
**Cwrt Pentwmpath,
Wrexham**

**Preliminary Ecological
Assessment**

August 2022

Issue Status

Rev	Status	Prepared by	Reviewed by	Date
01	Draft Issue	BS	AN	17/08/2022
02	Final Issue	BS	AN	17/08/2022

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1.0 Introduction

1.1 Background

- 1.1.1 This preliminary ecological appraisal report (PEAR) has been prepared by Anthony Nickson Ecology Ltd on behalf of Castlemead Group Limited. The report will accompany an application for the demolition of existing buildings and the erection of 25 no. affordable residential dwellings with associated landscaping and carparking on the site of the existing Cwrt Pentwmpath, an existing retirement development in Llay, Wrexham (hereinafter referred to as the "Site").

1.2 The Site

- 1.2.1 The site is located in Llay (grid reference: SD5476824749) bound by green space to the north and north-east and residential developments to all other orientations. The wider landscape is dominated by residential developments, woodland including Nant-Y-Gaer Woods (approximately 1.25 ha in area) approximately 50m north of the site and agricultural land. The River Alyn flows approximately 840m to the south-east of the site.



Figure 1. Site location

1.3 Survey Aims

- 1.3.1 The survey was commissioned to establish the existing ecological value of the application site to ensure future planning applications and works comply with all current EU and UK legislation and national and local planning policy relating to protected sites, habitats and species. The aim of the survey is to:
- Describe and map the habitats present on the site
 - Assess any potential impact on protected species or sites
 - Identify where further survey may be required

1.4 Planning

- 1.4.1 Biodiversity is a material consideration to the planning process and consideration must be given to the protection, retention, and improvement, of existing biodiversity features. As the proposals are to construct a residential development on existing agricultural land the project may have possible impacts of wildlife and biodiversity, so consideration should be given to protected of notable habitats and species which may be present within and/or adjacent to the application site prior to construction works commencing.
- 1.4.2 The Wrexham Local Development Plan (2013 to 2028) provides a local guide for development in the area. The policies relating to biodiversity are:
- **Policy PS2** - Development must not materially detrimentally affect countryside, landscape/townscape character, open space, or the quality of the natural environment.
 - **Policy PS11** - Encouragement will be given to proposals which improve the biodiversity value of sites and to the establishment of local nature reserves where the nature conservation and landscape interest of the land will be protected and enhanced.
 - **Policy EC4** - Development proposals should provide for the conservation and management of hedgerows, trees, orchards, woodland, wildlife and other natural landscape and water features, and include new planting in order to enhance the character of the landscape and townscape. Development which results in the loss or significant damage to valuable trees, important hedgerows or ancient woodland sites will not be permitted.
 - **Policy EC6** - Development either within or close to sites of biodiversity interest will only be permitted where it can be clearly demonstrated that the need for the development outweighs the need to safeguard the intrinsic nature conservation value of the site. Where such development is permitted, damage should be kept to a minimum, and compensatory measures should be provided. Measures to improve the biodiversity value of sites and enhance their natural conservation interest and landscape quality including the establishment of local nature reserves, will be supported.

2.0 Methodology

2.1 Desktop Study

- 2.1.1 A desktop review of ecological information was undertaken. An environmental information search was requested through Cofnod (Local Environmental Records Centre for North Wales), to provide a biodiversity information report for all records within a 2km radius of the site.
- 2.1.2 It should be noted that biological databases do not represent an exhaustive list of all records.

2.2 Site Survey

- 2.2.1 An ecological site walkover was undertaken to JNCC standards (Phase 1 Habitat Survey – a technique for environmental audit, JNCC, revised 2016). Habitats were mapped during the site survey and each habitat was assigned a Phase 1 category. A Phase 1 map was produced showing the habitat types and their boundaries. This report details each habitat category located within the designated site boundary. Please see Appendix A for the Phase 1 Habitat map.
- 2.2.2 The Site walkover was carried out on the 14 June 2022 in optimal conditions for botanical survey. Botanical nomenclature follows Stace (2019). The survey was undertaken by Bruce Shortland who is experienced in Phase 1 Habitat and protected species work and has worked as an ecologist for over 20 years in a variety of consultancy roles. Bruce is also a full member of the Chartered Institute for Ecology and Environmental Management.
- 2.2.3 During the Phase 1 habitat survey, observations of any invasive alien plants listed under Schedule 9 of The Wildlife and Countryside Act 1981 (as amended) were made. The search included species such as Giant Hogweed (*Heracleum mantegazzianum*), Japanese knotweed (*Reynoutria japonica*) and Himalayan balsam (*Impatiens glandulifera*).
- 2.2.4 During the site survey evidence and/or potential of any other protected species was recorded. Based on the desktop study and habitat types present on and surrounding the site, particular attention was paid to the following species:

Bats

- 2.2.5 All British bat species and their roosts are protected under European Law (The Conservation of Habitats and Species Regulations 2010, as amended) and UK Law (Wildlife and Countryside Act 1981, as amended). As such it is an offence to undertake the following acts:
- Deliberately capture, injure or kill bats
 - Damage or destroy a breeding or resting place
 - Obstruct access to their resting or sheltering places
 - Intentionally or recklessly disturb a bat while it's in a structure or place of shelter or protection
- 2.2.6 As the proposals for the site may impact existing buildings and trees, particular attention was given to bats.

