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Preliminary Ecological Appraisal

October 2025

Project Reference: PR-25-0268

Land at New Brighton (The Hollies)
New Brighton
Minera
Wrexham
LL11 3DT

National Grid Reference: SJ 27415 50808



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Executive Summary

As part of a proposed planning application with Wrexham Borough Council concerning an area of land at New Brighton (The Hollies), Tyrer Ecological Consultants carried out a Preliminary Ecological Appraisal (PEA) in September 2025. The PEA was commissioned by Rich Craig; proposals are not yet clear but are understood to involve the construction of a dwelling and associated hardstanding as well as landscaping through the terracing of the sloped land.

Extensive findings, conclusions and recommendations are presented throughout the report; however, the reader should be aware of the following further surveys and key recommendations.

Key Recommendations:

Designated Sites

The site is located in proximity to Ruabon / Llantysilio Mountains and Minera SSSI and Berwyn and South Clwyd Mountains SAC, situated approximately 0.3km north-east of the site boundary.

In this case, it is considered that any potential pathways by which impacts could occur (such as dust, noise, pollution etc) can be adequately negated via the implementation of a site-specific Construction Environment Management Plan (CEMP). Measures should include robust yet proportional pollution control, measures to reduce the risk of dust and / or noise form reaching the designated sites amongst reasonable avoidance approaches towards protected species that may use the site.

Birds

Regarding wider breeding bird species, the scrub present across the site could feasibly provide suitable nesting and foraging habitat and it is likely that passerines are using the site for these purposes.

If works are carried out within the breeding bird season of March – August, then a pre-commencement check should be carried out by a competent and professional Ecologist for signs of nesting behaviour within 48 hours or less prior to works commencing.

Other Terrestrial Fauna

Whilst no field signs of badger, hedgehog, wider amphibians or reptiles were located within the site boundary, they could potentially exist within the site, though likely only on an opportunistic basis.

Reasonable Avoidance Measures (RAMs) will need to be produced for the site in relation to the above species groups to ensure that no impacts occur. See Section 7.0 for further details.

Green Infrastructure

The site is not considered to be locally notable for its green infrastructure, given the relative abundance of rocky slopes and scrubland in proximity to the site, both of which make up the majority of the on-site habitats. Whilst no specific plans have been provided to the author, as previously discussed they are understood to involve the construction of a dwelling and associated hardstanding as well as landscaping through the terracing of the sloped land.

It is recommended that, where possible, the proposals should attempt to avoid impacting the key infrastructure on site; this would include the mature areas of shrub. Should the above not

be possible, then the scheme will need to include details as to how the works will minimise impacts to these habitats, or in a worst-case scenario, provide adequate mitigation and compensation for the loss of such habitat. This could include the planting of native species across the site, as well as the incorporation of wildlife friendly provisions, such as bat / bird boxes, hedgehog homes and / or insect hotels. Further generic recommendations are provided within ***Appendix III****. This would also help the scheme meet net benefit for biodiversity goals.*

This assessment may need to be revised once detailed plans are produced for the site which will allow the ecologist to make an assessment of the scheme's alignment with PPW guidance in relation to green infrastructure

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1.0 Introduction & Scope

1.1 As part of a proposed planning application with Wrexham County Borough Council concerning an area of land at New Brighton (The Hollies), Tyrer Ecological Consultants carried out a Preliminary Ecological Appraisal (PEA) in September 2025.

1.2 The PEA was commissioned by Rich Craig; proposals are not yet clear but are understood to involve the construction of a dwelling and associated hardstanding as well as landscaping through the terracing of the sloped land. See **Figure 1.1** for aerial imagery of the site boundary.



Figure 1.1 – *Aerial imagery of Land at New Brighton with outline of site boundary © Google Earth Pro 2024/25*

1.3 As part of the Local Planning Authority's (LPA) planning policies and obligations to the Planning Framework, ecological surveys are generally required prior to planning permission being granted, particularly where protected / priority habitats or species are, or may be, present, and where these species have the potential to be impacted by the proposals for which the applicant seeks consent.

1.4 The PEA was carried out in accordance with the 'Guidelines for Preliminary Ecological Appraisal, 2nd Edition' (CIEEM, 2017) and all associated 'CIEEM Competencies for Species Survey (CSS)', whilst this report has been presented in accordance with the British Standard 42020:2013 Biodiversity – Code of Practice for Planning and Development.

Aims & Objectives

1.5 The appraisal aims to ascertain the baseline nature of the site and, where possible, obtain information on any priority wildlife habitats, or species, that may be present and if so determine if they will be affected by the proposals. The survey, therefore, includes the following objectives:

- Gather and present baseline ecological information on site / off site (as necessary) within a suitable report,
- Identify, measure and map habitats using UK Habitat Classification – Habitat Definitions Version 2.0 (2023) habitats,
- Identify any likely ecological constraints associated with the proposals for the site (i.e. the presence of protected / priority habitats or species that exist within the confines of the application boundary, or zone of influence (ZOI),
- Identify measures likely to be required in line with the mitigation hierarchy (i.e. impact avoidance > minimisation > mitigation > compensation),
- Identify any additional survey requirements,
- Identify general enhancement opportunities for biodiversity in line with national and local planning policy,
- Set out any requirements for post-development monitoring, management, or other commitments, and how they can be secured, where required.

1.6 As a functioning component of this specific ecological appraisal:

- Habitats on site were identified, measured and mapped using the UK Habitat Classification – Habitat Definitions Version 2.0 (2023),
- Any structures and trees, where present, were subject to preliminary roost assessment (PRA) for bats and scored against the bat roost suitability parameters defined in the Bat Conservation Trust – Bat Surveys for Professional Ecologists: Good Practice Guidelines, 4th ed. (2023),
- Any accessible ponds located within a 250m radial buffer of the site were subject to the industry standard Habitat Suitability Index (HSI) assessment in relation to great crested newt (*Triturus cristatus*), in accordance with ARG UK Advice Note 5 (2010), where applicable,
- In accordance with Welsh planning policy, opportunities were identified for the site to achieve net biodiversity benefit, and to provide information to satisfy the requirements of a green infrastructure statement.

1.7 This report therefore provides important baseline information as derived from the diurnal appraisal process outlined above and recommends any necessary additional surveys, or work, where applicable, to provide a conclusive ecological impact assessment.

1.8 The Applicant should be aware then that if during the appraisal:

- The application site/area was found to be suitable for any European Protected Species (EPS), otherwise protected, or priority habitats / communities / species, or,
- Signs of use by particular protected species were found, or suspected, or,
- Seasonal constraints significantly limit the gathering of ecological information to arrive at an accurate conclusion upon which the planning application can proceed;

Then more detailed surveys may be recommended where necessary, to allow the ecologist to arrive at a conclusive impact assessment.

1.9 If protected species were subsequently found either during appraisal or during detailed further surveys and / or may be affected by the development proposals, then a European Protected Species (EPS) licence from Natural Resources Wales (NRW) may be required to proceed with the development.

1.10 Where more detailed surveys are recommended by the Ecologist, following ecological appraisal, then LPAs, on the advice of their ecological advisors, may not grant permission until such time that all relevant material information is gathered in accordance with their obligations to the legislature.

1.11 Protected / priority species omitted from this report have been discounted due to negating factors including obvious absence / isolation of suitable habitats, and / or distributional aspects negating the necessity to survey for them, and / or the proposed works were not considered to impact the species or encroach on areas where the species may be present.

2.0 Legislation & Policy

2.1 The legislature considered for the purposes of this report includes the following:

- BS 42020:2013 Biodiversity – Code of Practice for Planning and Development (2013),
- Conservation of Habitats and Species Regulations (2019) (EU Exit),
- Countryside Rights of Way (CRoW) Act (2000),
- Natural Environment and Rural Communities (NERC) Act (2006),
- Planning Policy Wales (PPW) Edition 12 (2024),
- Protection of Badgers Act (1992),
- The Environment (Wales) Act (2016),
- The Hedgerow Regulations (1997),
- The Invasive Alien Species (Enforcement and Permitting) Order 2019,
- Town and Country Planning Act (1990),
- Wild Mammals Protection Act (1996),
- Wildlife and Countryside Act (1981) (as amended).

2.2 These acts entail relevance to both protected and invasive species. The degree of protection offered to taxa provided within existing UK and EU legislature often varies depending on species / group, for example, some species may purely be protected during one of its life stages (e.g. common species of breeding bird whilst nesting / with eggs / young); some species may receive full protection within the EU, whereas others may be protected solely on a national basis (e.g. grass snake).

2.3 **Table 2.1** contains appropriate legislature to each species / group specifically respective to the site and provides the relevance of said legislation.

Table 2.1 – Relevant legislation

Species Group/Species	Relevant Legislature	Level of Protection
Bats	CRoW Act (2000) Conservation of Habitats and Species Regulations (2017) (as amended) Wildlife and Countryside Act (1981) (as amended) Environment (Wales) Act (2016)	All British bats and their roosts are afforded full protection from damage/destruction and bats may not be injured/killed/taken at any life stage. Once identified, roosts are protected whether the bat is in occupation or not.
Birds (Breeding)	CRoW Act (2000) Wildlife and Countryside Act (1981) (as amended) Environment (Wales) Act (2016)	All wild birds (with only minor exceptions) and their nests whilst being built or containing eggs or dependant young are protected. Birds listed on Schedule 1 Wildlife & Countryside Act (1981) (as amended) are afforded a greater level of protection.

Species Group/Species	Relevant Legislature	Level of Protection
Great Crested Newt (GCN)	CRoW Act (2000) Conservation of Habitats and Species Regulations (2017) (as amended) Wildlife and Countryside Act (1981) (as amended) Environment (Wales) Act (2016)	Great Crested Newts (GCN's) are fully protected from disturbance, killing, injuring or possession at any life stage. Confirmed breeding ponds and resting places are afforded the same protection.
Invasive Plant Species	Wildlife and Countryside Act (1981) (as amended)	Species listed within Schedule 9 as invasive, including Japanese Knotweed (*Reynoutria japonica*) and Himalayan Balsam (*Impatiens glandulifera*), for example, carry notoriety regarding development. The Act makes it an offence for any person to grow or cause to grow in the wild any plants listed as invasive.
Reptiles	Conservation of Habitats and Species Regulations (2017) (as amended) - SL/SS Wildlife and Countryside Act (1981) (as amended) - SL/SS CRoW Act (2000)	All native reptile species have some degree of protection in the UK, through section 8(1) and (5) (specified in Schedule 5) of the Wildlife and Countryside Act 1981 (as amended). Sand lizard (SL) and smooth snake (SS) are species of principal importance however with greater protection(s).

