Planning Policy

Legislation

- A1.1. Specific habitats and species receive legal protection in the UK under various pieces of legislation, including:
- The Environment (Wales) Act 2016;
 - The Wildlife and Countryside Act (WCA) 1981 (as amended);
 - The Conservation of Habitats and Species Regulations 2017 (as amended);
 - The Countryside and Rights of Way (CRoW) Act 2000;
 - The Natural Environment and Rural Communities Act (NERC) 2006;
 - The Hedgerows Regulations 1997; and
 - The Protection of Badgers Act 1992.
- A1.2. The European Council Directive on the Conservation of Natural Habitats and of Wild Flora and Fauna, 1992, often referred to as the 'Habitats Directive', provides for the protection of key habitats and species considered of European importance. Annexes II and IV of the Directive list all species considered of community interest. The legal framework to protect the species covered by the Habitats Directive has been enacted under UK law through The Conservation of Habitats and Species Regulations 2017 (as amended).
- A1.3. In Britain, the WCA 1981 (as amended) is the primary legislation protecting habitats and species. SSSIs, representing the best examples of our natural heritage, are notified under the WCA 1981 (as amended) by reason of their flora, fauna, geology or other features. All breeding birds, their nests, eggs and young are protected under the Act, which makes it illegal to knowingly destroy or disturb the nest site during nesting season. Schedules 1, 5 and 8 afford protection to individual birds, other animals and plants.
- A1.4. The CRoW Act 2000 strengthens the species enforcement provisions of the WCA 1981 (as amended) and makes it an offence to 'recklessly' disturb a protected animal whilst it is using a place of rest or shelter or breeding/nest site

National Planning Policy

Planning Policy Wales (PPW), February 2021

- A1.5. Planning Policy Wales (PPW) was updated in February 2021 and sets out the Government's planning policies for Wales and how these should be applied. It includes provision for Net Benefits for Biodiversity.
- A1.6. Section 6.4 of PPW considers biodiversity and ecological network and states that "the planning system has a key role to play in helping to reverse the decline in biodiversity and increasing the



resilience of ecosystems, at various scales, by ensuring appropriate mechanisms are in place to both protect against loss and to secure enhancement.”

A1.7. Addressing the consequences of climate change should be a central part of any measures to conserve biodiversity and the resilience of ecosystems. Information contained in SoNaRR, Area Statements and species records from Local Environmental Record Centres should be taken into account. Development plan strategies, policies and development proposals must consider the need to:

- Support the conservation of biodiversity, in particular the conservation of wildlife and habitats;
- Ensure action in Wales contributes to meeting international responsibilities and obligations for biodiversity and habitats;
- Ensure statutorily and non-statutorily designated sites are properly protected and managed;
- Safeguard protected and priority species and existing biodiversity assets from impacts which directly affect the nature conservation interests and compromise the resilience of ecological networks and the components which underpin them, such as water and soil, including peat; and
- Secure enhancement of and improvement to ecosystem resilience by improving diversity, condition, extent and connectivity of ecological networks.

A1.8. The Biodiversity and Resilience of Ecosystems Duty (Section 6 Duty) states that “planning authorities must seek to maintain and enhance biodiversity in the exercise of their functions. This means development should not cause any significant loss of habitats or populations of species, locally or nationally and must provide a net benefit for biodiversity. In doing so planning authorities must also take account of and promote the resilience of ecosystems, in particular the following aspects:

- Diversity between and within ecosystems;
- The connections between and within ecosystems;
- The scale of ecosystems;
- The condition of ecosystems including their structure and function; and
- The adaptability to ecosystems.

A1.9. In fulfilling this duty, planning authorities must have regard to:

- The list of habitats and species of principal importance for Wales, published under Section 7 of the Environment (Wales) Act 2016;
- The State of Natural Resources Report (SoNaRR), published by Natural Resources Wales (NRW); and
- Any Area Statement that covers all or part of the area in which the authority exercises its functions.”



A1.10. The broad framework for implementing the Section 6 Duty and building resilience through the planning system includes addressing: Diversity, Extent, Condition, Connectivity and Adaptability to change (DECCA),k

PPW Version 12 – due for release in the near future

A1.11. Changes to Chapter 6 were published in October 2023, and are detailed below. The changes will be included in the next iteration of Planning Policy Wales (version 12):

A1.12. **Green Infrastructure:** stronger emphasis on taking a proactive approach to green infrastructure covering cross-boundary considerations, identifying key outputs of green infrastructure assessments, the submission of proportionate green infrastructure statements with planning applications and signposting Building with Nature standards.