Habitat Suitability

- 2.2.7 Initially, a review of publicly accessible online mapping systems was undertaken to assess the habitats present on site and in the surrounding landscape. The review assessed the suitability of the habitats to support and provide connectivity for commuting and foraging bats.

Table 1. Guidelines for assessing the potential suitability of proposed development sites for bats based on the presence of habitat features within the landscape

Suitability	Commuting and foraging habitats
Negligible	Negligible habitat features on site likely to be used by commuting or foraging bats.
Low	Habitat that could be used by small numbers of commuting bats 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	Continuous habitat connected to the wider landscape that could be used by bats for commuting 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	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats 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.

Preliminary Roost Assessment

- 2.2.8 In addition, a preliminary roost assessment of the existing buildings and existing trees was undertaken. An external inspection and internal inspection (where accessible) of the buildings and trees was undertaken to search for, and to assess the potential for, a bat roost to be present.
- 2.2.9 The external inspections of the trees involved a visual examination of each tree from the ground using close-focusing binoculars to search the trunk and the canopy for potential roosting features (PRFs). A high-powered torch was used to inspect cavities or shaded areas of the tree. Features of trees commonly used by bats for roosting and shelter, and field signs that may indicate use of trees by bats, were also recorded. Potential roosting features that may be used by bats include:
- woodpecker holes;
 - rot holes;
 - hazard beams;
 - other vertical or horizontal cracks and splits (such as frost cracks) in stems or branches;
 - partially detached platey bark;
 - knot holes arising from naturally shed branches, or branches previously pruned back to the branch collar;
 - man-made holes (e.g. cavities that have developed from flush cuts) or cavities created by branches tearing out from parent stems;
 - cankers (caused by localised bark death) in which cavities have developed;
 - other hollows or cavities, including butt-rots;
 - double-leaders forming compression forks with included bark and potential cavities;
 - gaps between overlapping stems or branches;

- partially detached ivy with stem diameters in excess of 50mm;
- bat, bird or dormouse boxes.

2.2.10 The external inspection of the building included, for example, looking for gaps between any soffit boards and walls, gaps between window frames and the walls, and looking for bat droppings on the walls and window ledges. Following the external survey, an internal survey of accessible loft spaces was also carried out to search for evidence of a bat roost. This included looking for the following signs:

- live or dead bats
- bat droppings
- bat entry/exit points
- bat urine staining
- grease marks on any timbers
- feeding remains such as insect wings
- areas clear of cobwebs

2.2.11 The building was then assessed in accordance with the guidelines for assessing the potential suitability of proposed development sites for bats (BCT, 2016).

Table 2. Guidelines for assessing the potential suitability of proposed development sites for bats based on the presence of suitable roosting features within a structure

Suitability	Commuting and foraging habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation). A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential.
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.

Emergence/Re-entry Survey

- 2.2.12 Following the preliminary roost assessment 2 no. dusk emergence surveys were carried out on the buildings which had been identified as having moderate suitability to support roosting bats to determine presence/absence of bats.
- 2.2.13 The dusk emergence surveys began 15 minutes before sunset and continued for 90 minutes after sunset.
- 2.2.14 For each survey, surveyors were located strategically (ref. figure 2) to ensure all potential bat access points on each building were accounted for, and the surveyors monitored the building visually to determine whether or not any bats emerged from, or entered, either of the buildings. Further to this, each surveyor used a bat detector to record the echolocations of any bat activity in full spectrum so that the calls could later be identified to species or at least genus level using Anabat Insight (version 1.9.0) bat acoustic analysis software.



Figure 1. Dusk emergence surveyor locations

- 2.2.15 Anthony Nickson led the daytime and nocturnal bat surveys; Anthony is an active bat worker and holds a Natural Resources Wales survey licence (S090608/1) for bats; he is also a full member the Chartered Institute of Ecology and Environmental Management.

Great Crested Newts

- 2.2.16 Great Crested Newts (GCN) (*Triturus cristatus*) are protected under European Law (The Conservation of Habitats and Species Regulations 2017) and UK Law (Wildlife and Countryside Act 1981, as amended). As such, it is an offence to deliberately or recklessly undertake the following acts:
- Capturing, killing, disturbing or injuring GCN deliberately
 - Damaging or destroying a breeding or resting place
 - Obstructing access to their resting or sheltering places (deliberately or by not taking enough care)

- 2.2.17 The desktop assessment reviewed any ponds in the site or mapped (shown on OS 1:25,00 data) within a 250m radius from the site boundary. The site walkover on the 14 June 2022 was used to establish the location of any waterbodies or water features within the site and within a 250m radius from the site boundary. The assessments were carried out by Bruce Shortland, an experienced amphibian surveyor.