2.4 The Environment (Wales) Act 2016 ("the Act") – requires local planning authorities to have regard to area statements in the development of Local Development Plans. The Act introduced an enhanced biodiversity and resilience of ecosystems duty (Section 6 Duty). This duty applies to public authorities in the exercise of their functions in relation to Wales and will help maximise contributions to achieving the well-being goals. The Nature Recovery Action Plan supports this legislative requirement to reverse the decline in biodiversity, address the underlying causes of biodiversity loss by putting nature at the heart of decision-making and increasing the resilience of ecosystems by taking specific action focused around objectives for habitats and species.

2.5 Part 1 of the Act promotes sustainable management of natural resources, and in Part 1 section 6 states:

"A public authority must seek to maintain and enhance biodiversity in the exercise of functions in relation to Wales, and in so doing promote the resilience of ecosystems, so far as consistent with the proper exercise of those functions."

2.6 Section 7 of the Act places a duty on Welsh Ministers to publish, review and revise lists of types of habitats and species in Wales which they consider are of key significance to sustain and improve biodiversity. The Welsh Ministers must also take all reasonable steps to maintain and enhance the habitats published in these lists and encourage others to take such steps. Section 7 of 'The Act' alongside the UK Biodiversity Action Plan (UKBAP) provided a statutory

basis for lists of habitats and species of national conservation importance - now transposed under section 41 (s.41) of the NERC Act.

2.7 Planning Policy Wales (PPW) 12th Edition (2024) sets out the land use planning policies of the Welsh Government. It is supplemented by a series of Technical Advice Notes (TANs), Welsh Government Circulars, and policy clarification letters, which together with PPW provide the national planning policy framework for Wales. PPW, the TANs, MTANs and policy clarification letters comprise national planning policy.

2.8 PPW 12th Edition (2024) states:

"The presence of a species protected under European or UK legislation, or under Section 7 of the Environment (Wales) Act 2016 is a material consideration when a planning authority is considering a development proposal which, if carried out, would be likely to result in disturbance or harm to the species or its habitat and to ensure that the range and population of the species is sustained. Planning authorities should advise anyone submitting a planning application that they must conform with any statutory species protection provisions affecting the site, and potentially the surrounding area, concerned. An ecological survey to confirm whether a protected species is present and an assessment of the likely impact of the development on a protected species may be required in order to inform the development management process. It is considered best practice that screening to determine the presence of protected species should be carried out by a competent ecologist on the basis of data provided by the relevant Local Environmental Record Centre."

2.9 PPW and the National Development Framework (published as Future Wales – the National Plan 2040) set out how the planning system at a national, regional and local level can assist in delivering these requirements through Strategic Development Plans (SDPs) and Local Development Plans (LDPs).

2.10 PPW also requires developments to achieve a Net Benefit for Biodiversity (NBB):

"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 (not including non native invasive species), locally or nationally and must work alongside nature and it must provide a net benefit for biodiversity and improve, or enable the improvement, of the resilience of ecosystems. A net benefit for biodiversity is the concept that development should leave biodiversity and the resilience of ecosystems in a significantly better state than before, through securing immediate and long-term, measurable and demonstrable benefit, primarily on or immediately adjacent to the site. The step-wise approach outlined below is the means of demonstrating the steps which have been taken towards securing 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 attributes, known as the DECCA Framework:

- *diversity between and within ecosystems;*
- *the extent or scale of ecosystems;*
- *the condition of ecosystems including their structure and functioning;*
- *the connections between and within ecosystems; and*
- *adaptability of ecosystems including their ability to adapt to, resist and recover from a range of pressures likely to be placed on them through climate change for example.*

2.11 As well as consider Green Infrastructure (GI), at both a local and landscape scale:

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

2.12 Planning authorities must therefore follow a stepwise approach (see **Figure 2.1** below) to maintain and enhance biodiversity and build resilient ecological networks by ensuring that any adverse environmental effects are firstly avoided, or minimized, or mitigated, and as a last resort compensated for; enhancement must be secured wherever possible.

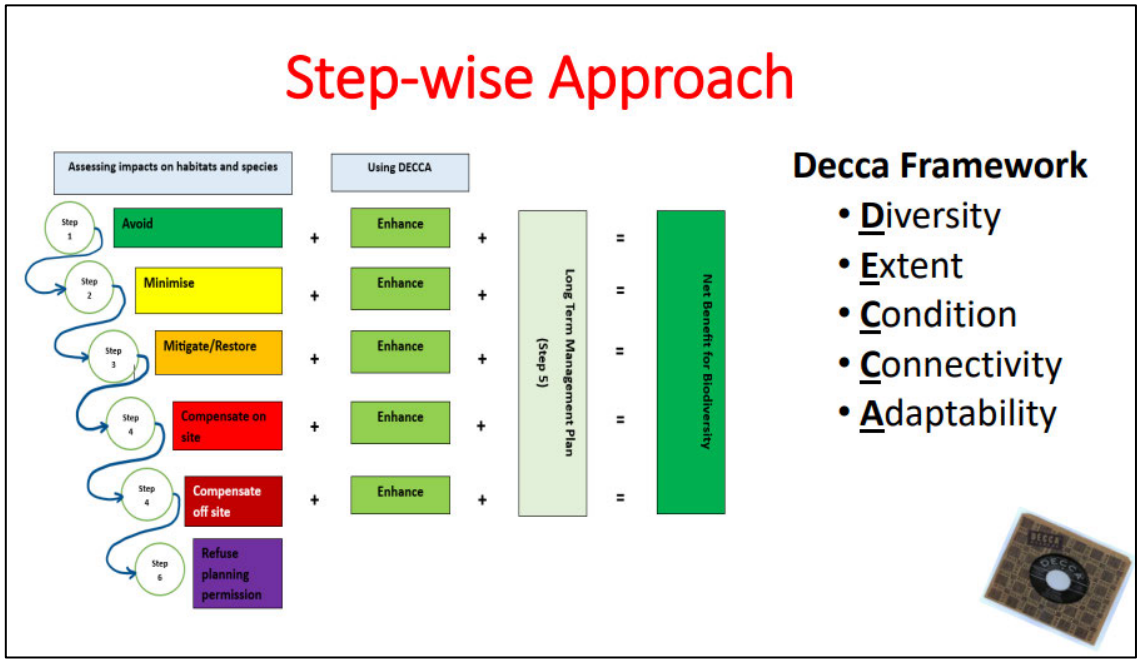


Figure 2.1 – *The step-wise approach / DECCA framework to be adopted by authorities in Wales*

2.13 There are several plans, strategies and national, sub-regional and local policy statements which provide a framework for development in the Plan area. The Planning and Compulsory Purchase Act (2004) makes it a requirement for local planning authorities in Wales to prepare a Local Development Plan (LDP) for their areas.

2.14 Policy SP14 'Natural Environment' of the Wrexham County Borough Local Development Plan 2013-2028 (Adopted December 2023) mirrors these statements within PPW 2024 and goes on to state the following:

"Development will only be permitted where it seeks to protect, conserve and enhance the natural environment including:

- *Special Areas of Conservation, Special Protection Areas, and Ramsar Sites;*
- *Sites of Special Scientific Interest and National Nature Reserves;*
- *Protected Species and their habitat;*
- *The Clwydian Range and Dee Valley Area of Outstanding Natural Beauty*
- *Local Wildlife Sites;*
- *Local Nature Reserves;*
- *Special Landscape Areas;*

- *Natural landscape features and Green Infrastructure such as trees, hedges and woodland which contribute to the quality and diversity of the natural environment and play an important role in mitigating the impact of climate change;*
- *The quality of natural services including water, soundscape, air and soils; and*
- *Habitats and species of principal importance to Wales"*

Priority Habitats & Species

2.15 In the United Kingdom, legal protection and otherwise legislative recognition is afforded to particular habitats and species based on a variety of ecological factors. These are typically referred to as priority habitats and species and can be identified under a variety of legislation and local policy, notably the UK Biodiversity Action Plan (UKBAP), Section 7 (s.7) of the NERC Act as well as under Local Biodiversity Action Plans (LBAPS).

3.0 Methodology

3.1 As part of the ecological appraisal report, a desk-top and field-based study is conducted. Methods for both components of the appraisal are given below.

Desktop Study

3.2 Prior to a site visit, a desktop study was conducted using online resources to obtain information pertaining to any sites afforded statutory (e.g. SSSI) and non-statutory (e.g. LWS) designations within 2.0 kilometres of the site boundary. To do so, the Multi Agency Geographic Information for the Countryside (MAGiC – provided by DEFRA), 'Lle' (A Geo-Portal for Wales) and DataMapWales were all accessed to gather such information. These mapping services were also utilised to locate any priority habitats or publicly viewable protected species records, to help further form conclusions in the context of the study site and the proposed development.

3.3 Additionally, the Natural Resources Wales (NRW) and Joint Nature Conservation Committee (JNCC) websites were accessed to provide citation details for statutory designated sites as well as habitat information in proximity to the site.

3.4 Historic satellite imagery was reviewed using sources such as Google Earth (© 2024/25) to help establish past use of the land and determine the nature of adjoining and extending habitats; such information aids in the understanding of how the site might interact with its surroundings ecologically and its value in that context, and how the development may impact at a wider scale.

3.5 In addition, the Wrexham County Borough Council 'Search planning applications' online function was utilised to help inform the desktop study by analysis of existing publicly accessible ecological survey results that have been carried out locally within the previous five years.

3.6 A commercial data request to the Local Environment Records Centre serving the area, in this case Cofnod (North Wales Environmental Information Service), has not been sourced at this time, with the combination of online EPSML data, extensive company records and the daytime survey data available to the ecologist considered to contain enough information in relation to the protected species likely to be present on site. **If, however, a data search is considered to be necessary by the Local Authority or advisory body to better inform the appraisal, a proportionate data search should be commissioned with results interpreted into the conclusions and recommendations of a re-issued / updated report.**

1) The Guidelines for Accessing, Using and Sharing Biodiversity Data in the UK (CIEEM, 2020) states data searches in:

"*Situations where the data search would be extremely unlikely to provide information needed to inform the assessment, due to the scale and location of the proposed development. The appropriateness of excluding a data search will need to be judged on a case-by-case basis as, in most situations, it will be essential to carry out such a search even if the development is very small or is likely to have a low impact."*

Field Survey

3.7 A daytime preliminary ecological appraisal (PEA) was conducted on the 8th September 2025 in dry, cloudy conditions (16ºC), average wind 2/12 (Beaufort scale), average 30% cloud cover, by the following surveyors (see **Table 3.1** overleaf).

Table 3.1 – Site surveyor credentials

Name	Description of most relevant credentials
Mr. J. Hark Qualifying CIEEM	• Consultant Ecologist with a range of training and experiences, including within habitat management and invasive species control. • BSc (Hons) Wildlife Conservation & Ecology, MSc Wildlife Conservation. • Accredited agent on the Natural Resources Wales Bat Licence (S093795-1) of Mrs. K. Wilding. • Accredited agent on the Natural England Great Crested Newt: CL08 Class 1 licence (2022-106040-CL08-GCN) of Mr. D. Burrows.

