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PRELIMINARY ECOLOGICAL APPRAISAL
PROPOSED BARN AND BIOMASS EQUIPMENT,
GELLI BWCH FARM, LLANDARCY.

ON BEHALF OF

HALE ENERGY LTD

October 2023

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All habitat and protected species surveys present a ‘snapshot’ of conditions existing and species present, or considered having potential to be present, at the time of survey. Many species are mobile and distributions can vary across time. Results and findings presented in this report should be considered with these factors in mind.

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CONTENTS

Summary	4
1. Introduction	5
2. Surveyor Experience	5
3. Methodology and Constraints	5
4. Desktop Study Findings	6
5. Field Survey Findings	9
6. Discussion and Impact Assessment	11
7. Relevant Legislation and Policies	13
8. Recommendations	17
9. Conclusions	18
10. Bibliography	18

FIGURES

Figure 1: Phase 1 Habitat Survey

APPENDICES

- Appendix 1 DAFOR scale of cover abundance
- Appendix 2 Target Notes
- Appendix 3 Species list
- Appendix 4 Photographs

SUMMARY

Hawkeswood Ecology was instructed to carry out a Preliminary Ecological Appraisal on land at Sun Fields, Dream Fields, Gelli Bwch Farm, Llandarcy in relation to the construction of a barn which will house chickens and a biomass boiler device. The Site is disturbed and currently dominated by ruderal species and also Himalayan balsam with much bare ground.

The Site lies approximately 50 metres to the north west of Gelli Bwch Farm in an area previously dominated by developing scrub, south of Llandarcy village in open countryside with a north east facing aspect. It lies at the head of a ditch and wooded bank running along an existing access drive to the main road some 350 metres to the north. The Site has been cleared of scrub probably within the last two years resulting in the current growth of colonising species with some scrub regrowth. The Site impinges on the head of the ditch and bank and works have been undertaken to accommodate it.

The Site itself presents little biodiversity interest although there is a spread of ruderal species. Himalayan balsam is widely present in and around the Site and needs to be considered within the development works. A ditch draining water from wet ground to the south of the Site has been channelled into a new ditch to the east of the development Site and joins the main trackside ditch.

There is limited potential for reptiles to occur across the Site given the wetland and scrub surrounding it; its earlier clearance has potentially made it suitable for basking animals. However, such is the level of disturbance experienced that it is considered no significant populations are likely to be present and the Site can be carefully cleared using habitat manipulation.

Assuming measures are included within the construction design to prevent pollutants of any kind entering the main drainage ditch, no significant ecological constraints to the development are noted.

1 INTRODUCTION

- 1.1 Hawkeswood Ecology was instructed Hale Energy Ltd to carry out a Preliminary Ecological Appraisal (PEA) on land at Gelli Bwch Farm, Llandarcy. It is proposed to develop a small Site to support a biomass/chicken shed barn to the north west of Gelli Bwch Farm. The approximate central Grid reference of the Site is SS 71905 95037.
- 1.2 The Site consists of small, cleared area which formerly supported woody scrub. It is served by an existing track from Gelli Bwch Farm. It lies in an otherwise unmanaged area with Himalayan balsam frequently occurring in the area. It is bounded to the north east by a wooded bank and ditch which runs to the main road, a drain has been cut to the east of the Site to divert drainage from wet ground south of the Site around it into the main ditch.
- 1.3 The objectives of the survey are:
 - To ascertain the habitats and species present within the Site;
 - To assess the ecological and nature conservation value of the Site;
 - To assess the potential ecological impacts of any proposed development;
 - To provide recommendations to mitigate the proposed works.
- 1.4 The PEA was carried out on 24th September 2023.

2 SURVEYOR EXPERIENCE

- 2.1 The surveyor and report author is Eric Hawkeswood. Eric has many years experience of broad habitat and detailed botanical and species surveying. He has extensive experience of protected species survey and holds Natural Resources Wales scientific and conservation licenses for bats and dormice. He has been a professional in the nature conservation field for thirty four years formerly working as Reserves Manager and Conservation Officer at Gwent Wildlife Trust and Woodland Manager for the Ruperra Conservation Trust. Eric has worked as an Ecological Consultant as joint proprietor of Hawkeswood Ecology since 2001.

3 METHODOLOGY AND CONSTRAINTS

Desktop Study

- 3.1 The South East Wales Biodiversity Records Centre (SEWBReC) was asked to provide records of protected species and habitats from a radius of 1 kilometres of the approximate Site centre. Records post 2000 were assessed, those of earlier dates were not considered unless of specific interest or of locally important species.

Preliminary Ecological Appraisal

- 3.2 The Preliminary Ecological Appraisal (PEA) was carried out in line with the guidance issued by The Chartered Institute for Ecology and Environmental Management (2013) and consisted of a walk-over survey of the proposed Site considering features within and adjacent to it. Habitats were categorised according to the Phase 1 Habitat Survey guidelines (JNCC, 2010) and annotated onto a map (Figure 1). Plant assemblages were described using the DAFOR scale of cover abundance

(Appendix 1) and each habitat was recorded using Target notes (Appendix 2); a species list of plants identified during survey is given in Appendix 3 and photographs are given in Appendix 4.

- 3.3 In addition, the Site was assessed for its potential to support protected species.

Constraints

- 3.4 The survey was undertaken late in the season when some earlier species may not be visible. Given the previous history of the Site this is not considered to be an impediment in assessing its biological value.