Reptiles

- 2.2.18 Common reptiles (adder (*Vipera berus*), grass snake (*Natrix natrix*), common lizard (*Zootoca vivipara*) and slow worm (*Anguis fragilis*)) are protected by UK legislation under Schedule 5 of the Wildlife and Countryside Act (1981) as amended by the Wildlife and Countryside Act 1981 (Variation of Schedule) Order 1991. Under the Act it is an offence to intentionally kill or injure a reptile.
- 2.2.19 Reptile habitat suitability assessments including surveys of available refuges within the proposed site and adjacent environs was undertaken in accordance with the Herpetofauna Workers Manual (JNCC, 1998).

Badger

- 2.2.20 Badger (*Meles meles*), and their setts are protected under UK Law (Protection of Badgers Act 1992, as amended). As such it is an offence to either harm badgers or disturb or damage their setts.
- 2.2.21 The site and accessible land within a 50m radius from the site perimeter were searched to identify any potential habitat suitable for resting, active/inactive setts and signs of foraging or commuting badgers.

Birds

- 2.2.22 All birds, their nests and eggs are protected at the nest under UK Law (Wildlife and Countryside Act 1981, as amended). As such it is an offence to intentionally undertake the following acts:
- Kill, injure or take any wild bird
 - Take, damage or destroy the nest of any wild bird whilst it is in use or being built
 - Take or destroy the egg of any wild bird
- 2.2.23 Intentionally or recklessly disturb any wild bird listed on Schedule 1 while it is nest building, or at a nest containing eggs or young, or disturb the dependent young of such a bird.

Limitations

- 2.2.24 The daytime survey was carried out between the hours of 10.20am to 14:00 pm on the 14 June 2022. The time spent on site is viewed as adequate for the habitats and the conditions for both an internal and internal inspection of the features present. The temperature on site was 16.5°C with 7/8 cloud and the wind scored a Beaufort 1, conditions were conducive with a good survey.
- 2.2.25 Potential roost features in trees were assessed at sub optimal time of year from ground level with high power 10x42 Leica binoculars, a torch and any features documented with a camera with a large Zoom. Foliage was present on the trees and shrubs; however, an accurate assessment was possibly due to the young trees on site, the open canopy of the trees where present, and the low suitability of the shrubs present.
- 2.2.26 Buildings were assessed externally from the ground and any internally any loft void was entered to inspect for signs of bats. Several areas were inaccessible, but it is not believed by the surveyor that this has affected the survey outcome. Investigations into adjacent curtilages were carried out from the fence lines / hedge lines with binoculars.
- 2.2.27 It is the surveyor's opinion that the survey delivered an accurate assessment of the conditions present on site.

3.0 Results

3.1 Desktop Study

3.1.1 Cofnod provided the following ecological information for the Site and a 2km radius:

- Statutory and Non-Statutory Sites
- Protected and other Notable Species

3.1.2 See Appendix B for summary of ecological data search records.

3.1.3 The full list of protected and notable species identified from the data search was analysed, and the relevant issues have been detailed below. It should be noted that although the information provided by the local record centre is based on current records, it does not represent an exhaustive list of all records.

Statutory Designated Sites

3.1.4 The desktop study confirmed that there are no International and/or European statutory designated sites within a 2km radius of the Site.

3.1.5 The desktop study identified three nationally protected sites within the 2km search area. The closest is Chwarel Singret Site of Special Scientific Interest (SSSI), approximately 1,032m north-east from the site boundary.

Local Nature Reserves

3.1.6 The desktop study identified a single Local Nature Reserve (LNR) within the 2km search area. Alyn Waters, approximately 757m to the south west of the site.

Local Wildlife Sites

3.1.7 The desktop study confirmed that there seven Local Wildlife Sites within a 2km radius of the application site, as follows:

- Nant Y Gaer & Llay Valley, approximately 85m north-east of the site.
- Alyn Waters approximately, approximately 640m south-west of the site.
- Ballswood Quarry & Cockpit Wood, approximately 718m east of the site.
- Burton Tower Lake, approximately 1399m north-east of the site.
- Blast Road Pond, approximately 1654m west of the site.
- Rackery Wood, approximately 1903m north of the site.

3.1.8 Nant Y Gaer & Llay Valley wildlife site comprises of a semi-natural woodland along two joining valleys. A canopy dominated by sycamore (*Acer pseudoplatanus*) and ash (*Fraxinus excelsior*), and oak (*Quercus* spp) to the south with ground flora species such as bluebell (*Hyacinthoides non-scripta*). The valley floor is a semi-improved grassland with some scrub and bracken (*Pteridium aquilinum*).

Protected Species

3.1.9 The following results are of protected species recorded within a 2km radius of the application site:

Bats

3.1.10 The local record centre identified fifty-one bat records within a 2km radius of the Site, these are summarised in table 3 below.