Floristic assessment

Habitats

3.8 The survey followed the UK Habitat Classification Version 2.0 (UKHabs, 2023) methodology, which was introduced as the successor to the Joint Nature Conservation Committee (JNCC) Phase 1 Habitat Methodology standards (JNCC, 2010). Survey techniques were also carried out with reference to the Chartered Institute of Ecology and Environmental Management (CIEEM) Technical Guidance Series "Guidelines for Preliminary Ecological Appraisal, 2nd Edition" (CIEEM, 2017).

Vegetation

3.9 During the survey walkover, botanical assemblages were assessed, and the land was inspected for the presence of red-listed (Stroh et al., 2014; Hodgetts, 2011), s.41 and LBAP species alongside specially protected species as listed under Schedule 8 of the Wildlife and Countryside Act (WCA) (1981) (as amended) and / or Schedule 5 The Conservation of Habitats and Species Regulations (2017) (as amended). Species nomenclature follows Stace, C. (2019) – definitive English names.

3.10 In addition to attributing ecological value to red-listed / BAP species, in accordance with existing CIEEM guidance, a geographic frame of reference is also adopted. Plant species and habitats may be recognised for their ecological value on a geographical scale which is adopted on a site-to-site basis (*International – National – Regional – County/Vice-County – Local*). For botanical species list compiled in full, see **Appendix II**.

3.11 In combination with assessing the area in relation to flora and habitats of conservation importance, the land was also assessed in relation to the presence of invasive non-native species (INNS) as listed under Schedule 9 (Part II) of the Wildlife and Countryside Act (1981) (as amended) and Schedule 2 of The Invasive Alien Species (Enforcement and Permitting) Order 2019 (IASO).

Faunal assessment

3.12 During site walkover, direct presence and / or evidence of priority fauna encountered was documented, whilst in tandem the area was assessed for the potential to support the priority species discussed in **Section 6.0**. The walkover also aimed to identify any ephemeral pools or unmapped waterbodies.

Bats

3.13 Criteria for preliminary bat roost assessment are based upon the determinants given in the Bat Conservation Trust – Bat Surveys for Professional Ecologists: Good Practice Guidelines, 4th ed. (2023) (see **Figures 3.1 – 3.3**).

3.14 The site was assessed for bats; a daytime bat walkover (DBW) was undertaken to observe, assess and record any habitats or features suitable for usage by bats, either as commuting, foraging or roosting provision. Wider connectivity to other habitats was also considered during the DBW.

3.15 Buildings and other permanent / semi-permanent structures (where present) were subject to a preliminary roost assessment (PRA), to identify potential areas which may be of value to bats and to determine evidence of use. This typically involves a systematic search of the external aspects of any structure(s), comprising an investigation of features known to be used by bats (for example roofing material, soffits, fascia, lead flashing hanging tiles) using a high-powered torch and close-focus binoculars, where necessary. Where possible, an internal assessment of any structures was also carried out, with the aid of a high-powered torch and endoscope, where necessary, to identify any evidence of bat use of a structure. Field signs of bats typically comprise bat droppings, urine splashing, fur-oil staining, incidental animal presence, dead specimens and / or the presence of prey items, such as moth wings.

3.16 Trees (where present) would be subject to a ground level tree assessment (GLTA) using equipment such as close-focus binoculars and a high powered-torch. Potential roost features (PRFs) can include woodpecker holes, rot holes, hazard beams, other vertical or horizontal cracks or splits in stems and branches, partially decayed lifted bark, knot holes, man-made holes, tear-outs, cankers in which cavities have developed, other hollows or cavities, including butt-rots, double-leaders forming compression forks with included bark, gaps between overlapping stems or branches, partially detached climbing species with stem diameters in excess of 50mm or pre-existing bat / bird boxes. These PRFs can then be determined as PRF-I or PRF-M, dependent on their suitability for individual / low numbers of bats or their capability to host multiple bats.

3.17 Factors considered during the preliminary roost assessment include:

- Practical experience of the surveyor,
- Knowledge of bat species relevant to the site location and geographical range,
- Nature of the immediate / surrounding habitat in relation to foraging opportunities,
- Presence / absence of roost potential,
- Value and types of roost potential, if present (i.e. – maternity, hibernation, transitional).

Table 4.1. Guidelines for assessing the potential suitability of proposed development sites for bats, based on the presence of habitat features within the landscape, to be applied using professional judgement.

Potential suitability	Description	
	Roosting habitats in structures	**Potential flight-paths and foraging habitats**
None	No habitat features on site likely to be used by any roosting bats at any time of the year (i.e. a complete absence of crevices/suitable shelter at all ground/underground levels).	No habitat features on site likely to be used by any commuting or foraging bats at any time of the year (i.e. no habitats that provide continuous lines of shade/protection for flight-lines, or generate/shelter insect populations available to foraging bats).
Negligible[a]	No obvious habitat features on site likely to be used by roosting bats; however, a small element of uncertainty remains as bats can use small and apparently unsuitable features on occasion.	No obvious habitat features on site likely to be used as flight-paths or by foraging bats; however, a small element of uncertainty remains in order to account for non-standard bat behaviour.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically at any time of the year. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions[b] 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 and not a classic cool/stable hibernation site, but could be used by individual hibernating bats[c]).	Habitat that could be used by small numbers of bats as flight-paths such as a gappy hedgerow or unvegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.
Moderate	A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions[b] and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only, such as maternity and hibernation – the categorisation described in this table is made irrespective of species conservation status, which is established after presence is confirmed).	Continuous habitat connected to the wider landscape that could be used by bats for flight-paths such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	A structure 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 longer periods of time due to their size, shelter, protection, conditions[b] and surrounding habitat. These structures have the potential to support high conservation status roosts, e.g. maternity or classic cool/stable hibernation site.	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by bats for flight-paths such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Site is close to and connected to known roosts.

a Negligible is defined as 'so small or unimportant as to be not worth considering, insignificant'. This category may be used where there are places that a bat could roost or forage (due to one attribute) but it is unlikely that they actually would (due to another attribute).

b For example, in terms of temperature, humidity, height above ground level, light levels or levels of disturbance.

c Evidence from the Netherlands shows mass swarming events of common pipistrelle bats in the autumn followed by mass hibernation in a diverse range of building types in urban environments (Korsten *et al.*, 2016 and Jansen *et al.*, 2022). Common pipistrelle swarming has been observed in the UK (Bell, 2022 and Tomlinson, 2020) and winter hibernation of numbers of this species has been detected at Seaton Delaval Hall in Northumberland (National Trust, 2018). This phenomenon requires some research in the UK, but ecologists should be aware of the potential for larger numbers of this species to be present during the autumn and winter in prominent buildings in the landscape, urban or otherwise.

Figure 3.1 – *BCT guidelines extract*

Table 4.2. Guidelines for assessing the suitability of trees on proposed development sites for bats, to be applied using professional judgement.	
Suitability	**Description**
NONE	Either no PRFs in the tree or highly unlikely to be any
FAR	Further assessment required to establish if PRFs are present in the tree
PRF	A tree with at least one PRF present

Figure 3.2 – *BCT extract on tree roost suitability criteria*

Table 6.2. Guidelines for categorising the potential suitability of PRFs on a proposed development site for bats, to be applied using professional judgement.	
Suitability	**Description**
PRF-I	PRF is only suitable for individual bats or very small numbers of bats either due to size or lack of suitable surrounding habitats.
PRF-M	PRF is suitable for multiple bats and may therefore be used by a maternity colony.

Figure 3.3 – *BCT extract on tree roost categorisation criteria*

Birds

3.18 The site was inspected for evidence of nesting and suitability for relevant species. Bird species observed and heard were recorded on site, and a search was made for nest material, or areas suitable for nesting – this can take the form of searching structures, woody vegetation, semi-aquatic vegetation such as reeds and / or ground flora. Elevations of any buildings or structures on site were inspected for evidence of birds that show a high dependency upon built structures, many of which are in a state of decline. These might include the following species for example (list non-extensive):

- House martin (*Delichon urbica*): Birds of Conservation Concern (BoCC) red status,
- House sparrow (*Passer domesticus*): BoCC red status,
- Starling (*Sturnus vulgaris*): BoCC red status,
- Swift (*Apus apus*): BoCC red status.

3.19 Additional to the site's capacity to support generally common species for breeding, the area was also subject to an assessment for wider capacity to support species with extra protection under Schedule 1 of the Wildlife & Countryside Act (1981) (as amended) and other priority species.

Other Terrestrial Mammals

3.20 The walkover included an assessment for the presence / suitability of badger (*Meles meles*), which includes signs of activity such as prints, hairs, digging, setts, 'runs' leading to and from a sett and the existence of latrines or 'snuffle' holes where badgers have foraged in the ground.

3.21 The site was also assessed for the presence / suitability of European hedgehog (*Erinaceus europaeus*) and other priority mammals.

Herpetofauna

3.23 During desktop assessment a 250 metres radial search was undertaken from the site boundaries in relation to the presence of ponds, ditches or other water bodies that may support GCN (*Triturus cristatus*). During the field-based element, the terrestrial value of the site was assessed for its foraging, shelter and commuting value. The information gathered would then be used to aid in establishing if more detailed surveys are required.

NB: *English Nature's (now Natural England) Great Crested Newt Mitigation Guidelines (2001) states ponds within 500m of a proposed development site should be considered for their potential to support GCN, however, in some instances this distance may be reduced to 250m due to the presence of physical barriers and obstructions or based on the likely magnitude of impacts arising from the proposed development.*

3.24 Where access was granted, ponds within 250m of the development site were subject to a Habitat Suitability Index (HSI) assessment for GCN.

3.25 The GCN Habitat Suitability Index (HSI) is a quantitative measure of habitat quality evaluating the suitability of habitat for the GCN. A HSI is a number between 0 and 1, derived from an assessment of ten habitat variables known to influence the presence of newts. An HSI of 1 is optimal habitat (high probability of occurrence), while an HSI of 0 is very poor habitat (minimal probability of occurrence). The HSI is calculated on a single pond basis but takes into account surrounding terrestrial habitat and local pond density. The tool is particularly useful in survey and mitigation; one benefit is that it can be undertaken in a single field visit (with supporting desk work) and at any time of the year (though some variables are more easily measured in spring and summer).