4 DESKTOP STUDY FINDINGS

- 4.1 SEWBRc reported a total of 704 priority and protected species records from the 1 kilometre search area of which less than 20 are found within 750 metres of the Site. By far the most records are recorded from the Tennant Canal corridor and wetlands to the south and east of the Site and the former Llandarcy oil refinery site to the north. All distances quoted are from the approximate centre of the search area so may be closer to the actual Site boundary.
- 4.2 Common pipistrelle is reported from the unnamed lane immediately to the north of the Site at two locations. All other bat records are related to the Tennant Canal or the former Llandarcy oil refinery site. Many, if not all of the Tennant canal and records along the lane near the Site are from a reputable observer carrying out a wider bat survey of the locality dating from around 2010-12.
- 4.3 Species recorded include common and soprano pipistrelle (nearest soprano record approximately 800 metres distant), noctule approximately 700 metres distant and a *Myotis* species bat from the Tennant Canal at 900 metres distance.
- 4.4 Bat species reported from the Llandarcy oil refinery range from distances of approximately a kilometre from the Site. The most significant species recorded is lesser horseshoe and significant roosts of this bat are known from the former refinery site. Other species reported from this area are common and soprano pipistrelle, brown long-eared and *Myotis* species bats.
- 4.5 Other Protected and Priority Species reported include otter, badger, water vole, great crested newt and other herpetofauna and a number of bird and invertebrate species. There are a number of otter records, mainly related to the Tennant Canal corridor and associated habitats, with the nearest identified location at 500 metres to the south.
- 4.6 Badger is reported from a number of locations around the Site with the nearest record from approximately 300 metres to the north. Other mustelids include stoat and weasel and polecat of which there are single records at a distance of 300 metres north of the Site for stoat and weasel and 600 metres for polecat. Water vole is recorded from the Tennant Canal corridor with the latest recording dating from 2003.
- 4.7 Great crested newts are known from the former Llandarcy Oil Refinery with the closest record from approximately a kilometre away. Other amphibia reported include common frog with the

nearest record from approximately 300 metres north in Llandarcy Village, common frog from 650 meters south in Pant-Y-Sais and palmate newt from around a kilometre in the Oil Refinery site. Reptiles recorded were common lizard and grass snake both recorded approximately 600 metres distant from Pant-Y-Sais.

- 4.8 Many of the bird species recorded could potentially occur in passage or forage over the Site, breeding is limited by the habitat present and its current management. Passerines such as bullfinch, song thrush, house sparrow, dunnoek and starling could potentially occur in suitable habitat. Other species such as reed bunting may occur in scrub and species such as redwing and lapwing could be seen in winter.
- 4.9 Invertebrate records provided relate mainly to the wetland habitats present along the Tennant Canal but some recorded butterfly and moth species are likely to pass through the Site.
- 4.10 Of the plant species noted only bluebell is likely to occur in the habitats present.
- 4.11 Other species of conservation concern relate mainly to birds with other records of invertebrates mainly from the Oil Refinery Site or the Tennant Canal and surroundings. Of the birds, many species are likely to forage or pass over the Site with breeding limited to birds of scrub or woodland. Species likely to occur include green woodpecker, long tailed tit, greenfinch whitethroat and willow warbler. Species such as swift and swallow are likely to over fly the Site as are black headed and lesser black backed gulls.
- 4.12 Species of Local Conservation Concern include records of bryophytes, lichens, invertebrates and vascular plant species which all relate to the Llandarcy Oil Refinery site and are unlikely to occur on Site.
- 4.13 Invasive non-native species recorded locally include Japanese knotweed, Wilson's honeysuckle, cotoneaster, Himalayan balsam and hybrid bluebell.
- 4.14 SEWBrEC data is confidential and cannot be released into the public domain without prior permission in writing from SEWBrEC. Hawkeswood Ecology holds the data on the client's behalf for one year (in accordance with conditions) in case of further query.
- 4.15 Hawkeswood Ecology hold a number of records from the Llandarcy area. Bat species noted include common and soprano pipistrelle, noctule and brown long-eared bats.

Designated Sites

- 4.16 At its nearest approach the Site is approximately 500 metres north east of a multi designated area of nature conservation importance:
- Crymlyn Bog Special Area of Conservation;
 - Crymlyn Bog Wetland of International Importance (RAMSAR Site);
 - Crymlyn Bog and Pant-Y-Sais National Nature Reserve;
 - Pant-Y-Sais Site of Special Scientific Interest;
 - Pant-Y-Sais Local Nature Reserve.

- 4.17 The Special Area of Conservation (SAC) and Ramsar designations are related to the uncommon habits present on Site. For the SAC specifically there are three protected habitat types cited, two Annex I habitats, Transition mires and quaking bogs and Calcareous fens with *Cladium mariscus* and species of the *Caricion davallianae* and one Annex II habitat, Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior*. There are no direct hydrological connections to the SAC from the Site but the general watershed is in the southerly direction towards Jersey Marine.
- 4.18 The Ramsar Crymlyn Bog citation states that the Bog ‘*comprises a floodplain-valley mire located within a lowland coastal context and is the most extensive wetland of its type in Wales. The mire features a complex mosaic of vegetation types, supporting examples of swamp, tall herb fen, fen meadow and carr communities. The site supports an exceptionally wide range of rich and poor fen communities, some of which bear a close floristic affinity to certain floodplain mires in East Anglia. The presence of significant areas of saw sedge Cladium mariscus swamp is notable in extensive stands of this uncommon vegetation type, occurring at only three other sites in Wales. Crymlyn Bog is part of a larger inter-estuarine complex which includes the adjacent Pant y Sais fen*
- 4.19 Pant Y Sais Site of Special Scientific Interest (SSSI) is described as: ‘*Predominantly an area of lowland fen located in a narrow valley which was a former course of the River Neath. The site supports a range of fenland communities including Sphagnum and bryophyte dominated areas of poorer fen vegetation, Molinia caerulea communities, swamp areas with abundant Typha latifolia and Typha angustifolia, and developing fen carr. Formerly part of the same hydrological system as Crymlyn Bog. The Tennant Canal section acts as a refuge for aquatic plants, including Butomus umbellatus which is rare in the county*’.
- 4.20 The designated Sites also enjoy further protections where designated as a national Nature Reserve (NNR) or Local Nature Reserve (LNR).
- 4.21 Other designated sites within the search area include a number of Neath Port Talbot (NPT) Sites of Importance for Nature Conservation (SINC) and a Wildlife Trust Nature Reserve. The whole of the Site lies within the generic NPT SINC, ‘Watercourses’ though none are present on the Site. Other than this the closest SINC is Jersey Marine Woodlands. The Site is within the Jersey Marine Woods SINC. Qualifying features for the Jersey Marine Woodlands SINC are Native Woodlands, Scrub Communities, Lowland Meadows, Purple Moor-grass and Ruch Pastures and Other Bracken Communities.
- 4.22 Other SINC with the exception of Llandarcy Village Green are around a kilometre from the Site, Coed Darcy Great Crested Newt SINC is recorded some 1200 metres west of the Site at its nearest approach. Llandarcy Village Green SINC is designated for the presence of Purple Moor-Grass and Rush Pasture, it lies approximately 400 metres north of the Site with no habitat connectivity. The Wildlife Trust Reserve is also a NPT SINC. This is known as Red Jacket Fen and supports Scrub communities, Lowland fen, Reedbeds and Ponds and is approximately 900 metres south east of the Site.