Table 3. Summary of bat records

Species	Roost records	Other records	Distances
Bat <i>Chiroptera</i>	0	13	13 records dated between 1983 and 2005. The nearest record is shown approximately 182m north from the site.
Brown long-eared bat (<i>Plecotus auritus</i>)	0	7	The nearest record is shown approximately 303m in a north-easterly direction from the site.
Long-eared bat (<i>Plecotus spp.</i>)	0	2	Two records from 1987. The nearest record is shown approximately 2028m west from the site.
Pipistrelle bat (<i>Pipistrellus spp</i>)	0	5	Five records. The nearest record is shown as being approximately 228m to the south of the Site, dating from 1987.
Common Pipistrelle (<i>Pipistrellus pipistrellus</i>)	1	15	16 records in total. The nearest record is shown approximately 267m in a north-easterly direction from the site.
Daubenton's bat (<i>Myotis daubentonii</i>)		1	One record from 1998. The record is shown approximately 1268m in a south-easterly direction from the site.
Lesser Horseshoe bat (<i>Rhinolophus hipposideros</i>)	0	1	One record from 2017. The record is shown approximately 1920m in a south-easterly direction from the site.
Myotis Bat species (<i>Myotis spp</i>)	0	1	One record from 2008, shown approximately 1038m west from the site.
Noctule Bat (<i>Nyctalus noctula</i>)	0	1	One record from 2005. The nearest record is shown approximately 1196m in a west direction from the site.
Soprano Pipistrelle (<i>Pipistrellus pygmaeus</i>)	1	3	The nearest record is shown with the nearest record shown as approximately 1038m west from the site. The nearest roost record is shown as approximately 1920m south-east from the site.

Great Crested Newt

3.1.11 The data search returned thirty records for GCN within 2km of the site. The nearest record is approximately 563m west of the site boundary.

3.1.12 There were no ponds in the site or mapped (OS 1:25,00 data) within a 250m radius from the site boundary. The nearest ponds to the site are a group approximately 917m to the north-east of the site and a SuDs feature is shown east of Gresford Road, approximately 370m from the Site. The SuDs features appear to be recently build as part of a large new development and existing residential development provide a barrier between the pond and the Site.

3.1.13 The known GCN records are located on the opposite side of the urban settlement of Llay, which is likely to act as a barrier to GCN dispersal into the site therefore there is no further consideration to GCN as the proposals for the site are unlikely to impact on this species.

Common Reptiles

- 3.1.14 There was one record of adder (*Vipera berus*) approximately 1.157m south-east from the site. One record of slow worm (*Anguis fragilis*) from approximately 1,831m south-east from the site. One record of common lizard (*Zootoca vivipara*) 1,232m north-west from the site; and thirty-two records of grass snake dated between 1998 and 2019, the nearest grass snake record is approximately 1,257m south-west from the site.

Badger

- 3.1.15 The local record centre provided badger records within a 5km search area from the site. The exact location of the records are confidential.
- 3.1.16 The grassland within the site is considered to be suitable habitat for badger foraging, but no evidence of badger use within the survey area was found during the survey.

Birds

- 3.1.17 The local record centre provided 338 bird records comprising 155 species including species which are known to nest in habitats present within the site. The relevant species included dunnoek (*Prunella modularis*), blue tit (*Cyanistes caeruleus*), house sparrow (*Passer domesticus*), great tit (*Parus major*), greenfinch (*Chloris chloris*), swift (*Apus apus*) and wood pigeon (*Columba palumbus*).

3.2 Site Survey

Habitat Description

- 3.2.1 The site is approximately 1.16 hectares and comprises amenity grassland, hedgerow, introduced shrub, mature trees, buildings and hardstanding.

Amenity grassland

- 3.2.2 Most of the site consists of a grass dominant, frequently mown, amenity grassland (ref. plate 1) along what is predominantly a gently sloping site. The grass species found in this sward are perennial rye-grass (*Lolium perenne*), Italian rye-grass red fescue (*Festuca rubra*), common bent (*Agrostis capillaris*), rough meadow-grass (*Poa trivialis*), annual meadow-grass (*Poa annua*), sweet vernal-grass (*Anthoxanthum odoratum*), Yorkshire fog (*Holcus lanatus*).
- 3.2.3 Forbs are scattered throughout the mown sward comprising of common and widespread species typical of a managed grassland habitat. Species noted include daisy (*Bellis perennis*), scarlet pimpernel (*Anagallis arvensis*), hedge woundwort (*Stachys sylvatica*), creeping buttercup (*Ranunculus repens*), cleavers (*Galium aparine*), common nettle (*Urtica dioica*), nipplewort (*Lapsana communis*), broadleaved willowherb (*Epilobium montanum*), ivy (*Hedra helix*), wood avens, greater plantain (*Plantago major*), creeping fescue, dandelion (*Taraxacum officinale* agg), saplings of sycamore (*Acer pseudoplatanus*), selfheal (*Prunella vulgaris*), American willowherb (*Epilobium ciliatum*), garden roses (*Rosa* spp), clematis (*clematis* spp.) and great willowherb (*Epilobium hirsutum*).