Its main uses are:

- *In surveys, to assess habitat quality in a repeatable, objective manner. In particular, the HSI allows individual factors that influence newt presence to be easily identified. These factors could help explain a very high or very low count. A high HSI can justify employing additional survey effort or methods if no newts are found initially.*

- *In impact assessments, to allow a measure of how damaging a development could be. HSI might also be used as a screening tool to select no impact or minimal impact options.*

- *In risk assessments, helping to decide whether an offence might be committed, and therefore whether a licence should be applied for. If a pond has a very low HSI score (say <0.5) then there would typically be a minimal chance of GCN presence. Hence, with due care and in limited circumstances the HSI might be used in the absence of newt surveys to help conclude that an offence is highly unlikely and therefore work could proceed in that area without a licence. This application of the HSI should only be used where the predicted impacts - were newts to be present - would be low (e.g. development at least 100m from pond, permanent habitat loss <0.5ha or temporary habitat loss <5ha). The developer should be aware that there would still be a risk of committing an offence, but it would typically be so low as to be negligible. Obviously, note that if HSI >0.5, this is not confirmation of newt presence; a newt presence/absence survey would be required to confirm this.*

- *In habitat enhancement, HSI could be used to identify the low-scoring factors in an existing pond that need addressing to improve its quality for newts.*

- *In post-development monitoring, to allow an assessment of habitat condition.*

3.26 GCN HSI Limitations:

The GCN HSI is not a substitute for undertaking newt surveys; it indicates but cannot confirm presence or absence of GCN. A licence application that infers GCN presence solely from HSI data (i.e. no newt survey data presented) will be rejected. Very low HSI scores may be used along with scheme details to infer a minimal chance of committing an offence in low impact situations. This is on a risk assessment basis and developers should be aware of the potential hazards of this approach. Care should be taken when interpreting low HSI scores; for example, a low scoring pond close to an occupied newt pond may still support newts.

3.27 In order to quantify risks to GCN in a PEA, a range of factors need to be considered (see below and **Table 3.2**):

- Presence of ponds on site, and impacts to those ponds,
- Site proximity to any additional ponds within 250-500m,
- Pond quality (suitable for breeding, or not),
- Nature, extent, and connectivity of available terrestrial habitat around the pond(s), considering core, intermediate and distant ranges, to be affected by works,
- Presence of significant barriers between ponds and site,
- Area of site habitat loss and permanence of that loss.

Table 3.2 – Factors that can increase/decrease risk of committing an offence

Increases risk to GCN	Decreases risk to GCN
Large population size	Small population size
High local pond density	Low local pond density
Good terrestrial habitat	Poor terrestrial habitat
Low pre-existing habitat fragmentation	Substantial pre-existing dispersal barriers
Large development footprint	Small development footprint

3.28 The site and surrounding habitats were also assessed relative to their potential to offer suitability for wider, generalist amphibians, in addition to GCN, for example common toad (*Bufo bufo*) and common frog (*Rana temporaria*).

3.29 The site and its surroundings were assessed for suitability for use by reptiles, with particular attention paid to features that could be used as basking areas (*e.g.* south-facing slopes), hibernation sites (*e.g.* banks, walls, leaf litter, piles of hardcore) and opportunities for foraging (*e.g.* rough grassland and scrub). Beebee & Griffiths (2000) state specific habitat preferences of common UK reptiles:

- Common lizard (*Zootoca vivipara*) use a variety of habitats from woodland glades to heaths, walls and pastures, as well as dune systems.

3.30 In assessment of a site for reptiles several important habitat characteristics are considered, outlined in **Table 3.3** below, as derived from the Reptile Habitat Management Handbook (Edgar, 2010).

Table 3.3 – Important habitat characteristics for reptiles

1. Location (in respect of species range)	**7. Connectivity to good quality habitat**
2. Vegetation structure	**8. Prey abundance**
3. Insolation	**9. Refuge opportunity**
4. Aspect	**10. Hibernation habitat potential**
5. Topography	**11. Disturbance regime**
6. Surface geology	**12. Egg-laying site potential**

Invertebrates

3.31 The site was assessed for the presence of features that should be considered of high value to other invertebrates. Several important features were considered, based on the assemblage descriptions provided within the Research Report "Surveying terrestrial and freshwater invertebrates for conservation evaluation" (NERR005, 2007), including but not limited to:

- Wood decay,
- Early successional mosaic habitat,
- Shaded ground layer,
- Still and flowing water.

Quality Assurance (QA)

3.32 The results, conclusions and recommendations of this report are based on a number of factors i.e.

- Skills and experience of the surveyor,
- Knowledge of flora and fauna relevant to the site location and geographical range,
- Nature of the immediate and surrounding habitat in relation to shelter, foraging and commuting opportunities.

3.33 The results, conclusions and recommendations of this report have been assessed by Mrs. K. Wilding, Director of Tyrer Ecological Consultants Ltd, and her assessment concurs with the findings and recommendations of the surveyor Mr. J. Hark.

4.0 Limitations

4.1 This report does not contain a comprehensive list entailing the totality of botanical taxa on site. Species listed within **Appendix II** are recorded from a combination of the seasonal timing that the survey took place and botanical identification skills of the surveyor. Many plant species are only evident at certain times of the year; consequently, it is possible that some plant species may have gone undetected.

4.2 The optimal time of the year to carry out a preliminary ecological appraisal / UK Habitats survey is April to October; the survey was therefore undertaken within the optimum period. Survey timing is therefore not considered a limitation.

4.3 The survey took place in September, thus within the bat active season, although towards the end of this period when bats are starting to disperse and move to transitional roosts prior to the hibernation period. Survey timing is therefore not considered a constraint in this instance.

4.4 The survey took place within the breeding bird season (typically March – September), therefore incidental breeding bird behaviour has a higher probability of being encountered; timing is thus not considered to be a constraint in relation to breeding birds.

4.5 In considering all potential survey constraints, no significant limitations were experienced that might adversely influence the results, conclusions, and recommendations of this report.

5.0 Desk Study Results

5.1 The site of the proposed works (referred to in-part as "the application site" and "the site") is located approximately 6.2km west of Wrexham town centre. The site comprises the remains of an old building with a mix of scrub and grassland and an approximate area of 0.08 hectares (ha). See **Figure 5.1** below for location of the site within the surrounding landscape.



Figure 5.1 – *Location of red line boundary within surrounding landscape © Google Earth Pro 2025*

5.2 The surrounding environment is comprised of a mix of woodland and agricultural land interspersed with trees. Further to the north-east is the town of Coedpoeth where the landscape is urban, and to the west is the Clwydian Range and Dee Valley National Landscape. Surrounding the site are a number of areas understood to have previously been used for mining purposes, with Minera quarry to the west and several lead mining shafts immediately surrounding the site.

Relevant Planning History

5.3 A search of the Wrexham County Borough Council planning portal shows a number of planning applications adjacent to the site within the last five years. Of note is an application for the construction of a passing place (**P/2020/0629**[1]) approximately 600m to the south-east of Land at New Brighton, [redacted]

[1] See: https://register.wrexham.gov.uk/pr/s/detail/a0lJ7000000Tvu6IAC?language=en_GB&c__r=Arcus_BE_Public_Register&tabset-ff68f=3

Designated Sites

5.4 Two statutory designated sites are present within 2.0km of the site (see **Table 5.1** below for details and **Figure 5.2** overleaf for a visual aid).

Table 5.1 – Statutory designation types and reasons for designation within 2.0 kilometres buffer

Site name	Designation type	Interest features
Berwyn and South Clwyd Mountains (0.3km south-west)	Special Area of Conservation (SAC)	The Natural Resources Wales citation[2] states the following: *"The Berwyn and South Clwyd Mountains SAC is a large upland site (27,132 ha), the largest area of blanket bog and European dry heath in Wales. It comprises three discrete sites, Berwyn SSSI, Llandegla Moor SSSI and Ruabon and Llantysilio Mountains and Minera SSSI. All of these sites are predominantly a mixture of dry heath and blanket bog vegetation with patches of transition mires and quaking bogs vegetation found as an intricate mosaic, usually on acidic rock types, and can together be described as upland moorland."*
Ruabon / Llantysilio Mountains and Minera (0.3km south-west)	Site of Special Scientific Interest (SSSI)	The Natural Resources Wales citation[3] states the following: *"Ruabon/Llantysilio Mountains and Minera SSSI occupies a major upland block stretching north from the Dee Valley between Corwen and Ruabon for a distance of up to 9 kms. It rises to an altitude of around 580 m. The site is notified firstly on biological grounds, for its heather moor, limestone and neutral grassland habitats and for its species interest comprising a range of upland breeding birds, rare and uncommon plants and the use of mines and caves by bats. The site is also notified on geological grounds as it contains three sites of special interest within its boundaries."*

[2] See: https://cdn.cyfoethnaturiol.cymru/670888/Berwyn%20man%20plan%20(E)%20(table%20revis%2010.09.09).pdf
[3] See: https://cdn.cyfoethnaturiol.cymru/644377/SSSI_0482_Citation_EN0018c18.pdf

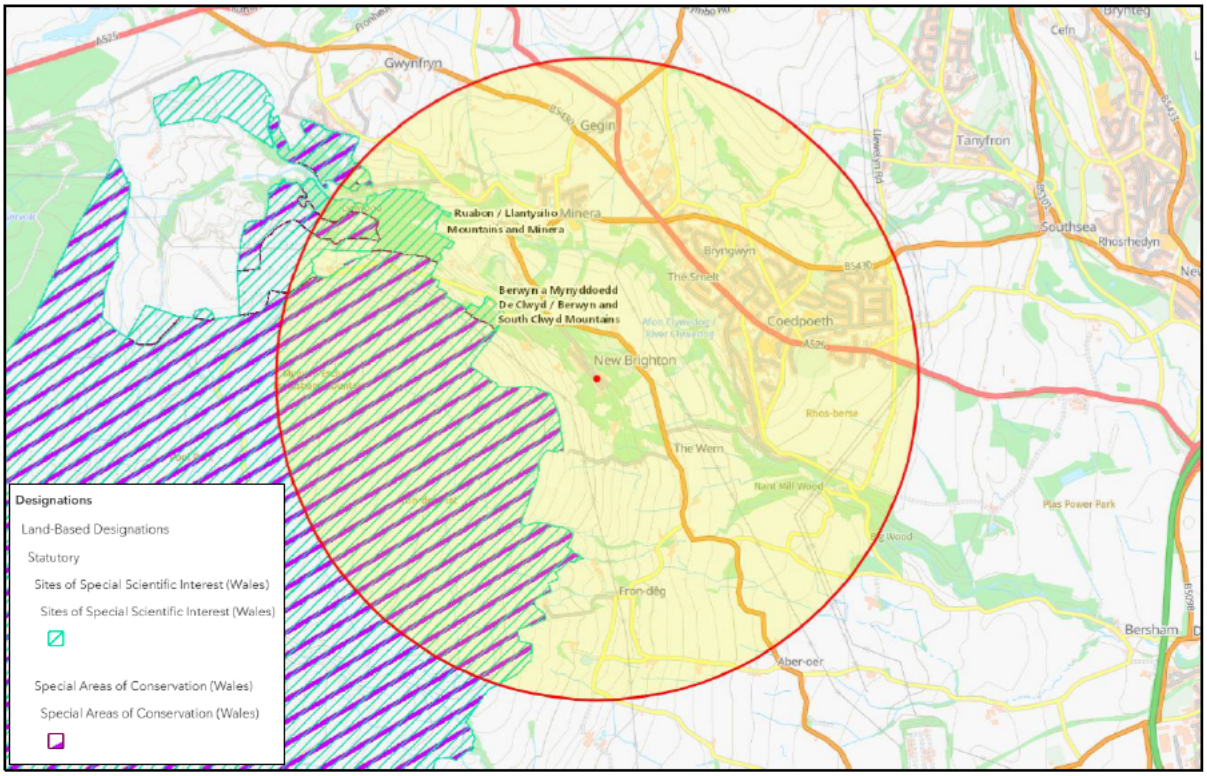


Figure 5.2 – *Designated site data within 2.0km of application site © MAGiC Maps 2025*

Habitats

5.5 An online search of DataMapWales identified the following priority habitats within a 2.0km search radius (see **Table 5.2** below).