Habitats

- 4.23 The Site is not categorised in the NRW Terrestrial Phase 1 Habitat data.

5 FIELD SURVEY FINDINGS

- 5.1 The survey red line area is dominated by hard standing and previously disturbed ground which is being re-colonised by ruderal species. Other habitats include an existing ditch and wooded bank, a newly formed ditch, a closed ditch and woody scrub. Many of these habitats are adjacent to the Site rather than contained within it but may be affected by the works. See Figure 1, Phase 1 map; Target Notes can be found in Appendix 1 and photographs in Appendix 4.

Ruderal communities

- 5.2 The Site of the proposed barn (TN5) has been previously cleared of woody scrub and roughly levelled, bare ground is abundant. Species present are dominated by ruderal species, those which are colonisers of bare ground. Those present include hogweed, wavy bittercress, knotgrass, redshank, hedge bindweed, hemp agrimony, fat hen and marsh cudweed, most occurring occasionally across the area. In addition the invasive schedule 9 plant Himalayan balsam occurs frequently.

Hardstanding

- 5.3 An existing hard core surfaced track (TN1) runs from the barn allowing access via the Gelli Bwch Farm complex. It contains few species with growth of annual meadow grass, Yorkshire fog and red fescue occasional to frequent throughout. To the north of the track is the Site and to the south a scrub woodland (TN2) and wet area dominated by Himalayan balsam and tufted hair-grass.
- 5.4 The track runs northwards to the main road and becomes much more heavily used once past the farm complex with few species present and is made up to concrete. Other species noted include occasional greater plantain, ribwort plantain, perennial rye-grass, scentless mayweed and silverweed.

Woodland/Mature Trees

- 5.5 At TN6 a row of mature trees on a bank run along the northern boundary of the Site and towards the main road. Species present in the canopy included frequent common oak and occasional silver birch, no shrub layer was present. The ground flora included bilberry, bramble, broad buckler fern and ivy with much bare ground. An area of the bank, and the associated ditch (TN7) have been removed to facilitate development.
- 5.6 The woody scrub at TN 2 is a remnant of a larger cleared area and forms a relatively isolated small scrub woodland belt. The canopy is formed of a mature sweet chestnut and occasionally occurring semi-mature common oak, silver birch and sycamore. The poorly developed shrub layer includes occasionally occurring holly, hawthorn and goat willow. The ground flora has much bare ground with frequent to locally abundant bramble, frequently occurring cocksfoot and ivy and occasionally occurring soft rush, herb robert, broad buckler fern and field horsetail. Himalayan balsam is frequent in this area.

Other habitats

- 5.7 The ditch at TN7 drains the Site to the north and is associated with the bank and trees at TN6. Shallow as it passes the barn Site it becomes deeper as it runs to the north. In the area of the barn it is dominated by bare ground with bramble, common nettle, creeping buttercup and hemp agrimony all frequently occurring. Himalayan balsam is frequent to locally abundant. Part of the ditch has been infilled.
- 5.8 At TN3 is a shallow ditch, recently dug, which diverts an existing drain and takes water around the proposed barn Site. It is not well vegetated with no specific aquatic species present, Himalayan balsam occurs along the banks along with many species found in TN5. The former line of the ditch (TN4) is now largely infilled and dry presenting as a shallow depression. Species reflect those at TN5 but include abundant Himalayan balsam, frequent woody nightshade and rarely occurring bristly oxtongue.

Summary

- 5.9 The Site is small and connected by an existing track to Gelli Bwch Farm and on to the main road. The Site has been previously cleared and is dominated by bare ground and ruderal species. Himalayan balsam is abundant in and around the development area.

Fauna

- 5.10 Faunal species observed during the survey were limited to a number of commonly occurring bird species adjacent to the Site. Species noted were, crow, robin, magpie, jackdaw, blackbird, wood pigeon, wren, blue tit and great tit.
- 5.11 There is no suitable habitat present for great crested newt, which are known from the former Llandarcy Oil Refinery to the west and north of the Site and this area is now part of the Coed Darcy GCN SINC. A pond approximately 100 metres from the Site has proved negative on eDNA testing (Pilkington, 2022). No suitable breeding ponds are on or directly adjacent to the Site and the Site itself does not support suitable terrestrial habitat for the species.
- 5.12 The surrounding area and Site itself have largely been cleared of scrub. No evidence of badgers were found, the hedge bank may provide suitable habitat for them however no setts were seen during the survey. Although there is much bare ground, the Site is not considered suitable for significant populations of reptiles although species such as common lizard and possibly grass snake could occur and there are records from within 600 metres of both species with suitable habitat locally. Hedgehogs could occur in the locality.
- 5.13 Whilst bats are likely to forage over and around the Site, the development does not particularly is unlikely to impact upon them unless further tree removal is required, recommendations are made in Section 8 in regard of this.
- 5.14 The Site does not support suitable habitat for otter, dormouse or water vole. Given the recently disturbed nature of the Site, it is considered to be of low importance for invertebrates.