A1.13. **Net Benefit for Biodiversity and the stepwise approach:** further clarity is provided on securing net benefit for biodiversity through the application of the stepwise approach, including the acknowledgement of off-site compensation measures as a last resort, and the need to consider enhancement and long-term management at each step. The use of the green infrastructure statement as a means of demonstrating the stepwise approach is made explicit. A simplified diagram of the policy approach has been developed (which will be further refined in the consolidated version of PPW12). The importance of strategic collaboration to identify and capture larger scale opportunities for securing a net benefit for biodiversity is recognised.

A1.14. **Protection for Sites of Species Scientific Interest:** strengthened approach to the protection of SSSIs, with increased clarity on the position for site management and exemptions for minor development necessary to maintain a 'living landscape'. Other development is considered unacceptable as a matter of principle. Exceptionally, a planned approach may be appropriate where necessary safeguards can be secured through a development plan.

A1.15. **Trees and Woodlands:** closer alignment with the stepwise approach, along with promoting new planting as part of development based on securing the right tree in the right place.

Local Planning Policy

The Anllesey and Gwynedd Joint Local Development Plan 2011 - 2026

A1.16. Policies relating to ecology and nature conservation can be found in the Plan Policies section, pages 25-45, which are summarised as follows:

A1.17. Strategic Policy PS 5 (Sustainable Development):) is an overarching policy that aims to ensure that development is consistent with the principles of sustainable development

Biodiversity Actions Plans¹⁰

Habitats

- Upland Oakwoods HAP



- Wet Woodland HAP
- Arable Field Margins HAP
- Cloddiau HAP
- Mudflats HAP
- Maritime Cliff and Slopes HAP
- River Corridors HAP
- Rhos Pasture HAP
- Lowland heathland HAP
- Upland Heathland HAP
- Lowland Meadows and Pasture HAP
- Lowland Dry Acid Grassland HAP
- Lowland Wetlands HAP
- Strandlines HAP
- Gardens HAP

Species

- Otter SAP
- Pine Marten SAP
- Polecat SAP
- Brown Hare SAP
- Hazel Dormouse SAP
- Water Vole SAP
- Lesser Horseshoe Bat SAP
- Barn Owl SAP
- Chough SAP
- Lapwing SAP
- Arctic Charr SAP
- Lampreys SAP
- Salmonids SAP
- Adder SAP
- Marsh Fritillary SAP
- Hornet Robberfly SAP
- Bluebell SAP
- Floating Water Plantain SAP
- Waxcaps SAP



Appendix 2: Methodology and Results

Data Search

- A2.1. A desk-based study was conducted whereby records of designated sites and records of protected and priority species were purchased and interrogated for the site and the surrounding landscape. The aim of the data search is to collate existing ecological records for the site and adjacent areas. Obtaining existing records is an important part of the assessment process as it provides information on issues that may not be apparent during a single survey, which by its nature provides only a 'snapshot' of the ecology of a given site.
- A2.2. The following resources were consulted/contacted:
- Multi-Agency Geographic Information for the countryside (MAGIC) website¹¹;
 - North Wales Environmental Information Service (Cofnod); (Data ordered on 21/11/2023 and received on 21/11/2023);
 - Anglesey and Gwynedd Joint Local Development Plan¹²;
 - Joint Nature Conservation Committee (JNCC) website¹³,
 - Google Maps, including aerial photography.
- A2.3. Based on best practice methods¹⁴ the following areas of search around the boundary of the site boundary were applied:
- 2 km for protected and priority species, national statutory designated and non-statutory sites; and
 - 10 km for European statutory sites.

Wildlife Sites Results

- A2.4. The screenshot below, **Figure A2.1**, illustrates the 32 wildlife sites within 2km of the site.