Introduced shrub

- 3.2.4 Low maintenance amenity plants are present in narrow beds and borders around the site (ref. plate 2). Species noted within the planting include: standard roses (*Rosa* spp.) lamb's-ear (*Stachys byzantina*), English lavender (*Lavandula angustifolia*), opium poppy (*Papaver somniferum*), purple toadflax (*Linaria purpurea*), yellow toadflax (*Linaria vulgaris*), common jasmine (*Jasminum Officinale*), winter jasmine (*Jasminum nudiflorum*), montbretia (*Crocsmia x crocosmiiflora*), grape hyacinth (*Muscari armeniacum*), lily (*Lilium* spp.), *Nicotiana sylvestris*, fuschia (*Fuschia* spp.), and calendula pot marigold. Species such as colt's-foot (*Tussilago farfara*), Common mallow (*Malva sylvestris*), common nettle, and willowherbs are becoming established as time is passing from frequent management.

Hedgerows

- 3.2.5 Hedgerows bound the eastern side of the site (ref. plate 3) and planting of garden privet (*Ligustrum ovalifolium*) hedge is also within the site (ref. plate 4). The eastern boundary hedge is hawthorn (*Crataegus monogyna*) dominant, with elder (*Sambucus nigra*), cherry (*Prunus* spp.) with sycamore and oak (*Quercus robur*) standards. The boundary feature is approximately 6m tall and 1.5m wide, and in need of management to maintain its structure.

Trees and shrubs

- 3.2.6 Mature and semi-mature planted trees are located within the site (ref. plate 5). ornamental cherry (*Prunus* spp.) dominate the trees with the site with mature sycamore along the eastern boundary. Individual shrubs including cherry laurel (*Prunus laurocerasus*) (ref plate 6) are also present within the site.

Buildings

- 3.2.7 The site features a group of interconnected double story brick-built buildings (ref plate 7) with concrete pan tile covered pitched roofs, with UPVC double glazed windows, and UPVC plastic fascia's and timber soffits. While most of the buildings are empty of people, some flats still had residents at the time of survey.

Hardstanding

- 3.2.8 Tarmacadam and concrete paving stone hardstanding cover the parking area and pedestrian areas around the site (ref. plate 8).

Invasive Alien Species

- 3.2.9 The Schedule 9 listed invasive plant species montbretia was recorded in the site during the survey.

Protected Species

Bats

- 3.2.10 All British bat species use buildings or trees to roost throughout the year and eight species of bat were recorded within a 2km radius of the site.

Habitat Suitability

- 3.2.11 The site is bound by green space to the north and north-east which provides connectivity for bats into the wider landscape which supports woodland and agricultural land. The site including its surroundings is considered to have moderate foraging suitability for bats.

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- 3.2.12 The site comprises of a series of interconnected two story buildings. The buildings have pitched roofs with concrete tiles and ridge tiles and the walls comprise brick built facia, with breeze block cavity wall. Lead flashing is present at building connections and around chimneys and heating flues. Plastic fascias, soffits and barge boards. Windows are UPVC double glazed throughout.

Building B1

- 3.2.13 External assessment, two story brick built residential building with cavity wall, airbricks intact. UPVC, double glazed windows well-fitting (ref. plate 9). Hole in apex north gable end providing a potential access point for crevice dwelling bats. South-east and south-west corners obscured by ivy growth, providing opportunities for bats, and obscuring potential features used by bats. Roof, pitched, shallow, with concrete tiles and missing dry verge. The UPVC facia is well sealed, wooden soffit is well sealed. Lead flashing between buildings and heating flues has potential gaps that could access into voids and could be suitable for bats. A gap of approximately 3-5 cm is present on the west facing aspect.

- 3.2.14 Internally the building shows no signs of use by bats. The pitched roof is lined with a bitumen membrane, with occasional tears. The roof is insulated with a rock wool insulation and is relatively clear of debris, being clean in appearance (ref. plate 10). The building supported nesting house sparrow within the cavity wall (ref. plates 11-12) at the time of the survey.

Building B1a

- 3.2.15 A single-story resident's communal room added to B1, with a bitumen felt roof, single aspect pitch and plastic fascia (ref plate 13). Internally there is no access into any cavity. Negligible potential roost features for bats.

Building B2

- 3.2.16 A single story covered walkway between buildings (ref. plate 14), with brick fascia and cavity walls, well-sealed UPVC cladding, tight fitting UPVC double-glazed windows, a pitched roof with concrete pan tiles and a concrete ridge tile.

- 3.2.17 Internally there is no access into the pitched roof connectors loft void.

Building B3

- 3.2.18 Double story residential building, of same materials as previously stated. Air bricks well sealed, Missing ridge tile towards north. The pitched roof is lined with a bitumen membrane, with occasional rips (ref. plate 15). The roof is insulated with a rock wool insulation throughout and is relatively clear of debris, being clean in appearance. No signs of use by bats under the ridge board or at gable ends. Gaps are present under the eaves giving clear visibility to outside the roof cavity (ref. plate 16).

Building B4

- 3.2.19 Double story residential building, of same materials as previously stated (ref. plate 17). Air bricks well sealed, Missing ridge tile at gable ends. The pitched roof is lined with a bitumen membrane, with occasional tears. Internally (ref. plate 18), the roof is insulated with a rock wool insulation throughout and is relatively clear of debris, being clean in appearance. No signs of use by bats under the ridge board or at gable ends. No signs on water tanks or along boardwalks. Gaps are present under the eaves and at base of gable ends giving clear visibility to outside the roof cavity.