6 DISCUSSION AND IMPACT ASSESSMENT

- 6.1 The development proposals are to construct a barn which will house poultry and also a biomass boiler. It is connected to the main highway by existing tracks which also connect to Gelli Bwch Farm. The Site is small and has been cleared and scraped within the last year or two. An existing drainage ditch has been diverted around the development Site and a ditch and bank bounding the Site to the north have been partially removed and infilled to accommodate the Site design.
- 6.2 It does not support any habitats of significance however, Himalayan balsam is present in and around the Site.
- 6.3 The Site lies approximately 500 metres north east of Crymlyn Bog SAC and Pant y Sais SSSI and although it has no direct watercourse connection to the SAC drainage from the Site does fall to the SAC. The Site design incorporates measures to prevent spillage from the Site entering the adjacent drain.
- 6.4 These include all run off from the barn and building platform draining via a soakaway. The soakaway size is calculated on a 1:100 storm return period on the roof area of the barn with a 40% allowance for climate change. The overflow is only expected to run during extreme storm periods. The infilled area of ditch is approximately 20 upstream (south) of the overflow pipe and does not affect drainage from the Site which is to the north east and downhill.
- 6.5 Pollution from poultry houses is becoming a major issue threatening watercourses by increased nutrient levels and excessive algal growth causing de-oxygenation of the water. In mid-Wales it is now known to be negatively impacting the River Wye SAC. Measures on Site aimed at reducing any threat for the barn include the main entrance being at least 10 metres from any watercourse/ditch in accordance with guidance (Environment Agency factsheet, July 2014). It is planned to collect the chicken manure to use as a fertiliser.
- 6.6 The Construction Environmental Management Plan should highlight measures to be taken to control pollution measures during build and the lifetime of the project. Assuming adequate protection is undertaken the project will have no measurable impacts upon the quality of water leaving the Site.
- 6.7 The potential for negative impacts on the SAC by airborne emissions from the biomass boiler plant over air quality has been assessed in a separate specialist report undertaken by Greenavon Air Quality Consultants (*Proposed Biomass Boilers, Gelli Bwch Farm, Air Quality Technical Note, July 2023*). This report concludes that the outfall of emissions from the biomass boiler do not have the potential ‘to significantly impact the integrity of the Crymlyn Bog SAC or other locally designated receptors’.
- 6.8 During the construction phase, there is potential for spills of contaminants which may include construction materials or wash off of high particulate matter. Measures must be taken to prevent this and basic recommendations are made in Section 8. Removal of trees is not proposed, but the woodlands and scrub on Site form part of the Jersey Marine Woodlands SINC and should be protected against any significant intrusion to maintain the integrity of the SINC.

- 6.9 Under the Environment (Wales) Act 2016 and Well Being of Future Generations Act 2015 require Local Planning Authorities (LPA's) and other public bodies must seek to maintain and enhance biodiversity so far as consistent with the proper exercise of their functions and in so doing promote the resilience of ecosystems. Assessment of the Ecosystem Resilience is therefore an integral part of the LPA's duty and they will need to consider the impacts of the proposed development upon the resilience of the adjacent wooded areas in this context. LPAs are directed to consider the resilience of ecosystems early in the planning process to aid assessment of the impacts of any proposed development upon biodiversity. In addition, a letter from the Chief Planning Officer clarified planning requirements in relation to biodiversity impacts (see Section 8, Relevant Legislation and Policies paragraphs 8.17-8.19) points out the responsibility of the LPA to maintain and enhance biodiversity and to provide '*a net benefit for biodiversity*'.

Ecosystem resilience

- 6.10 The premise for Ecosystem Resilience is laid out in Section 4 of The State of Natural Resources Report, a 2018 document produced by Natural Resources Wales (NRW) on behalf of the Welsh Government. It lays out a framework for assessing ecosystem resilience. However, despite the duty placed on LPA's, there is no currently agreed format for this assessment.
- 6.11 Section 4 names five attributes that NRW consider 'building blocks' of ecosystem resilience, these are:
- Diversity
 - Extent
 - Condition
 - Connectivity
 - Adaptability
- 6.12 These factors are considered below, although none of them are considered 'stand alone' and all interrelate to some extent. It is also important to note that it is the responsibility of the LPA to assess Ecosystem Resilience and that any Site based report is not able to make judgements on a wider scale. As pointed out above, it is important to note that there is as yet no agreed format to undertake such an assessment.

Diversity

- 6.13 The Site is of low diversity and has suffered recent disturbance. The Site itself lies within the Jersey Marine Woodlands SINC but does not currently support cited habitats, the wooded bank and ditch at TN's 6 and 7 respectively .

Extent

- 6.14 The development Site is small being approximately 0.4 hectares plus existing trackways.

Condition

- 6.15 The Site has been significantly modified by scrub removal and scraping. The presence of Himalayan balsam across the Site and in the surrounding areas indicates a potential threat to the wider landscape if not properly managed.

Connectivity

- 6.16 The Site itself is well connected to the surrounding green spaces by the wooded bank at TN6.

Adaptability

- 6.17 NRW comments that:
‘Adaptability differs from the other attributes because it is part of the definition of resilience rather than an attribute that supports it. However, its inclusion in the Environment (Wales) Act is important because it emphasizes one of the most important features of resilience: dynamism and the ability to adapt to change.’
- 6.18 NRW also comments that *‘Adaptability cannot yet be quantified in an equivalent way to the other attributes and so we have not used it in the assessment of resilience in this State of Natural Resources Review’*. As such this cannot be considered in this report.
- 6.19 At its most simple, this would mean that the LPA must protect any biodiversity value of the of the Site and any impacts likely to affect adjacent areas. In this instance, it is considered that there are not likely to be any significant impacts if proper mitigation is put in place prior to, and in the course of, construction. Without mitigation, these impacts could be considered to be significant. Recommendations are made in Section 8 to ensure that any impacts are properly negated.