¹¹ <https://magic.defra.gov.uk/> [accessed November 2023]

¹² <https://www.anglesey.gov.wales/en/Residents/Planning-building-control-and-conservation/Planning-policy/Joint-Local-Planning-Policy/Current-Joint-Local-Development-Plan.aspx>

¹³ <https://jncc.gov.uk/>

¹⁴ CIEEM Guidelines for Ecological Impact Assessment: <https://cieem.net/resource/guidelines-for-ecological-impact-assessment-ecia/>



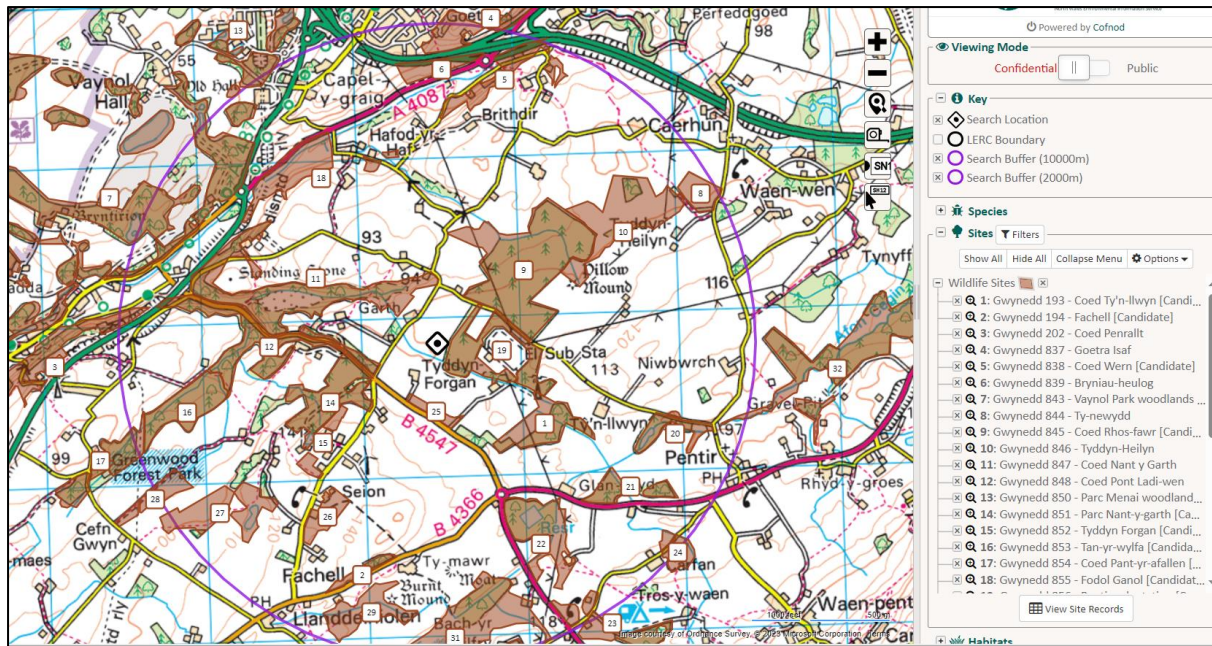


Figure A2.2: 32 wildlife sites within 2km of the site

'Extended' Phase I Survey and UK Habs

- A2.5. An 'extended' Phase 1 survey was carried out on the 27th July 2023 by Nick Bell BA (Hons) a suitably experienced ecologist and member of CIEEM. The methods used during the walkover survey broadly followed methods used in an 'extended' Phase I habitat survey¹⁵ and entailed recording the main plant species and classifying and mapping habitat types with reference to the Habitat Definitions provided by the UK Habitat Classification Working Group¹⁶.
- A2.6. Additionally, the habitats identified were evaluated for their potential to support legally protected and notable fauna species. Where access allowed, adjacent habitats were also considered in order to assess the site within the wider landscape and to provide information with which to assess possible impacts within the context of the site boundary.
- A2.7. All habitats were assessed utilising the relevant condition criteria for the relevant habitat type under Metric 4.0", which included confirming 'pass' / 'fail' criteria taken from the UK Habitat/Phase 1 methodology where necessary.

Preliminary Bat Roost Assessment (PBRA)

- A2.8. A PBRA was undertaken on trees of relevance to this assessment. The assessment was undertaken on the 27th July 2023 by Nick Bell during the Extended Phase 1. All trees of relevance were inspected from the ground using binoculars and high-powered torch for accessible features. In relation to trees, such features may include woodpecker holes, frost cracks, deadwood, knot holes and limb wounds.

¹⁵ Joint Nature Conservation Committee (2010). Handbook for Phase 1 habitat survey - a technique for environmental audit. JNCC, Peterborough.

¹⁶ Butcher, B., Carey, P., Edmons, R., Norton, L. and Treweek, J. (2020). UK Habitat Classification – Habitat Definitions V1.1



A2.9. The potential of each tree at the site and immediately adjacent to the site to support roosting bats have been categorised against the criteria described in **Table A2.1**.