Table 5.2 – Priority habitats located within 2.0km buffer

Habitat Type	Designation	Distance to site
Lowland Dry Acid Grassland	NRW Priority Habitat	0.7km south-east
Lowland Heathland	NRW Priority Habitat	0.1km east
Lowland Meadows	NRW Priority Habitat	1.4km north-west
Traditional Orchard	NRW Priority Habitat	0.3km east
Upland Flushes, Fens and Swamps	NRW Priority Habitat	0.3km south-west
Upland Heathland	NRW Priority Habitat	0.3km south-west
Wood pasture	NRW Priority Habitat	0.7km north-west

Bats

5.6 A search of LERC submitted records held by Tyrer Ecological Consultants Ltd revealed a single record within a 2.0km buffer which pertains to a day roost for a single common pipistrelle (*Pipistrellus pipistrellus*) located approximately 1.0km to the north, at a site where soprano pipistrelle (*Pipistrellus pygmaeus*), noctule (*Nyctalus noctula*), Natterer's (*Myotis nattereri*), Daubenton's (*Myotis daubentonii*) and brown long-eared (*Plecotus auritus*) bat activity was also recorded.

5.7 The surrounding land provides high value commuting and foraging habitat for bats, with the landscape comprising predominantly of woodland with agricultural fields and grassland interspersed with lines of trees which provide linear features to facilitate movement of bats. Collectively, these habitats provide suitable habitat for a range of bat species including, but not limited to, common pipistrelle bats which will often utilise dwellings to roost within and forage over grassland, woodland and urban areas, brown long-eared bats which favour broadleaved woodland, lines of trees and open habitats and are often found roosting in occupied dwellings, and lesser horseshoe (*Rhinolophus hipposideros*) bats which utilise high-quality unimproved grasslands and wooded areas. The areas previously used for mining are also likely to support certain bat species during the winter months, notably those adapted to hibernating in cave systems such as lesser horseshoe bats alongside several of the *Myotis* species discussed previously.

Birds

5.8 Given the surrounding woodland cover to all compass directions, the extending environment is likely to support a moderately diverse assemblage of bird species such as robin (*Erithacus rubecula*), blue tit (*Cyanistes caeruleus*) and wren (*Troglodytes troglodytes*). There is also potential for Schedule 1 listed raptors such as barn owl (*Tyto* alba) when considering the mix of grassland and agricultural land in the wider environment. Considering the large heathland cover within the Berwyn and South Clwyd Mountains SAC, species such as stonechat (*Saxicola rubicola*) and meadow pipit (*Anthus pratensis*) could be present, whilst Schedule 1 listed raptors such as hen harrier (*Circus cyaneus*) and merlin (*Falco columbarius*) are known to reside in this area.

5.9 The aforementioned linear and area features suitable for bats would also afford connective habitat for bird species in the wider landscape.

Other Terrestrial Mammals

5.10 The site and surrounding habitat contains extensive blocks of broadleaved woodland in combination with agricultural fields and grasslands which provide suitable connectivity across the landscape to support species such as badger and hedgehog.

Herpetofauna

5.11 A desktop assessment through MAGiC Maps has revealed there is an absence of standing waterbodies within 250m of the application site. Additionally, there is no identified ‘Potential Habitat for Great Crested Newts’ within 250m based on the DataMapWales layer.

5.12 Based on the absence of any mapped wetland network or ponds with connectivity to the site identified during the desktop study, it is considered unlikely that great crested newt would be present in proximity to the site.

5.13 Based upon the above, opportunities for more common amphibians are also limited, though these species are more robust and have less specialised habitat requirements.

5.14 The local habitat is generally of low quality for reptiles being dominated by woodland and agricultural land. However, considering the presence of heathland in close proximity to the site (0.1km away) and its large coverage in the wider landscape (Berwyn and South Clwyd Mountains SAC), it is likely that these species exist in the wider landcape.

Invertebrates

5.15 The site and immediate surroundings are formed of scrub, woodland and heathland and are thus likely to support a diverse assemblage of invertebrate species.

6.0 Field Survey Results

6.1 Habitat Survey & Green Infrastructure

6.1.1 See **Table 6.1.1** (below) for baseline information and habitat descriptions; refer to **Appendix I** for any supporting imagery; additional scientific names are given in **Appendix II**. Refer to **Appendix IV** – UK Habitats Maps for the location of described habitats & Target Notes (TN).

Table 6.1.1 – UK Habitat types within the survey area

Area habitat	Sec. Codes	Description
g4 Modified grassland	-	The site largely comprises modified grassland with stone slopes across the central section of the site. Species indicative of modified grassland were found including hogweed (*Heracleum sphondylium*), dandelion (*Taraxacum* sp.), common mouse-ear (*Cerastium fontanum*), willowherb (*Epilobium* sp.), ribwort plantain (*Plantago lanceolata*), common sorrel (*Rumex acetosa*) and creeping buttercup (*Ranunculus repens*). Graminoids include cock's-foot (*Dactylis glomerata*), annual meadow-grass (*Poa annua*), red fescue (*Festuca rubra*), and tall fescue (*Festuca arundinacea*).
h3h Mixed scrub	-	Mixed scrub is present on the north-western section of the bank and the species assemblage is comprised of bramble (*Rubus fruticosus*), honeysuckle (*Lonicera periclymenum*), male fern (*Dryopteris felix-mas*), gorse (*Ulex* sp.), rosebay willowherb (*Chamaenerion angustifolium*), common vetch (*Vicia sativa*), holly (*Ilex aquifolium*) and birch (*Betula* sp.).
h3j Willow scrub	-	Willow scrub is present on the southern section of the site, predominantly comprised of willow (*Salix* sp.) with some species shared from the mixed scrub areas including bramble and male fern.
Linear habitat	**Sec. Codes**	**Description**
u1e Built linear features		Stone retaining walls are present in areas on the northern and southern borders of the site as remains of a former building and associated structures.

6.1.2 Based upon the above, the site is not considered locally notable for its green infrastructure, being comprised of grassland, scrub and rocky slopes. However, the natural composition of the site means it is valuable in terms of wildlife habitat, likely supporting bird and invertebrate diversity and possibly reptiles. The key green infrastructure is composed of these habitats that make up the site.

6.1.3 Whilst the full extent of the proposals is not yet understood, the proposed erection of a residential dwelling and associated landscaping the in form of terracing the land are likely to require significant clearance and alterations to the natural habitat and structure of the landscape, leading to the loss of much of the green infrastructure currently present on site.

6.2 Vegetation

Notable species

6.2.1 No species of conservation importance were located anywhere within the site during the appraisal.

Invasive non-native species (INNS)

6.2.2 No INNS, listed under Schedule 9 (Part II) of the Wildlife and Countryside Act 1981 (WCA) or Schedule 2 of The Invasive Alien Species (Enforcement and Permitting) Order 2019 (IASO) were identified on site during the diurnal appraisal.

6.3 Bats

6.3.1 No buildings are present within the red line boundary of the site, and thus none were subject to a PRA and assessed relative to their suitability in relation to bats and bat roosts.

6.3.2 Although scrub is present within the red line boundary of the site, there are no suitable trees of sufficient maturity to host features that would support roosting bats such as cracks, crevices, callus roles and woodpecker holes. As such the site has been duly assessed as pertaining to a bat roost suitability of '**None**' in accordance with Bat Conservation Trust – Bat Surveys for Professional Ecologists: Good Practice Guidelines, 4th ed. (2023).

6.3.3 From a habitat suitability assessment in relation to bat activity, the site, with its scrub vegetation cover, provides moderate value foraging habitat for bats. The woodland cover to all aspects nearby the site provides a network of taller vegetation which provide linkages to the site with heathland and traditional orchard priority habitats in the wider landscape. The connectivity with the wider landscape could therefore make this useful foraging habitat for bats already utilising the surrounding habitats.

6.4 Birds

6.4.1 The location of the site in proximity to the prior discussed designated sites means that it is likely for WCA Schedule 1 specially protected bird species to exist within proximity to the application site boundary. The site itself is of limited value for use by such species, given its limited size and an absence of natural or built structures suitable for purposes such as nesting and / or roosting, however this does not discount opportunistic access to the site or the immediate surrounding habitat.

6.4.2 In relation to WCA Schedule 1 specially protected bird species, no evidence to suggest usage of the site was encountered by the surveyor, however this does not discount opportunistic access to the site or the immediate surrounding habitat.

6.4.3 No direct evidence of nesting behaviour, in the form of complete or semi-complete nests, eggshells and / or an accumulation of faecal matter, was identified on site. However, the scrub on the site is suitable for nesting bird species, and likely provides numerous nesting platforms during the breeding bird season.

6.5 Other Terrestrial Mammals

Badger & hedgehog

6.5.1 No field signs of badger, such as latrines, pathways, hairs, footprints, or feeding signs, for example snuffle holes and scratched trees / logs, were located within the site boundary. There is a presence of woodland within proximity to the site, as well as previous evidence of the presence of badger in proximity to the site as already mentioned above, and so the presence of this species, including setts, cannot be ruled out.

6.5.2 Whilst no direct evidence of hedgehog was identified, the site habitats provide potentially suitable refuge with the scrub providing suitably protected areas for rest, whilst the grassland provides a suitable foraging habitat. Their occasional presence within the site is therefore considered possible.

6.6 Herpetofauna

Great crested newt (GCN)

6.6.1 Important elements to consider when assessing likely impacts against GCN includes:

- The scale, nature and magnitude of proposals,
- Site proximity to a potential breeding pond and to any additional ponds,
- Habitat linkage / barriers between potential breeding ponds and the site,
- Nature and extent of available terrestrial habitat around the pond,
- Area of site habitat loss,
- Nature of habitat to be lost and potential value to GCN,
- Most up to date Government guidance considering EPS.

6.6.2 As derived from the desktop assessment, there is an absence of mapped standing waterbodies within 250m of the application site. The site visit however identified a small, enclosed pond approximately 100m to the north-east of the site boundary which was not identifiable from aerial imagery (see **Figure 6.6.1** below for location of the pond. This pond was thus subject to a Habitat Suitability Index (HSI) assessment. See **Table 6.6.1** for a pond description; **Table 6.6.2** provides detailed HSI results whilst **Table 6.6.3** & **Figure 6.6.2** provide interpretation of the results in line with ARC UK guidance.