Building B5

- 3.2.20 Double story residential building, of same materials as previously stated. Air bricks well sealed, Missing ridge tile at gable ends, assumed to increase ventilation (ref. plate 19).

- 3.2.21 Internally the pitched roof is lined with a bitumen membrane, with occasional tears throughout the roof on either side. The loft is insulated with a rock wool insulation throughout and is relatively clear of debris, being clean in appearance and occasional cobwebs present. No signs of use by bats under the ridge board or at gable ends. No signs of bat presence noted on water tanks or along boardwalks. Gaps are present under the eaves and at base of gable ends giving clear visibility to outside the roof cavity (ref plate 20).

Building B6

- 3.2.22 A small single story, brick built sub-station building, with a flat roof and tight-fitting fascia. No potential roost features recorded (ref. plate 21).

Building B7

- 3.2.23 A single story, brick-built garage with a flat roof, tight-fitting fascia and metal door. No potential roost features recorded (ref. plate 21).

Table 4. Summary of PRF features recorded

Building Ref	Description	PRF classification
B1	External - Hole in apex north gable end providing a potential access point for crevice dwelling bats. South-east and south-west corners obscured by ivy growth, providing opportunities for bats, and obscuring potential features used by bats. Hole in north-west facing soffit giving access into cavity wall for house sparrow, and potentially for bats	Moderate suitability for bats
B3	External - North-east facing gaps in gable end, lifting lead flashing, broken ridge tiles, missing dry verge. Access into soffits via gaps against brickwork.	Moderate suitability for bats
B4	External – Gaps under soffits and fascias into cavity wall, missing dry verge at gable ends providing potential access under tiles. Gaps under lead flashing around boiler flues.	Moderate suitability for bats
B5	External – Gaps under soffits and fascias into cavity wall, missing dry verge at gable ends providing potential access under tiles. Gaps under lead flashing around boiler flues. Weep holes in mortar above windows.	Moderate suitability for bats

Trees

3.2.24 The trees on site are viewed as holding negligible potential for roost features.

Emergence/Re-entry Surveys

3.2.25 The results of the presence/absence surveys are as follows:

Table 5. Cwrt Pentwmpath 1st dusk emergence survey

Date:	Sunset Time:	Start/End Times:	Surveyors	Environmental Conditions:
04/07/2022	21:40	21:25 - 23:10	Anthony Nickson Sam Dyer Richard Lowe Bruce Shortland Olivia Leversedge Emily Traynor John Lindsay Tom Simone	- 15°C (start temp) - 14°C (end temp) - Dry (precipitation) - 0-1 (beaufort scale)
Notes / Observations:				
- No bats emerged / entered any of the buildings during the dusk emergence survey. - Small number of common and soprano pipistrelle bats recorded during the survey along the boundaries of the site.				

Table 6. Cwrt Pentwmpath 2nd dusk emergence survey

Date:	Sunset Time:	Start/End Times:	Surveyors	Environmental Conditions:
25/07/2022	21:18	21:00 – 22:50	Anthony Nickson Sam Dyer Izzie Spall Olivia Leversedge Emily Traynor John Lindsay Sally Conyers Bruce Shortland	- 156°C (start temp) - 145°C (end temp) - Dry (precipitation) - 3 (beaufort scale)
Notes / Observations:				
- No bats emerged / entered any of the buildings during the dusk emergence survey. - Small number of common and soprano pipistrelle bats recorded during the survey along the boundaries of the site. - A single noctule bat was recorded commuting high above the site.				

Reptiles

- 3.2.26 The amenity grassland habitat recorded across most of the site is sub-optimal for reptiles and on the whole doesn't provide suitable basking and foraging areas. A pile of garden waste (ref. plate 21) (TN1) provides some suitable refugia for common reptile species, but the overall site condition reduces its suitability for basking, foraging or hibernation. The site is currently also home to domestic cats which would likely predate on common reptiles.

Badger

- 3.2.27 The amenity grassland dominating the Site provides suitable foraging habitat for badger. No field signs were recorded on site to indicate frequent badger activity in the site or in adjacent habitats. No field signs showed active use or access into the site in the form of pathways, bedding piles, push-throughs, snuffle holes or latrines were recorded within or adjacent to the site. Suitable habitat for badger is present north of the site, but no evidence of use is present.

Birds

- 3.2.28 The buildings on site were shown to provide nesting habitat for a small population (<30) of house sparrows. The trees and shrubs within and overhanging the site, hedgerows and mound area provide suitable habitat for nesting birds during the breeding season (March to September).

4.0 Evaluation

4.1 Desktop Study

Statutory Designated Sites

- 4.1.1 The desktop study confirmed that there are no International and/or European statutory designated sites within a 2km radius of the Site.
- 4.1.2 The closest nationally protected site is Chwarel Singret SSSI, approximately 1,032m north-east from the site boundary.

Local Nature Reserves

- 4.1.3 The only LNR within the 2km search area is Alyn Waters, approximately 757m to the south west of the site.