Table A2.1. Roost Assessment Criteria

Suitability	Description of Roosting Habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats.
Low	A structure or tree with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation).
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status.
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for long periods of time due to their size, shelter, protection conditions and surrounding habitat.

Evaluation

- A2.10. The evaluation of habitats and species is defined in accordance with published guidance¹⁷. The scale of importance of each ecological feature is assigned within a defined geographical context, namely international and European, national, regional, county, and local. Below these are features considered to be of negligible importance.
- A2.11. Consideration will also be given to legally protected or controlled species which are ‘important features’ in the context of this assessment, for which mitigation measures are required to ensure legal compliance, regardless of their geographic scale of importance. Thus, it is possible for a feature of negligible ecological importance to be legally protected and hence require mitigation.
- A2.12. Evaluation is based on various characteristics that can be used to identify ecological features likely to be important in terms of biodiversity. These include site designations (such as Sites of Species Scientific Interest (SSSIs), or for undesignated features, the size, conservation status (locally, nationally or internationally), and the quality of the ecological feature. In terms of the latter, quality can refer to habitats (for instance if they are particularly diverse, or a good example of a specific habitat type), other features (such as wildlife corridors or mosaics of habitats) or species populations or assemblages.

¹⁷ CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Chartered Institute of Ecology and Environmental Management, Winchester.



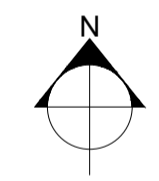
Appendix 3: Landscape Planting Plans





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- KEY**
- Existing elements**
- TREE (to be retained and protected)
 - HEDGEROW (to be retained and managed to a height of 3 to 4m)
 - WOODLAND/ SCRUB (to be retained and protected)
- Proposed elements (hard and soft)**
- TREE PLANTING (Individual native species trees planted in groups of up to 3 or as single species)
 - COPSE/ WOODLAND (Mixed native species tree and shrub planting, at 1 m centres)
 - NATIVE SPECIES HEDGEROW with TREES (2-4m wide, to be managed to a height of 3-4m)
 - HEDGEROW REINFORCEMENT (with trees to be parallel, hedgerow to be managed to a height of 3-4m)
 - WILD FLOWER MEADOW MIX (such as Emorsgate EM1 or similar and approved)
 - NEUTRAL GRASSLAND MIX (such as Emorsgate EG5 or similar and approved)
 - PERMEABLE GRAVEL SURFACE TO BESS COMPOUND
 - ACCESS ROAD (compacted hardcore surface)
 - BESS SECURITY FENCE



D	Revised Layout (05-PL)	GL	PH	12.04.24
C	Revised Layout (03-PL)	GL	PH	09.01.24
B	Proposed hedgerow removed	GL	PH	03.01.24
A	Client comments	GL	PH	07.12.23
Rev	Description	By	CB	Date



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Project **Pentir Battery Energy Storage System (BESS)**

Title **Landscape Strategy**

Status **DRAFT** Drawn By **GL** PM/Checked by **PH**

Job Ref **JSL4893** Scale @ A1 **1:750** Date Created **29/11/2023**

RPS Drawing / Figure Number **100** Rev **D**

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Appendix 4: Ancient Woodland Buffers

A4.1. See the following screenshots evidencing buffers and measurements with regards to the Plantation on Ancient Woodland Site, adjacent to the proposed development