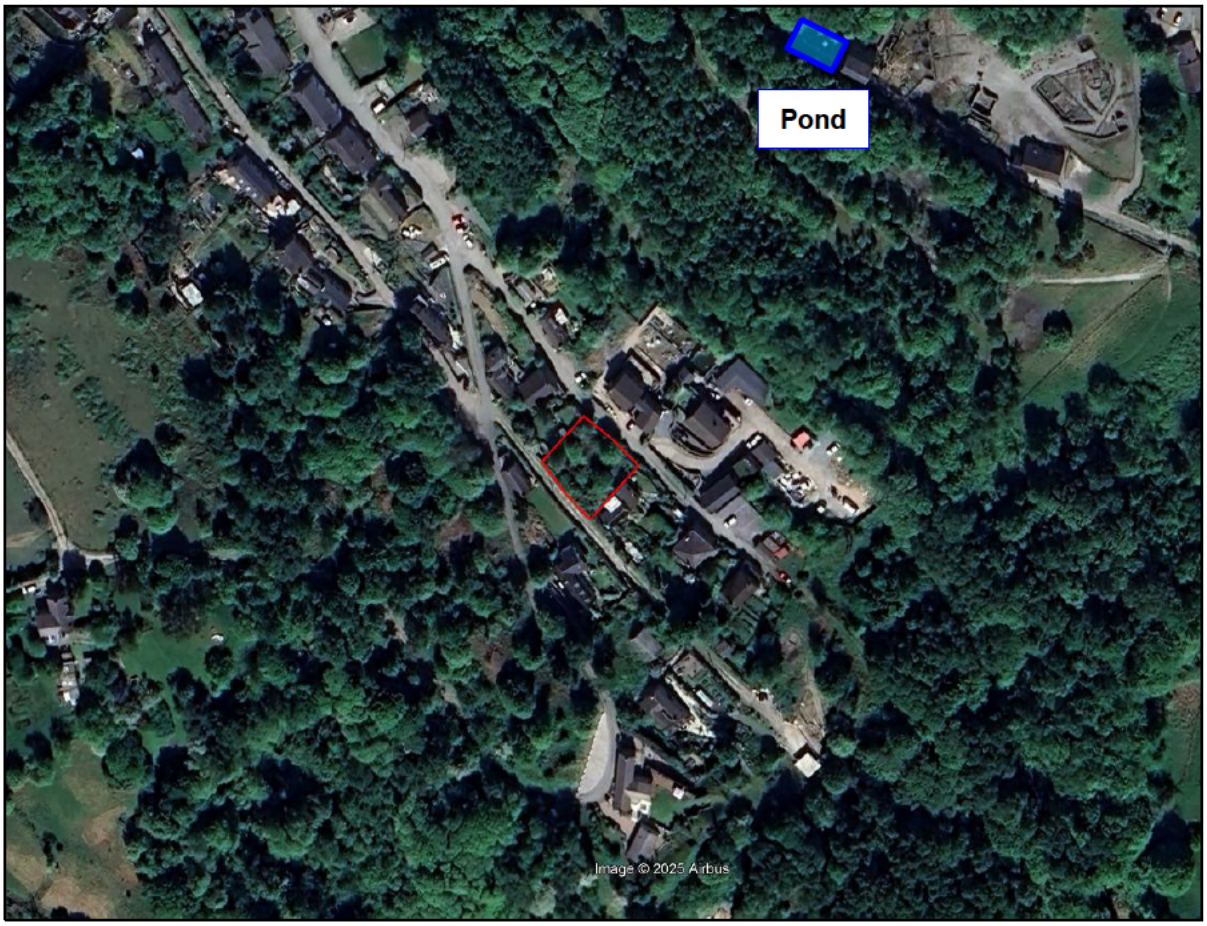


Figure 6.6.1 – *Location of pond relative to site boundary (© Google Earth Pro 2024/25)*

Table 6.6.1 – Standing water description within 250m radial buffer

Pond 1 (P1)	
P1 is located approximately 100m to the north-east of the site boundary. The pond was steeply enclosed by stone walls upon survey and is likely unsuitable for the purposes of GCN. There is a lack of vegetation due to the constructed nature of the waterbody. The HSI assessment indicates that the pond scores 0.43 – Poor.	

Table 6.6.2 – HSI quantitative assessment of the ponds

Pond Reference	**P1**
SI1 – Location	**1**
SI2 – Pond area	**0.05**
SI3 – Pond drying	**0.9**
SI4 – Water quality	**0.33**
SI5 – Shade	**0.7**
SI6 – Fowl	**1**
SI7 – Fish	**1**
SI8 – Ponds	**0.1**
SI9 – Terr'l habitat	**0.67**
SI10 – Macrophytes	**0.3**
HSI	**0.43**

Table 6.6.3 – HSI scoring chart (a suitability scoring method for GCN developed by Mr. L. Brady)

Great Crested Newt (GCN) HSI Scoring					
HSI Score	<0.50	0.50 - 0.59	0.60 - 0.69	0.70 - 0.79	>0.80
Pond Suitability	Poor	Below Average	Average	Good	Excellent

NB: *The HSI for great crested newts is a measure of habitat suitability. It is not a substitute for newt surveys. In general, ponds with high HSI scores are more likely to support great crested newts than those with low scores. However, the system is not sufficiently precise to allow the conclusion that any particular pond with a high score will support newts, or that any pond with a low score will not do so. There is a positive correlation between HSI scores and the numbers of great crested newts observed in ponds. So, in general, high HSI scores are likely to be associated with greater numbers of great crested newts. However, the relationship is not sufficiently strong to allow predictions to be made about the numbers of newts in any particular pond.*

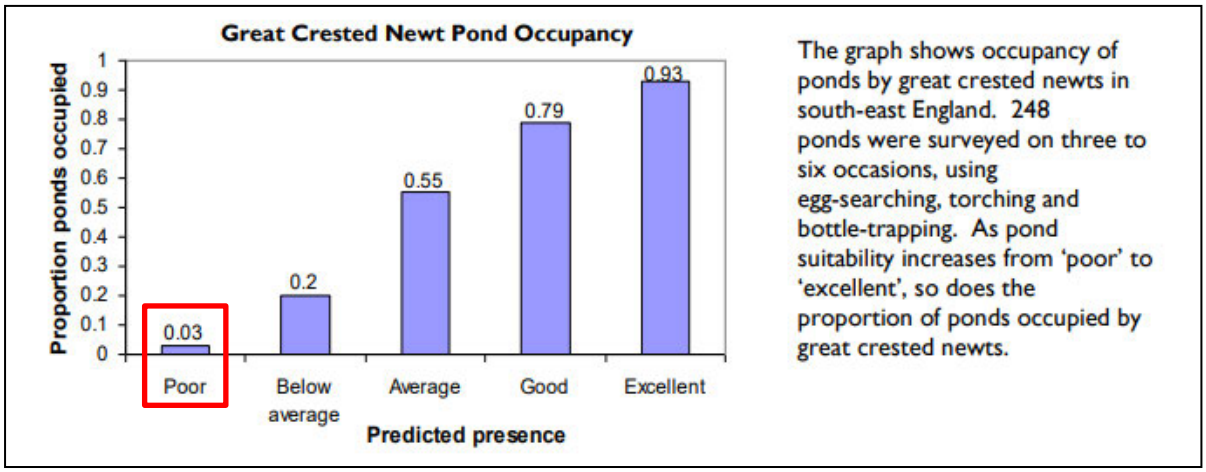


Figure 6.6.2 – *GCN pond occupancy © ARC UK*

6.6.3 The HSI result above indicates that there is a low risk of a breeding population of GCN being present at P1, given its poor suitability score.

6.6.4 In addition, the desktop study shows there is an absence of other, previously identified standing waterbodies and 'Potential Habitat for Great Crested Newts' within a 250m radius.

6.6.5 The scrub and vegetated habitat present onsite has potential suitability for GCN and there is a large pile of stones on site which could provide suitable refuge for amphibians, with the woodland habitat providing connectivity to the wider area, although the site itself is isolated on either side by roads and residential development.

6.6.6 In summary, the presence of GCN within the wider landscape is considered unlikely, based on the lack of a pond network present within a 250m radius. Despite the suitable terrestrial habitat surrounding and within the site, the single pond present in proximity of the site is unsuitable for GCN breeding purposes, and there is an absence of functional network of ponds within the site surrounding habitat.

Other amphibians

6.6.7 Based on the surrounding habitat information as described, specifically the lack of suitable waterbodies in proximity to the site, the presence of more widespread amphibians such as common frog and common toad in the surrounding area is considered unlikely.

6.6.8 Given the presence of a waterbody in proximity to the site, the presence of amphibians is considered possible.

Reptiles

6.6.9 The site does include some suitable habitat features for reptiles, with the grassland areas potentially suitable for basking, whilst the varied vegetation structure in the form of the grassland and scrub could be utilised for foraging. Additionally, the presence of a pile of stone located on site provides favourable refuge for reptiles. The connectivity of the site with heathland in the wider landscape makes it likely for reptiles to be present in the local area, though the site itself is of much lower value than the surrounding semi-natural habitats as discussed previously.

6.6.10 The presence of reptiles within the site is therefore considered possible, however no evidence of such species was found during the site visit.

6.7 Invertebrates

6.7.1 The site is typically absent of any habitats which are considered likely to support specially protected invertebrate species such as flower-rich unimproved grasslands. Thus, it is considered unlikely that specially protected invertebrate species are present within the site boundary.

7.0 Conclusions & Recommendations

Designated Sites

7.1 The site is located in proximity to Ruabon / Llantysilio Mountains and Minera SSSI, situated approximately 0.3km north-east of the site boundary. Where impacts are predicted to a SSSI, Natural Resources Wales must first be notified and asked for assent under section 28H of the Wildlife & Countryside Act 1981[4].

7.2 In this case, it is considered that any potential pathways by which impacts could occur (such as dust, noise, pollution etc) can be adequately negated via the implementation of a site-specific Construction Environment Management Plan (CEMP). Measures should include robust yet proportional pollution control, measures to reduce the risk of dust and / or noise form reaching the designated sites amongst reasonable avoidance approaches towards protected species that may use the site.

7.3 The site is also located in proximity to Berwyn and South Clwyd Mountains SAC, situated approximately 0.3km north-east of the site boundary. The Standard Data Form for the SAC was used to identify the notable threats, pressures and activities with impacts to the site, see **Table 7.1** below.