Predicted Development Impacts

- 6.20 The Site is small and has already been subject to disturbance. The development of the area as presently presented would be of **no significance**. Potential for the spread of invasive species during construction and of pollution from the Site during its working lifetime are addressed in section 8 Recommendations.
- 6.21 In terms of the Crymlyn Bog Special Area of Conservation it is considered the localised nature of the works will not result in any negative impacts and is of **no significance** if recommendations made in Section 8 are implemented to ensure they are properly considered in the construction and working period.
- 6.22 **No adverse impact** is foreseen upon protected species.

7 RELEVANT LEGISLATION AND POLICIES

Birds

- 7.1 Part I of the Wildlife and Countryside Act 1981 (as amended) makes it an offence (with certain limited exceptions and in the absence of a licence) intentionally to kill, injure or take any wild bird, or intentionally to damage, take or destroy its nest whilst being built or in use, or to take or destroy its eggs. Consequently, even common birds such as blackbirds or robins, and their nests and eggs are protected in this way. Any works involving removal or other management of trees or shrubs must be undertaken outside the breeding bird season (March- August).
- 7.2 Further, section 1(5) of Part 1 of the W&C Act states any person intentionally disturbing any wild bird included in Schedule 1 whilst it is building a nest or is in or near a nest containing eggs or young or disturbs the young of such a bird is committing an offence and liable to a special penalty.

- 7.3 The Conservation of Habitats and Species Regulations 2017 (as amended) has strengthened the protection of wild birds and their habitats. The Regulations now serve “To help preserve, maintain and re-establish habitats for wild birds.”
- 7.4 Under the amended Regulations, Local Planning Authorities (as well as national statutory conservation bodies such as Natural Resources Wales) are required to protect and create bird habitat.

European Protected Species

- 7.5 All UK bats and great crested newt are protected under the Wildlife and Countryside Act 1981. Schedule 5 of this act makes it illegal to intentionally kill, injure or take these animals. It is also an offence to intentionally damage or destroy their place of rest. In 2007 the offences of killing, injuring or taking species under Section 9(1), 9(2) and 9(4)a of European Protected Species listed in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) were removed to avoid duplication with their protection under Annex IV of the European Communities Council Directive on the Conservation of Natural Habitats and Wild Fauna and Flora (The Habitats Directive) as amended. The regulations remove the defence of inadvertent or accidental damage to roosts and make the offence ‘absolute’.
- 7.6 They are also protected under Annex IV of the European Communities Council Directive on the Conservation of Natural Habitats and Wild Fauna and Flora (The Habitats Directive) as amended which requires the United Kingdom government to provide European Protected Species with strict protection.
- 7.7 The Habitats Directive is transcribed into England and Wales Law by The Conservation of Habitats and Species Regulations 2017, this legislation consolidates amendments made to the earlier 2010 act. This legislation states in Part 3, Protection of Species, paragraph 43(1) that a person who:
- (a) deliberately captures, injures or kills any wild animal of a European Protected Species,
 - (b) deliberately disturbs wild animals of any such species,
 - (c) deliberately takes or destroys the eggs of such an animal, or
 - (d) damages or destroys a breeding site or resting place of such an animal,
- is committing an offence.
- 7.8 Further, with regard to disturbance of EPS, Paragraph 43(2) that disturbance is an act which is likely to:
- (a) to impair their ability—
 - (i) to survive, to breed or reproduce, or to rear or nurture their young, or
 - (ii) in the case of animals of a hibernating or migratory species, to hibernate or migrate; or
 - (b) to affect significantly the local distribution or abundance of the species to which they belong.
- 7.9 In the case of a development involving the loss or modification of a habitat which may affect an EPS the above legislation must be considered and it may be necessary to apply to Natural Resources Wales for a European Protected Species Derogation Licence EPSL.

- 7.10 The introduction of the Conservation of Habitats and Species Regulations 2017, has removed the defence of killing or injuring a protected species during a lawful operation, thus even in an instance where planning permission is granted, the presence of EPS must be considered and mitigated for prior to commencement of works. Under the above regulations, a derogation licence can only be given if three tests are satisfied:
- The action proposed is in the interest of preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance to the environment;
 - That there is not a satisfactory alternative;
 - That the action proposed will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.
- 7.11 Failure to satisfy the regulations and obtain an EPSL where required is likely to result in prosecution and can lead to severe fines of up to £5000 per animal and possible imprisonment.
- 7.12 Eight species of bat and great crested newt are listed in section 7 of the Environment Wales Act (2106). Section 7 of the Act provides a list of living organisms of principal importance for the purpose of maintaining and enhancing biodiversity in Wales. This is a list of species considered at threat within Wales and in need of conservation management to maintain and enhance population numbers.
- 7.13 A duty is placed on the Local Authority by the Welsh Assembly Government to maintain and enhance populations of species listed in Section 7.

Badgers

- 7.14 The Protection of Badgers Act (1992) makes it an offence to kill, injure, disturb or take a badger, or to damage or interfere with a sett without previously obtaining a licence from Natural Resources Wales (NRW).
- 7.15 The legislation states in Section 3:
A person is guilty of an offence if, except as permitted by or under this Act, he interferes with a badger sett by doing any of the following things—
- (a) damaging a badger sett or any part of it;*
 - (b) destroying a badger sett;*
 - (c) obstructing access to, or any entrance of, a badger sett;*
 - (d) causing a dog to enter a badger sett; or*
 - (e) disturbing a badger when it is occupying a badger sett,*
intending to do any of those things or being reckless as to whether his actions would have any of those consequences.
- 7.16 Within this legislation, if a sett is present on or near a development Site, a licence is needed to hand dig within 10 metres of the sett, to use light machinery within 20 metres of the sett or to use heavy plant machine digging within 30 metres of the sett.