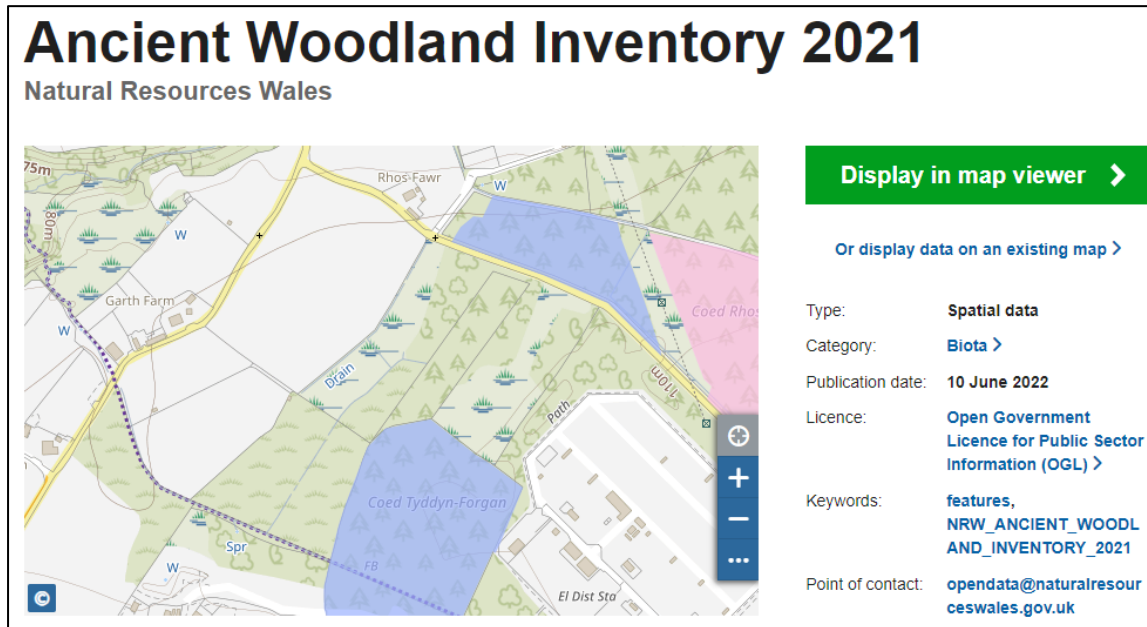


Figure A4.1: Screenshot from Ancient Woodland Inventory 2021, showing the Plantation on Ancient Woodland Site adjacent to the proposed development.

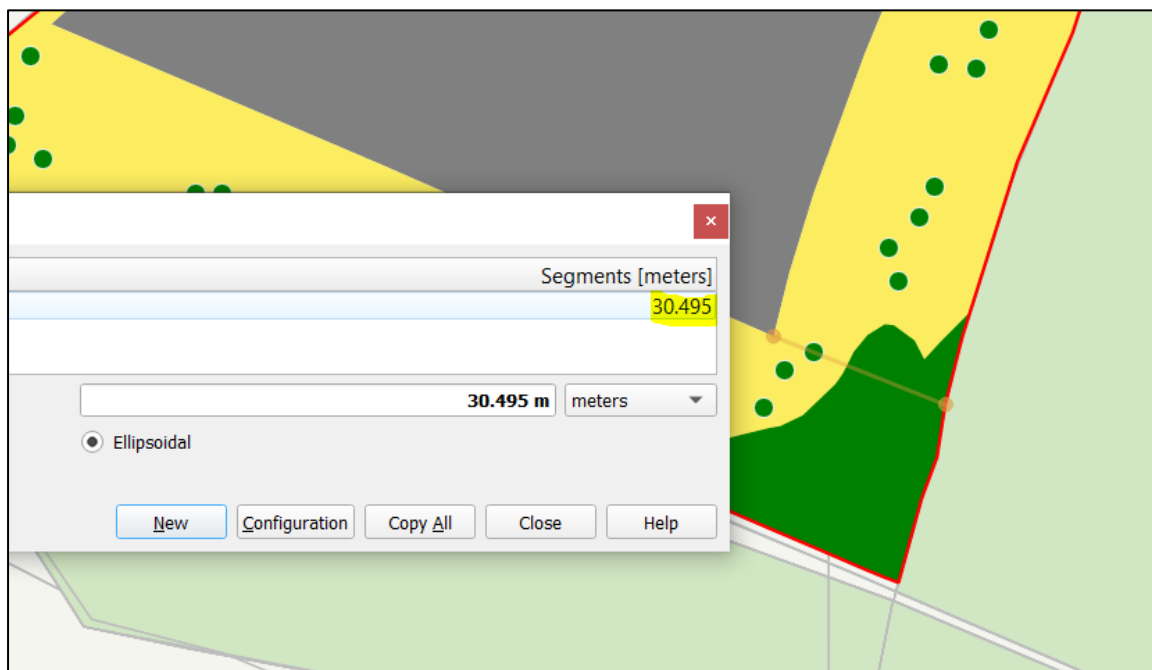


Figure A4.2: Screenshot taken from Post Development Plan (14248 P02) showing measurement of 30.5m at the nearest point of the development footprint to the Ancient Woodland.