Local Wildlife Sites

- 4.1.4 The closest LWS is Nant Y Gaer & Llay Valley, approximately 85m north-east of the site.
- 4.1.5 The construction phase could generate impacts such as dust and contamination or sediment runoff which could find its way into Nant Y Gaer & Llay Valley LWS. There is an existing habitat buffer between the LWS and the proposed development site, furthermore an appropriate Construction Environmental Management Plan (CEMP) will be produced prior to commencement of site activities which will mitigate any potential construction site impacts to an acceptable level.
- 4.1.6 The operational phase will not generate any additional significant recreational disturbance than the current use of the site.
- 4.1.7 None of the other protected or notable sites are connected to the site through any habitat linkages. The proposed development will impact habitats of low ecological value. Consequently the proposals will have a negligible impact on the protected and notable sites within the 2km search area.

4.2 Site Survey

Habitats

- 4.2.1 The amenity grassland, introduced shrub and scattered trees recorded within the site are common throughout the UK. Common species were noted across the site. No nationally rare or locally rare plant species were documented during the extended Phase 1 Habitat Survey (Preston et al, 2002).
- 4.2.2 The hedgerow along this boundary of the site is not classed as a protected hedgerow under The Hedgerow Regulations 1997 because the Regulations do not apply to any hedgerow growing within the curtilage of, or which marks the boundary of, the curtilage of a residential property. However, it should be noted that hedgerows are an important component in rural/semi-rural landscape, and they should be retained and enhanced where possible.

Bats

- 4.2.3 The buildings within the site were viewed as having moderate suitability to support roosting bats based on the features present for crevice dwelling species. No evidence to indicate bats used the loft voids or cavity walls were recorded during the initial inspection. No emergence/re-entries were observed during the two dusk surveys carried out in July 2022. The trees within the site were assessed as having negligible potential for roosting features for bats.
- 4.2.4 Low levels of bat activity was recorded within the site during the surveys with commuting bats recorded crossing the survey area. The existing trees and hedgerows around the site boundary are likely to be used by foraging bat species. Given the better and equivalent habitats within the wider landscape, the development of the site is considered to have a low impact on the foraging and commuting opportunities for local bat population.

Common Reptiles

- 4.2.5 The desk study confirmed the presence of adder, common lizard, grass snake and slow-worm within the 2km search area, the nearest record however was beyond 1km from the site.
- 4.2.6 The site provides relatively poor habitat for common reptiles as it is predominantly short mown grassland except of the small pile of garden waste, which could provide some basking and hibernacula conditions favourable for common reptiles. All common reptile species are often found under surface refuges during spring and summer and sometimes turn up in compost heaps (Beebee and Griffiths, 2000).
- 4.2.7 The wider landscape surrounding the site has suitable connectivity for the species, however, the small pile of garden waste is relatively isolated and surrounded by short-cropped grassland. There is also a domestic cat residing on site which would further reduce the likelihood of the site supporting reptiles. The impact of the proposed development of the site on the local reptile population is considered to be negligible.

Badgers

- 4.2.8 There were no field signs of badger recorded in the site or noted in adjacent habitat that could be subject to disturbance. The amenity grassland in the site is considered to be suitable habitat for foraging badger. There are suitable connecting habitat to potential badger habitat to the east of the site, but no signs of the area being used by the species. The impact of the proposed development of the site on the local badger population is considered to be negligible.

Birds

- 4.2.9 The buildings on site were shown to provide nesting habitat for a small population (<30) of house sparrows. The planted garden, native hedgerow and trees and shrubs provide suitable habitat for breeding and feeding birds. All wild birds are protected whilst nesting under the Wildlife and Countryside Act 1981 (as amended).
- 4.2.10 The buildings, trees and shrubs within and overhanging the site, hedgerows and pile of garden waste provide suitable habitat for nesting birds during the breeding season (March to September). Given the more favourable habitats for nesting birds within the wider landscape, the value of the site for nesting birds is site level only.

5.0 Recommendations

- 5.1.1 The implementation of the following recommendations will ensure the project complies with all relevant wildlife legislation, policy and guidance.

Bats

- 5.1.2 No evidence of a bat roost was recorded within the buildings during the preliminary bat survey on the 14 June 2022 and no bats were observed emerging or entering any of the relevant buildings during the presence/absence surveys undertaken on the 04 July 2022 and 25 July 2022.
- 5.1.3 The survey information suggests there should be no significant concerns or constraints in relation to roosting bats for the proposals to proceed.
- 5.1.4 The bat survey results are valid for 18 months from the date of the site surveys.

Birds

- 5.1.5 All bird species are protected at their nest under the Wildlife and Countryside Act 1981. Due to the presence of active nests and suitable habitat for breeding birds (buildings, trees and shrubs, hedgerows and mound area) it is recommended that site works that impact any of these habitats takes place outside the peak bird breeding season (March to September).
- 5.1.6 If site works to these habitats are to be undertaken within the nesting season, then an appropriately qualified ecologist will be required to undertake a site walkover to visually assess potentially suitable nesting habitat for active nests. If active nests are discovered, then site works must cease until the nest is deemed inactive.

Non-native Invasive species

- 5.1.7 Montbretia should be dug up prior to site clearance and disposed of by burying on site.