Table 7.1 – Threats to the Berwyn and South Clwyd Mountains SAC in relation to the proposals

Threat, pressure or activity	Rank	Likelihood of impact and context to proposals
H04 – Air pollution, air-borne pollutants	High	**Likely** – The use of machinery on site will produce atmospheric pollution whilst construction activities will generate particulate matter.
J01 – Fire and fire suppression	High	**Unlikely** – Although it is possible for fire to be used on the site of the proposed works, it is unlikely to spread to surrounding areas in the case of an incident. However, it remains a risk and should still be considered.
K02 – Biocenotic evolution, succession	Medium	**Not applicable** – This does not apply to any activities related to the proposals
F03 – Hunting and collection of wild animals (terrestrial)	Medium	**Not applicable** – This does not apply to any activities related to the proposals

7.4 Based upon the above, it is considered plausible that impacts to the SAC and its qualifying features could be presented by the works in the absence of any ecological mitigation or prevention measures.

7.5 The CEMP outlined previously is again considered applicable, and will prevent the any impacts via the pathways outlined above.

[4] To notify NRW, see: https://naturalresources.wales/guidance-and-advice/environmental-topics/wildlife-and-biodiversity/protected-areas-of-land-and-seas/sites-of-special-scientific-interest-responsibilities-of-public-bodies-and-statutory-undertakers/?lang=en

Habitats

7.6 No habitats of national or local priority status were located within the site boundary during the diurnal appraisal to warrant any specific intervention measures.

7.7 Any landscaping should look to incorporate native species as discussed in **Appendix II**.

7.8 It is recommended that, where possible, scrub patches across the site are retained as these will grow into mature tree features that will be beneficial for wildlife.

7.9 Should this not be possible, it is recommended that the step-wise approach provided in **Figure 2.1** is followed; impacts upon these areas of higher quality habitat should be avoided, or minimised, or mitigated, and as a last resort compensated for; enhancement must be secured wherever possible.

Vegetation

7.10 No specially protected species were identified on site by the surveyors during the diurnal appraisal to warrant any specific intervention measures.

7.11 No INNS, listed under Schedule 9 (Part II) of the Wildlife and Countryside Act 1981 (WCA) or Schedule 2 of The Invasive Alien Species (Enforcement and Permitting) Order 2019 (IASO) were identified on site during the diurnal appraisal.

Bats

7.12 No buildings or mature trees are present within the red line boundary of the site, and thus no further recommendations are made.

7.13 Installation of overly harsh artificial lighting as part of any development that exceeds current levels may have a negative impact upon foraging / commuting bats in the landscape, subject to their presence, particularly if increased light spillage occurs in areas that are currently free from illumination. A bat-sensitive lighting plan is therefore recommended in order to avoid potential impacts to bats. Several options to consider have been listed below, though the reader is referred to the Bat Conservation Trust's 'Bats and Artificial Lighting at Night' guidelines (August 2023) for further information.

Appropriate luminaire specifications: Light sources, lamps, LEDs and their fittings come in a myriad of different specifications which a lighting professional can help to select. However, the following should be considered when choosing luminaires and their potential impact on Key Habitats and features:

- All luminaires should lack UV elements when manufactured. Metal halide, compact fluorescent sources should not be used.
- LED luminaires should be used where possible due to their sharp cut-off, lower intensity, good colour rendition and dimming capability.
- A warm white light source (2700Kelvin or lower) should be adopted to reduce blue light component.
- Light sources should feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats (Stone, 2012).
- Internal luminaires can be recessed (as opposed to using a pendant fitting) where installed in proximity to windows to reduce glare and light spill.
- Waymarking inground markers (low output with cowls or similar to minimise upward light spill) to delineate path edges.
- Column heights should be carefully considered to minimise light spill and glare visibility. This should be balanced with the potential for increased numbers of columns and upward light reflectance as with bollards.

- Only luminaires with a negligible or zero Upward Light Ratio, and with good optical control, should be considered – See ILP GN01.
- Luminaires should always be mounted horizontally, with no light output above 90° and/or no upward tilt.
- Where appropriate, external security lighting should be set on motion-sensors and set to as short a possible a timer as the risk assessment will allow. For most general residential purposes, a 1 or 2 minute timer is likely to be appropriate.
- Use of a Central Management System (CMS) with additional web-enabled devices to light on demand.
- Use of motion sensors for local authority street lighting may not be feasible unless the authority has the potential for smart metering through a CMS.
- The use of bollard or low-level downward-directional luminaires is strongly discouraged. This is due to a considerable range of issues, such as unacceptable glare, poor illumination efficiency, unacceptable upward light output, increased upward light scatter from surfaces and poor facial recognition which makes them unsuitable for most sites. Therefore, they should only be considered in specific cases where the lighting professional and project manager are able to resolve these issues.
- Only if all other options have been explored, accessories such as baffles, hoods or louvres can be used to reduce light spill and direct it only to where it is needed. However, due to the lensing and fine cut-off control of the beam inherent in modern LED luminaires, the effect of cowls and baffles is often far less than anticipated and so should not be relied upon solely.

7.14 The scheme could include enhancement measures for bats to ensure that it meets wider biodiversity goals and complies with local and national policy; indicative options have been provided in **Appendix III**.

Birds

7.15 No impacts are applicable in relation to any Sch.1 (WCA) specially protected bird species such as hen harrier, and no further surveys or recommendations are necessary in relation to specially protected birds, with no evidence of nesting within the site boundary.

7.16 Regarding wider breeding bird species, the scrub present across the site could feasibly provide suitable nesting and foraging habitat and it is likely that passerines are using the site for these purposes.

NB: *All wild birds (with only minor exceptions) and their nests whilst being built or containing eggs or dependant young are protected from destruction, damage and disturbance under the Wildlife & Countryside Act 1981 (as amended). It is a punishable offence to interfere in any way with an active nest.*

7.17 If works are carried out within the breeding bird season of March – August, then a pre-commencement check should be carried out by a competent and professional Ecologist for signs of nesting behaviour within 48 hours or less prior to works commencing.

Point 3.24 of the British Standards Publication 42020:2013 defines a professional ecologist as: "*a person who has, through relevant education, training or experience, gained recognised qualifications and expertise in the field of ecology and environmental management.*"

7.18 Where / if active nests are / have been located by the Ecologist, then any works which may affect them would have to be delayed until the young have fledged and the nest has been abandoned naturally, this can be aided, for example, via implementation of appropriate buffer zone(s) around the nest site (typically 5 – 10 metres) in which no disturbance is permitted until the nest is no longer in use. This would have to be coordinated through the expert judgement of the professional ecologist and species pending.

Other Terrestrial Mammals

Badger & hedgehog

7.19 No field signs of badger were identified by the surveyor, [redacted]

7.20 Whilst no direct evidence of hedgehog was identified, the site habitats provide potentially suitable refuge with the scrub providing suitably protected areas for rest, whilst the grassland provides a suitable foraging habitat. Their occasional presence within the site is therefore considered possible.

7.21 It is recommended that Reasonable Avoidance Measures (RAMs) are enacted at the site to avoid any impacts to either of these species or other wildlife that may be present. RAMs to minimise construction impacts and prevent harm or injury to terrestrial mammals should include, as a minimum:

- All working hours should be limited to daylight (dawn – sunset, or dawn – 6pm in winter) to avoid disturbing any badger or hedgehog in vicinity of the development area.
- A pre-commencement check of the site, any stored materials and the immediate vicinity of development footprint will be carried out prior to any works each morning in order to check for the presence of badger or hedgehog.
- Materials that may cause entrapment such as plastic / metal fencing, as well as those which could be potentially harmful to terrestrial mammals such as chemicals, should not be left around the site following the cessation of daytime work.
- No bulky equipment / general construction aggregates should be left around the development area, instead leave them on bare ground away from the risk zone.
- Stock piling of spoil material MUST be left un-compacted and not allowed to grass over, as if grassed over and compacted, terrestrial mammals may be encouraged to excavate new areas for refuge.
- Fires must not be used as a means of the disposing of waste materials.
- Any trenches or excavations must either be covered at the end of each working day, or a low angle (no more than 45°) sloping board of approximately 300mm width should be provisioned within any uncovered excavations to provide a means of escape for any terrestrial mammals.
- Any temporarily exposed open pipe system MUST be capped in such a way as to prevent badgers gaining access, as may happen when contractors are off site.
- In the event an underground void / potential sett entrance is exposed during the works, work must cease immediately; and an Ecologist must be contacted to determine if the opening forms part of a previously undiscovered tunnel network of a badger sett. If this cannot be ruled out, works will cease, and Natural Resources Wales consulted for further advice.

Herpetofauna

Great crested newt (GCN)

7.22 The presence of GCN within the wider landscape is considered unlikely, based on the lack of a pond network present within a 250m radius. Despite the suitable terrestrial habitat surrounding and within the site, the single pond present within the search radius is wholly

unsuitable for the breeding purposes of GCN. No further surveys or recommendations are required for GCN.

Other amphibians

7.23 Whilst the single pond present within the surrounding habitat is not of high value for amphibians, when combined with the potentially suitable terrestrial features such as the scrub and piles of aggregate, the presence of other, more common amphibians is considered possible. Any works on site should therefore have due regard to local wildlife as discussed, and the RAMs detailed previous for terrestrial mammals should be extended to cover amphibians.

7.24 Should any frogs or toads be encountered within the works area, they should be handled with wet gloves to prevent impact / injury and moved to an area of like for like habitat outside of the works area away from potential harm. The applicant and all contractors should be aware that if at any stage newts are encountered during works, or at any other stage of the programme of works, such works would be required to immediately cease and the Ecologist / ECoW would be made aware as to provide further guidance, if an Ecologist is not already present.

Reptiles

7.25 Due to the suitability of the habitat for reptiles in the form of basking, foraging and refuge areas, the presence of reptiles is possible and as such it is recommended that RAMs are enacted at the site to avoid any impacts to these species which should include, as a minimum:

- Site preparation works should avoid the period of November to February which represents a sensitive period for reptiles when they are hibernating.
- Where works are identified as not taking place and habitat is to be retained, to ensure its integrity it may be appropriate to demarcate these areas as buffer zones using coloured tape and/or signage to avoid any encroachment/ over-management occurring from the development site within sensitive areas (to be defined by the ecologist on site). Buffer zones would be appropriate if during vegetation strimming works a bird nest is identified, in which then a 5m buffer will be erected to ensure disturbance is minimised.
- When strimming of vegetation is to occur, it is recommended that the height of the vegetation be taken down to 15cm in height using brush cutters or similar approved methodology. Strimming should be restricted to 1-metre width perimeter around each fence line, to allow any reptiles to disperse into the wider vegetation that will remain.
- If required, once the vegetation is cut to 15cm a further hand search should take place – following the hand search, when herptiles are confirmed likely absent, the vegetation should then be cut to ground level (or below 10cm), raked bare and maintained at this sward thereafter. Habitat manipulation like this will discourage animals from using the areas thus likely to be harmed by works on site.
- The ecologist will identify suitable refugia / habitat which will be utilised as a receptor area if any herptiles are found during the works.
- If a reptile is found in the absence of supervision, work must stop immediately and contact should be made with the assigned licensed, qualified ecologist / ECoW. At no point should any person handle a reptile without express consent from the qualified ecologist / ECoW.