Environment (Wales) Act 2016

- 7.17 The Welsh Government has made a commitment to reversing the decline in biodiversity in Wales and increasing the resilience of its ecosystems. This is in part fulfilled by the Environment (Wales) Act 2016 which introduces a new biodiversity duty, which highlights biodiversity as an essential component of ecosystem resilience.
- 7.18 Section 6 of the Act places a duty on public authorities to ‘seek to maintain and enhance biodiversity’ and ‘promote the resilience of ecosystems’ in the exercise of their functions. Section 7 places a duty on Welsh Ministers to identify lists of living organisms and types of habitat (priority habitats and species) in Wales that are of key significance to sustain and improve biodiversity in relation to Wales. Local Authorities have a duty to consider this list when considering planning applications, applying the principles of sustainable management of natural resources. The Section 7 list is a revised list of the Section 42 list in the Natural Environment and Rural Communities Act, 2006.

Protected Sites

- 7.19 International sites for biodiversity are those designated under international conventions and directives. Crymlyn Burrows SAC and SPA is local to the Site but is unlikely to be impacted by the proposed works, no significant impacts are foreseen and measures to ensure their integrity are considered in Section 8, Recommendations. However Local authorities have a duty to consider the statutory protection afforded to such sites when considering planning applications.
- 7.20 The Wildlife and Countryside Act 1981 (as amended) affords protection to nationally important Sites of Special Scientific Interest (SSSIs) and local authorities again have a duty to consider their statutory protection when considering planning applications. Pant Y Sais SSSI lies approximately 400 metres south of the Site, it is also part of the Crymlyn Bog SAC. It is considered that the SSSI will be not impacted by the proposals.

Sites of Importance for Nature Conservation (SINC)

- 7.21 Sites of Nature Conservation Interest (SINC) are sites which contain features of substantive nature conservation value at a local level. The sites are designated through a Local Sites Partnership (LSP), using an agreed set of criteria. They do not enjoy statutory protection but must be considered in the planning process. The destruction of a SINC or damage to it through any development must be justified against the loss of natural interest. Jersey Marine Woodlands SINC includes woodland and scrub on Site and is therefore a material consideration during the planning process.

TAN 5

- 7.22 Planning Policy Wales Technical Advice Note (TAN) 5, Nature Conservation and Planning, provides advice on how the planning system should contribute to biodiversity protection and enhancement. TAN 5 recognises the importance of biodiversity and the enjoyment of it. TAN 5 requires Local Planning Authorities (LPAs) to protect and enhance biodiversity during the planning process and to encourage sustainable developments. It also requires LPA's to ensure that protected Sites are properly accounted for within the planning system.

Securing Biodiversity Enhancements

- 7.23 The Chief Planning Officer sent a letter to LPAs (dated 23rd October 2019) following the refusal of the planning application. This letter has provided clarification on the Welsh Governments approach to Paragraph 6.4.5 of Planning Policy Wales 10 which sets out that “*planning authorities must seek to maintain and enhance biodiversity in the exercise of their functions. This means that development should not cause any significant loss of habitats or populations of species, locally or nationally and must provide a net benefit for biodiversity.*”
- 7.24 The purpose of this letter was to clarify that in light of the legislation and Welsh Government policy outlined above, where biodiversity enhancement is not proposed as part of an application, significant weight will be given to its absence, and unless other significant material considerations indicate otherwise it will be necessary to refuse permission. Biodiversity enhancement therefore will need to be included in any future planning application.

8 RECOMMENDATIONS

- 8.1 Any works on trees and scrub should be undertaken outside the accepted bird breeding season of March to August. There is no licence for the destruction of active bird nests and nest translocations invariably fail, in addition nest searches are often unsuccessful and miss nesting birds. Development timing is a key consideration should such works prove necessary. Checks should also be made prior to works undertaken outside the breeding season if the weather is fine as climate warming is leading to an extended breeding season.
- 8.2 In addition, if any trees are identified for removal, an inspection for potential use by roosting bats should be undertaken before works commence.
- 8.3 Before works commence a search will be made for the presence of badger setts within the Site and 60 metres of it. Further clearance of the Site should take account of reptiles and be undertaken in warm weather. If this is not possible the Site should be assessed for their presence prior to works commencing. It would be preferable for the Site to be hand cleared (by strimmer) of vegetation to a height of 4cm prior to earth moving commencing.
- 8.4 The area of bank and ditch removed to accommodate the barn design should be reinstated, the restored bank should be planted with common oak sourced locally, preferably using saplings taken from the adjacent scrub.
- 8.5 The presence of Himalayan balsam in the Site and adjacent areas must be taken into account, particularly during construction. The CEMP should identify measures to be taken to prevent the spread of the species from the Site.
- 8.6 An area will be identified during the construction phase where chemicals and building materials can be safely stored and bonded to prevent contamination of the adjacent habitats. Measures to prevent and deal with any pollution incidents will be clearly outlined in a Construction Environmental Management Plan (CEMP).

- 8.7 It is planned to collect and store manure to use as fertiliser. The CEMP should clearly detail how manure will be collected and where storage will be taken if stored on Site. It will detail how spillage will be prevented and measures to be taken if spillage and contamination of adjacent watercourses occurs.
- 8.8 The biomass burner will be maintained in strict accordance with service requirements detailed by the manufacturer to ensure proper control of airborne emissions and records should be kept detailing service works.
- 8.9 Hedgerow and Tree roost protection zones (RPZ) will be outlined for retained trees and hedgerows will comply with BS 5837:2012 – Trees in relation to design, demolition and construction on the wooded bank at TN6.
- 8.10 Consideration should be given to re-planting the cleared land to the south-east of the development area. This will mitigate against scrub lost in the Jersey Marine Woodlands SINC and has potential to Typical species would include hazel, hawthorn, blackthorn, dog rose common gorse and holly. Other species that might be considered for their potential to support invertebrates or fruits include guelder rose, dogwood, crab apple and elder.

9 CONCLUSIONS

- 9.1 The Site is small and has been cleared of scrub, it has been scraped to produce a level surface for construction and this includes removal of a small area of ditch and bank. It is of low biodiversity value but does support the invasive species Himalayan balsam which is widely spread locally.
- 9.2 Recommendations are made to mitigate against the loss of the ditch and bank and to offer biodiversity benefits.
- 9.3 Recommendations are also made to ensure the integrity of the Cymlyn Bog SAC and Pant y Sais SSSI in relation to potential drainage and airborne emission pollution incidents.