Other protected species

- 5.1.8 No further protected and/or notable species surveys are required.

Site Enabling Precautionary Measures

- 5.1.9 A Construction Environmental Management Plan (CEMP) should be produced prior to the commencement of works onsite which will demonstrate how the construction stage of the project will progress without any impacts to Nant Y Gaer & Llay Valley LWS and other relevant habitats.
- 5.1.10 Serious damage is often caused during enabling works. For this reason, enabling works should be avoided until protective fencing has been erected around the site to avoid any damage to the retained habitats, trees and hedgerows.
- 5.1.11 Vegetation clearance should be undertaken in a sensitive manner to prevent any unnecessary impacts on common fauna within the site. The areas of ephemeral, scattered scrub, seasonal pools and tall ruderal should initially be cut to a height of 150mm. All arisings should be removed and then an ecologist should undertake a hand search of the site. The site should then be left undisturbed for at least 48 hours to allow any fauna to move away from the site.
- 5.1.12 In the unlikely event that any protected fauna are found during development, then all works must cease immediately and advice sought from a suitably qualified ecologist.

Biodiversity Enhancement

5.1.13 The following ecological enhancements should be considered as part of the design of the scheme:

- Biodiverse new habitats such as: hedgerows, diverse grassland, native tree / woodland planting, roof top habitats and Sustainable Drainage Systems (SuDS).
- Maximising native tree and other vegetation planting will provide recognizable fruit and nectar sources for local birds and invertebrates and will enhance the biodiversity of the development. It is recommended that wildflowers be incorporated into all landscaping regimes for the site, and that seed should be sourced locally through hay cuts or from suppliers of native species.
- The increased structural integrity of modern developments reduces the potential for birds and bats to utilise modern buildings for nesting and roosting therefore the project should integrate a variety of bird and/or bat boxes.

External Lighting

5.1.14 The impact of light to biodiversity within the site, and in particular bats and flying invertebrates should be mitigated through the implementation of a sensitive lighting strategy.

5.1.15 The boundaries of the site are considered to be the vulnerable to light pollution as the trees, hedgerows and shrubs along the boundaries provide commuting and foraging habitat for the local bat populations. Any lighting specified along the boundaries should use downward directed lighting with a tightly controlled distribution to limit unwanted backwards spill to minimise the impact of light spill.

5.1.16 As numerous flying insects are attracted to ultra violet light the external lighting should use LED lighting sources which are UV filtered to limit the amount of UV light produced, this will minimise the attraction to insect from adjacent habitats and feeding areas and minimise unnatural behaviour stimulated by the lighting.

6.0 References

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Appendix A - Phase 1 Habitat Map



- Legend
- Red line boundary
 - Target_Notes
 - Building No
 - Scattered tree
 - Shrub
 - Privet hedgerow
 - Hedgerow with trees, nati
 - A Amenity grassland
 - Introduced shrubs and ornamental planting
 - J3.6 Buildings
 - Hardstanding

Project:
Cwrt Pentwrmpath
Ilay, Wrexham

Drawing Title:
Phase 1 habitat map

Date:
16/08/2022

Revision:
01

Appendix B - Ecological Data Search Records



cofnod

Gwasanaeth Gwybodaeth Amgylcheddol Gogledd Cymru
North Wales Environmental Information Service

Cofnod Environmental Information Search (PUBLIC VERSION)

Our Reference	CO/E10069
Your Reference	Cwrt Pentwmpath, Llay
Requested By	Anthony Nickson, Anthony Nickson Ecology Ltd
Data Users	Ecologists, LPA
Search Date	13/06/2022 10:07
Expiry Date	13/12/2022 (may be extended on request)
Search Type	Chargeable

Important Information

- Use of the data is governed by Cofnod's [Terms & Conditions](#).
- Data marked as confidential or sensitive must not be released into the public domain, with the exception of the Public Version of the PDF report, which has had sensitive information removed or restricted.
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- The Dataset ID associated with each record can be used to find information about the provenance of the data. See the [Cofnod Metadata](#) page for more information.
- Verification Levels are given for each record and indicate whether the record has been assessed by an expert.
- Please [contact us](#) if you have any questions about using the data or wish to add further Data Users.

Notes

- Records with 1km, 2km, 5km, 10km or 100km grid references (where present) are highlighted with, for example, (1km) next to the distance to indicate that the distance

Appendix C - Photograph Plates

Plate 1. Amenity grassland



Plate 2. Introduced shrub



Plate 3. Hedgerow



Plate 4. Garden privet hedge



Plate 5. Cherry tree (several across the site)



Plate 6. Cherry laurel shrub



Plate 7. Building



Plate 8. Hardstanding



Plate 9. B1 and B1b



Plate 10. B1 roof void



Plate 11. House sparrow nesting within building



Plate 12. House sparrow nesting within building



Plate 13. B1b



Plate 14. B2



Plate 15. B3



Plate 16. B3 roof void



Plate 17. B4



Plate 18. B4 roof void



Plate 19. B5



Plate 20. B5 roof void



Plate 21. B6 (left), B7 (right)



Plate 22. Garden waste