Invertebrates

7.26 Based on the combination of the desktop and field-based study, the presence of specially protected invertebrates onsite is considered unlikely.

7.27 Indicative enhancement measures which are deemed suitable for the scheme have been provided in **Appendix III**.

8.0 Green Infrastructure Statement

8.1 The site is not considered to be locally notable for its green infrastructure, given the relative abundance of rocky slopes and scrubland in proximity to the site, both of which make up the majority of the on-site habitats.

8.2 Whilst no specific plans have been provided to the author, as previously discussed they are understood to involve the construction of a dwelling and associated hardstanding as well as landscaping through the terracing of the sloped land.

8.3 It is recommended that, where possible, the proposals should attempt to avoid impacting the key infrastructure on site; this would include the mature areas of shrub.

8.4 Should the above not be possible, then the scheme will need to include details as to how the works will minimise impacts to these habitats, or in a worst case scenario, provide adequate mitigation and compensation for the loss of such habitat. This could include the planting of native species across the site, as well as the incorporation of wildlife friendly provisions, such as bat / bird boxes, hedgehog homes and / or insect hotels. Further generic recommendations are provided within **Appendix III**. This would also help the scheme meet net benefit for biodiversity goals.

8.5 This assessment may need to be revised once detailed plans are produced for the site which will allow the ecologist to make an assessment of the scheme's alignment with PPW guidance in relation to green infrastructure

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Appendix I: Site Photographs



Plate 1 – *Off-road path at the top of the site along the north-eastern boundary*



Plate 2 – *Pond (P1) close to the north-eastern boundary of the site*



Plate 3 – *Willow scrub habitat along the road at the south-western boundary of the site*



Plate 4 – *Wall feature along the south-western boundary of the site*



Plate 5 – *Grassland habitat on the slope characterising the site*



Plate 6 – *Pile of stone found on the site*

Appendix II: Botanical Species List

Species nomenclature follows Stace, C (2019) – definitive English names; scientific names for given flora are presented below.

Any invasive non-native species are denoted by the acronym (**INNS**).

Division	Common Name	Scientific Name
Anthophyta	Annual meadow-grass	*Poa annua*
	Birch	*Betula* sp.
	Bramble	*Rubus fruticosus*
	Cock's-foot	*Dactylis glomerata*
	Common Mouse-ear	*Cerastium fontanum*
	Common sorrel	*Rumex acetosa*
	Common vetch	*Vicia sativa*
	Creeping buttercup	*Ranunculus repens*
	Dandelion	*Taraxacum* sp.
	Eyebright	*Euphrasia* sp.
	Foxglove	*Digitalis purpurea*
	Gorse	*Ulex* sp.
	Herb-Robert	*Geranium robertianum*
	Hogweed	*Heracleum* sp.
	Holly	*Ilex aquifolium*
	Honeysuckle	*Lonicera periclymenum*
	Male fern	*Dryopteris filix-mas*
	Red fescue	*Festuca rubra*
	Ribwort Plantain	*Plantago lanceolata*
	Rosebay willowherb	*Chamaenerion angustifolium*
	Tall fescue	*Festuca arundinacea*
	Willow	*Salix* sp.
	Willowherb	*Epilobium* sp.

Appendix III: Biodiversity Enhancement: General Recommendations

Bats

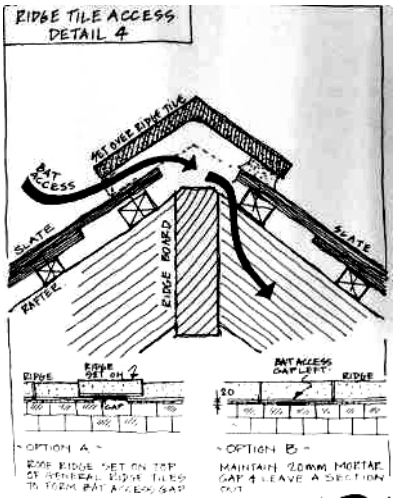
Integrated bat box

The Habibat Bat Box is a solid box made of insulating concrete with internal roosting space. The box blends seamlessly into brick-built properties and may be incorporated into the fabric of buildings, being best placed on gable elevations.



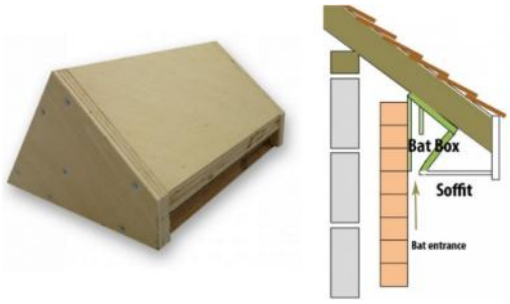
Ridge access

Where appropriated, ridge tile access should be made with the incorporation of traditional Bitumen 1F underfelt immediately beneath ridge tiles. Breathable BRM membrane can cause significant problems where bats are in contact with it, whereby their fine claws become entangled within the fibres of the membrane, entrapping and killing bats.



Soffit access

Where soffits are instated at gable elevations, roost provision may be instated in the form of a soffit bat box with internal roosting space.



Externally fitted boxes

A large number of externally fitted box models for bats exist for buildings and trees. Suitable models for both buildings and trees may include the Eco Kent Bat Box.



Breeding Birds – House Sparrow



The sparrow terrace has been designed to help redress the balance of falling house sparrow numbers. The current UK population is now half of what it previously was in 1980 and this is widely attributed to habitat destruction and lack of suitable nesting spaces. House sparrows are social birds and like to nest in company, therefore, this terrace provides ideal nesting opportunities for three families. The terrace can be fixed on to the surface of a suitable wall or incorporated into the wall. It is suitable for all types of buildings.

Breeding Birds – Other



This traditional design has proved to be highly effective in attracting robins, as well as other small species such as black redstart, spotted flycatcher and wren. It is designed to be installed on the walls of houses, barns, garden sheds or other buildings and should be hung so that the entrance is to one side (at an angle of 90° to the wall). The front panel can be easily removed for cleaning.

This type of box should not be made conspicuous on a tree or bush because small predators can enter through the unprotected opening. By hanging on a wall, predators won't be able to reach the box. Alternatively hide the box in Ivy, Honeysuckle or other climbing plants.

Invertebrates – Bee bricks



The Bee Brick can be used in place of a standard brick or block in construction to create habitat for solitary bees. Alternatively, it can be used as a standalone bee house in your garden or wild patch. It will provide much needed nesting space for solitary bee species such as red mason bees and leafcutter bees, both of which are non-aggressive.

Each Bee Brick contains cavities in which solitary bees can lay their eggs before sealing the entrance with mud and chewed-up vegetation. The offspring will emerge the following spring and the cycle will begin again. Each cavity goes part way into the brick, which is solid at the back. Bee Bricks should be placed in a warm sunny spot on a south-facing wall at a minimum height of 1m, with no vegetation obstructing the holes. It is highly recommended that bee-friendly plants should be located nearby so that the bees using the bricks have food, otherwise it is unlikely that the brick will be used.

Available in a choice of four colours: white grey, dark grey, yellow and red.

Specification:

* Material: Concrete
* Origin: Cornwall, UK
* Dimensions: W 215mm x D 105mm x H 65mm
* Weight: 2.9kg
* Colours: White grey, yellow, dark grey and red

Native Planting and/or Landscaping

The below species have been assessed against the local soil and habitat types and are deemed suitable for the site. All plant material should comply with the minimum requirements in BS 3936-1: 1992 Specification for trees and shrubs and BS 3936-4: 2007 Specification for forest trees and BS 8545: 2014 Trees from Nursery to Independence in the Landscape. Any plant material, which in the opinion of the appointed Landscape Architect, does not meet the requirements of the Specification, or is unsuitable, or defective in any other way, will be rejected. The minimum specified sizes in the plant schedule will be strictly enforced. The contractor should replace all plants rejected at own cost. New hedgerows should be primarily comprised of blackthorn, hawthorn, hazel, and holly, whilst climbers/creepers such as hops and honeysuckle can be planted at the base of boundary features such

as fences and walls, and new tree planting should include species such as pedunculate oak, wild cherry, and alder buckthorn.

	Common Name	Scientific Name	Planting Preference
Ferns	Male Fern	*Dryopteris filix-mas*	Semi-shade or shaded
	Soft Shield-fern	*Polystichum setiferum*	Semi-shade or shaded
	Maidenhair Fern	*Adiantum capillus-veneris*	Suitable for rockeries / walled gardens
	Royal Fern	*Osmunda regalis*	Full sun in moist-damp areas
Herbaceous plants	Bloody Crane's-bill	*Geranium sanguineum*	Dry soils - suitable for rockeries
	Columbine	*Aquilegia vulgaris*	Semi-shade or open areas
	English Bluebell	*Hyacinthoides non-scripta*	Moist soils in semi-shade or open areas
	Giant Bellflower	*Campanula latifolia*	Semi-shade or open areas
	Greater Knapweed	*Centaurea scabiosa*	Dry-moist soils. Suitable for borders
	Greater Woodrush	*Luzula sylvatica*	Moist soils in semi-shade or open areas
	Meadow Crane's-bill	*Geranium pratense*	Humid-moist soils. Suitable for borders
	Musk Mallow	*Malva moschata*	Dry-moist soils. Suitable for borders and rockeries
	Sea Campion	*Silene uniflora*	Dry soils - suitable for rockeries
	Stinking Hellebore	*Helleborus foetidus*	Semi-shade or open areas
Climbers	Honeysuckle	*Lonicera periclymenum*	Dry-moist soils
	Hops	*Humulus lupulus*	Dry-moist soils
	Ivy	*Hedera helix*	Dry-moist soils
	Sweet-briar	*Rosa rubiginosa*	Dry-moist soils
Woody Shrubs	Dogwood	*Cornus sanguinea*	-
	Guelder Rose	*Viburnum opulus*	-
	Hawthorn	*Crataegus monogyna*	-
	Hazel	*Corylus avellana*	-
	Holly	*Ilex aquifolium*	-
Trees	Alder Buckthorn	*Frangula alnus*	-
	Osier	*Salix viminalis*	-
	Pedunculate Oak	*Quercus robur*	-
	Purple Willow	*Salix purpurea*	-
	Rowan	*Sorbus aucuparia*	-
	Silver Birch	*Betula pendula*	-
	Wild Cherry	*Prunus avium*	-
	Wych Elm	*Ulmus glabra*	-

Appendix IV: UK Habitats Map



Tyrer Ecological Consultants Ltd
Specialists in Protected Species

Land at New Brighton

UK Habitats Key

- u1e - Built linear feature
- g4 - Modified grassland
- h3h - Mixed scrub
- h3j - Willow scrub
- Red line boundary

Survey Date: 08/09/2025
Drawn: Mr. G. Windle
Date Drawn: 16/10/2025
Checked & Approved: Mrs. K. Wilding
Size: A3
Scale: 1:250

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