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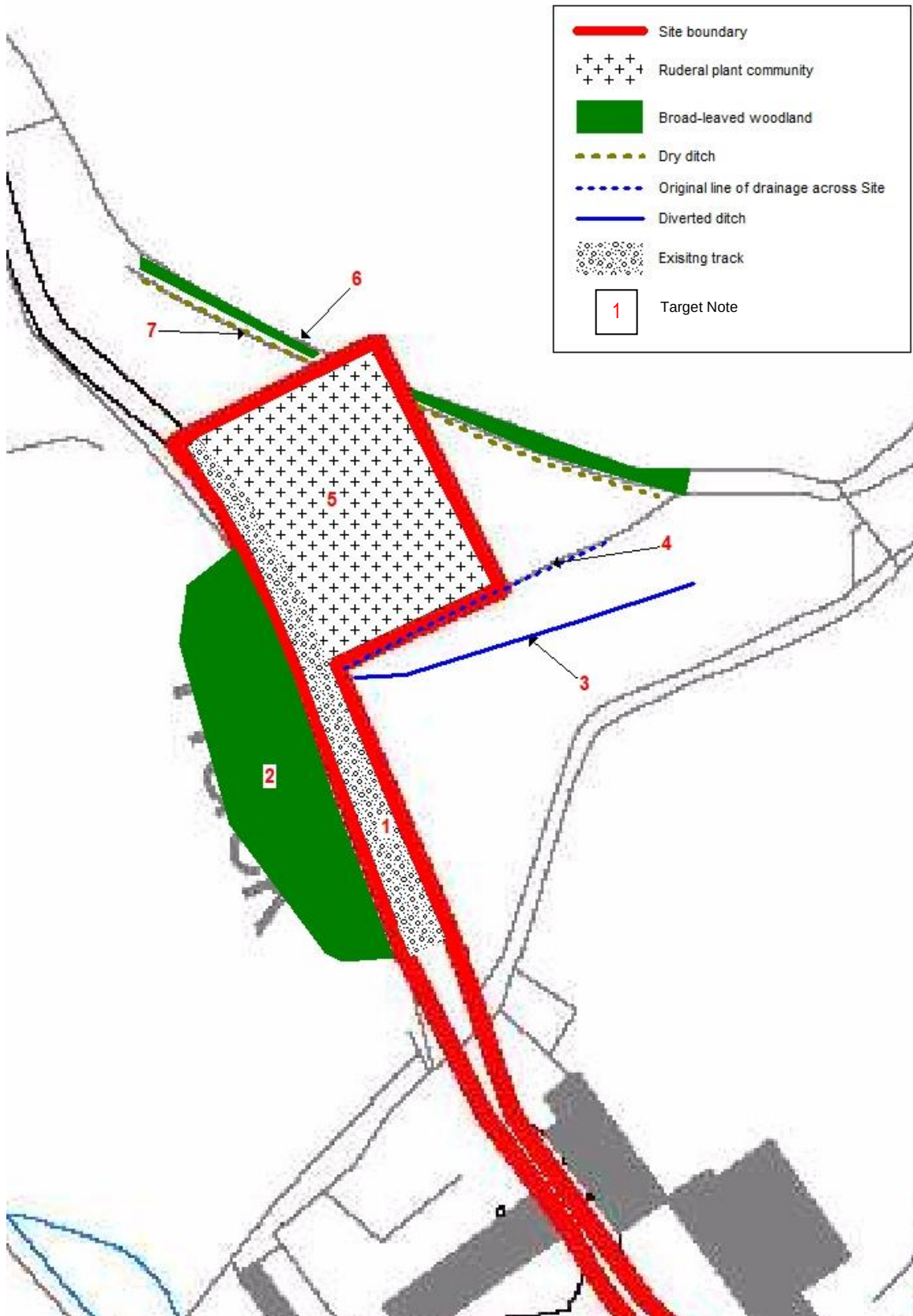
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**FIGURE 1:
PHASE 1 HABITAT MAP**



APPENDIX 1

DAFOR SCALE OF COVER ABUNDANCE

The DAFOR scale is used as a simple measure of cover abundance for individual plant species within a habitat. The scale is as follows:

- D Dominant
- A Abundant
- F Frequent
- O Occasional
- R Rare
- (L Locally – sometimes used as a prefix to the above)

APPENDIX 2

PHASE 1 HABITAT SURVEY TARGET NOTES

1. Existing hardcore track from Gelli Bwch farm and from the Farm to the road. From the farm colonised sparsely by annual meadow grass, Yorkshire fog and red fescue occasional to frequent throughout; pineapple mayweed and dandelion occur occasionally. From Gelli Bwch Farm to the main road the track is partially concreted and supports few species, those noted in addition to the ones above include occasional greater plantain, ribwort plantain, perennial rye-grass, scentless mayweed and silverweed. Himalayan balsam occurs on the track boundaries.
2. Isolated scrub woodland belt, isolated from other scrub/woodland since Site clearance adjacent to it. Consists of few mature trees but with a canopy of semi-mature oak, silver birch and sycamore. The shrub and ground layers are poorly developed and Himalayan Balsam is present. The wet pasture is dominated by Himalayan balsam with frequently occurring tufted hair-grass. Species noted were:

<i>Species</i>	<i>Frequency</i>
Bare	A
Bramble	F/LA
Broad buckler fern	O
Cocksfoot	F
Common oak	O
Field horsetail	O
Foxglove	O
Goat willow	O
Hawthorn	O
Herb robert	O
Himalayan balsam	F/LA
Holly	O
Ivy	F
Red fescue	O
Rosebay willowherb	LF
Soft rush	O
Sweet chestnut	R
Sycamore	O

3. Stream/drain running from the wet pasture north of the Site and diverted around the proposed barn location. The channel is new and shallow, approximately 0.5m in width maximum and not well vegetated with no specific aquatic species present. Himalayan balsam occurs along the banks adjacent to it.