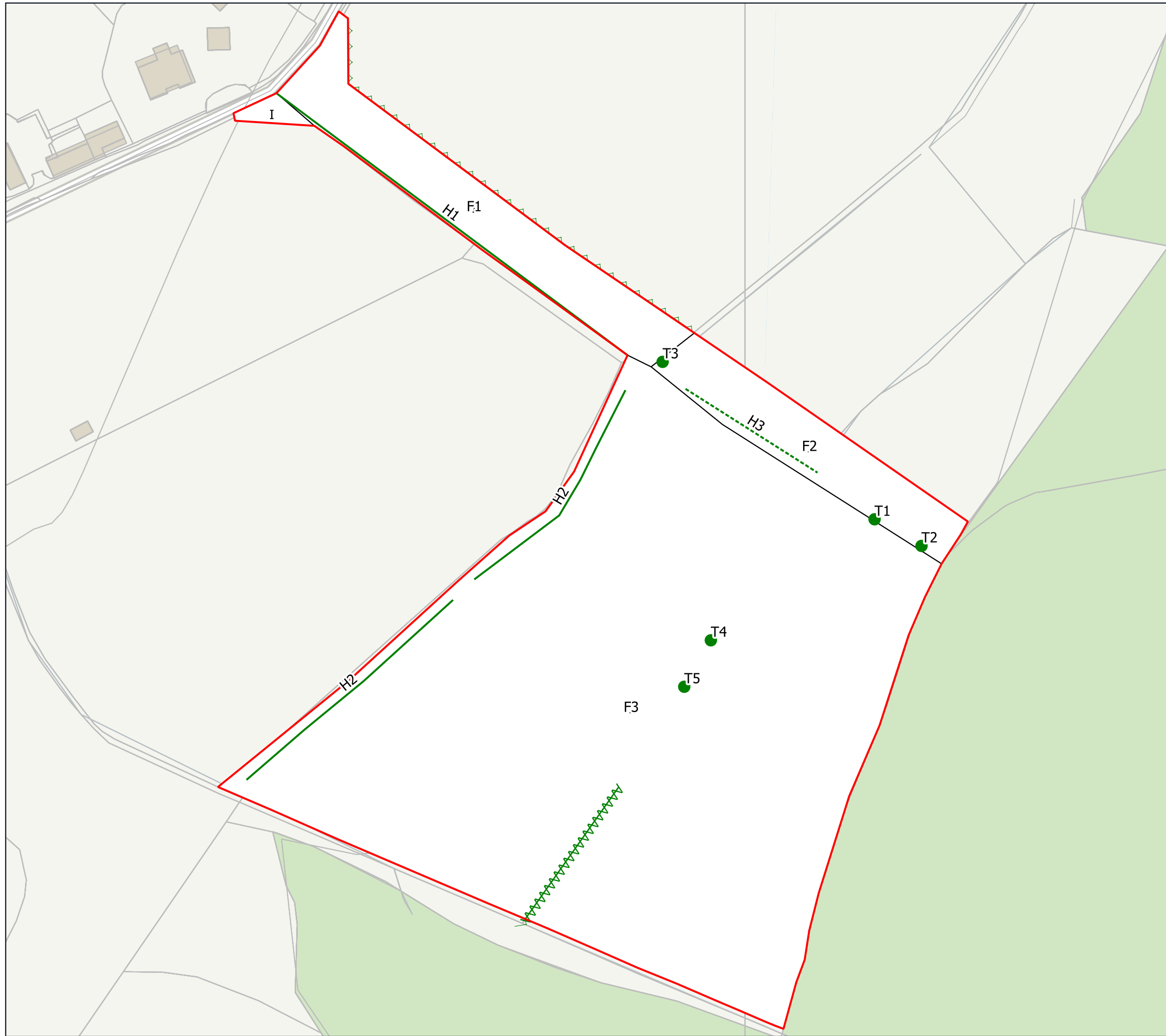








Plans:

Plan 1: Habitat Features Plan **14248 P01**

Plan 2: Post-development Habitats Plan **14248 P02**





-  Redline Boundary
-  Modified/ Improved grassland
-  Defunct Hedgerow
-  Hedgerow
-  Tree Line
-  Scattered Trees











Project	Pentir BESS
Drawing Title	Habitat Features Plan
Scale	As Shown (Approximate)
Drawing No.	14248 P01
Date	December 2023
Checked	NB



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-  Redline Boundary
-  Hardstanding
-  Broadleaved woodland plantation
-  Wildflower Meadow
-  Neutral grassland
-  Retained modified grassland
-  Created hedgerow
-  New tree planting



Project	Pentir BESS
Drawing Title	Post-development Habitat Plan
Scale	As Shown (Approximate)
Drawing No.	14248 P02
Date	December 2023
Checked	NB



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