4. Former line of stream at TN 3, now damp with no running water. Himalayan balsam is abundant as is bare ground. Species present were:

<i>Species</i>	<i>Frequency</i>
Alder	O
Bird's-foot trefoil	LF
Bramble	F
Bristly oxtongue	R
Common nettle	F
Creeping buttercup	LA
Great willowherb	LF
Himalayan balsam	A
Soft rush	F
Woody nightshade	O

5. The proposed Site of the barn itself, previously cleared of vegetation and levelled by machine, now recovering with colonising ruderal species but still abundant bare ground. Species recorded were:

<i>Species</i>	<i>Frequency</i>
Bare	A
Bramble	O
Cocksfoot	O
Common dock	O
Common nettle	R
Common sowthistle	O
Creeping buttercup	F/LA
Creeping thistle	O/LF
Curled dock	O
False oat-grass	LF
Fat hen	R
Field horsetail	LF
Hedge bindweed	O
Hemp agrimony	O
Himalayan balsam	F
Hogweed	O
Knotgrass	LF
Lesser burdock	R
Marsh cudweed	O
Marsh thistle	R
Perennial rye-grass	F
Red clover	O
Red fescue	O
Redshank	O
Wavy bittercress	O
Yorkshire fog	F

6. Wooded row of trees on bank, running north from barn site with ditch. Partially removed in earlier clearance works and the ditch filled. No shrub layer with canopy of mainly mature silver birch and common oak. Species noted were:

<i>Species</i>	<i>Frequency</i>
Bare	A
Bilberry	F
Bramble	LF
Broad buckler fern	O
Common bent	LF
Common oak	O
Hedge bindweed	LF
Ivy	LA
Silver birch	F
Yorkshire fog	A

7. Ditch associated with TN6, shallow and starting just west of the barn site, becoming deeper as it runs north. Part of it infilled as part of clearance and preparatory works. Dry at time of survey in this location, the ditch runs north to the main road. Species recorded were:

<i>Species</i>	<i>Frequency</i>
Bare	A
Bramble	F
Broad leaved willowherb	O
Cocksfoot	F
Common nettle	F
Creeping buttercup	LF
Hemp agrimony	LF
Himalayan balsam	F/LA

APPENDIX 3
LIST OF PLANT SPECIES RECORDED IN THE SURVEY

<i>Species</i>	<i>Scientific Name</i>
Alder	<i>Alnus glutinosa</i>
Bilberry	<i>Vaccinium myrtillus</i>
Bird's-foot trefoil	<i>Lotus corniculatus</i>
Bittersweet	<i>Solanum dulcamara</i>
Bramble	<i>Rubus fruticosus</i> agg
Bristly oxtongue	<i>Helminthotheca echioides</i>
Broad buckler fern	<i>Dryopteris dilatate</i>
Broad leaved willowherb	<i>Epilobium monatanum</i>
Cocksfoot	<i>Dactylis glomerata</i>
Common bent	<i>Agrostis capillaris</i>
Common dock	<i>Rumex obtusifolius</i>
Common nettle	<i>Urtica dioica</i>
Common oak	<i>Quercus robur</i>
Common sowthistle	<i>Sonchus oleraceus</i>
Creeping buttercup	<i>Ranunculus repens</i>
Creeping thistle	<i>Cirsium arvense</i>
Curled dock	<i>Rumex crispus</i>
Dandelion	<i>Taraxacum officinale</i> agg
False oat-grass	<i>Arrhenatherum elatius</i>
Fat hen	<i>Chenopodium album</i>
Field horsetail	<i>Equisetum arvense</i>
Foxglove	<i>Digitalis purpurea</i>
Goat willow	<i>Salix caprea</i>
Great willowherb	<i>Epilobium hirsutum</i>
Greater plantain	<i>Plantago major</i>
Hawthorn	<i>Crataegus monogyna</i>
Hedge bindweed	<i>Calystegia sepium</i>
Hemp agrimony	<i>Eupatorium cannabinum</i>
Herb robert	<i>Geranium robertianum</i>
Himalayan balsam	<i>Impatiens glandulifera</i>
Hogweed	<i>Heracleum sphondylium</i>
Holly	<i>Ilex aquifolium</i>
Ivy	<i>Hedera helix</i>
Knotgrass	<i>Polygonum aviculare</i>
Lesser burdock	<i>Arctium minus</i>
Marsh cudweed	<i>Gnaphalium uliginosum</i>
Marsh thistle	<i>Cirsium palustre</i>
Perennial rye-grass	<i>Lolium perenne</i>
Pineapple mayweed	<i>Matricaria discoidea</i>
Red clover	<i>Trifolium pratense</i>
Red fescue	<i>Festuca rubra</i> agg

Redshank	<i>Persicaria maculosa</i>
Ribwort plantain	<i>Plantago lanceolata</i>
Rosebay willowherb	<i>Chamerion angustifolium</i>
Scentless mayweed	<i>Tripleurospermum inodorum</i>
Silver birch	<i>Betula pendula</i>
Silverweed	<i>Potentilla anserina</i>
Soft rush	<i>Juncus effusus</i>
Sweet chestnut	<i>Castanea sativa</i>
Sycamore	<i>Acer psuedoplatanus</i>
Wavy bittercress	<i>Cardamine flexuosa</i>
Yorkshire fog	<i>Holcus lanatus</i>

APPENDIX 4
PHOTOGRAPHS



Looking north west (top) to trees and ditch (TN's 6 & &) and east (bottom) over the proposed barn site (TN5)



The track, TN1, and isolated woodland belt TN 2



Looking across the cleared area to east of the Site towards the trees at TN6



Re-aligned ditch (TN3).



Former line of ditch (TN4).



Gorse scrub TN5, largely cleared by machine



Looking at the wooded bank (TN6) and ditch (TN7) showing area removed.

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