

Preliminary Ecological Assessment



Project: Ty Llwyd, Treharris

Instructed by: Mrs Eleanor Jarrold

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1. Introduction

The applicant is seeking permission to develop a parcel of land originally part of Ty Llwyd Farm, Quakers Yard, Treharris, Merthyr Tydfil. The parcel of land lies on the eastern edge of a large housing development, access is via Harris Court. It is proposed to create a residential housing development within the site boundary. Given the passage of time since the previous ecological survey work completed at site, an updated site visit and preliminary ecological assessment of the site has been instructed.

New residential properties, are expected to sit within the centre of the site, with a tarmac access road entering the site from the southwest. Parking areas along with residential gardens are also proposed for creation within the site. The hedgerow within the north west of the site is proposed to be retained and diversified with native species. Some scrub removal and tree loss is expected to enable the development. The dry stone wall along the east boundary is expected to be retained along with the large feature tree located along the boundary.

This report will assess the potential of the land within the site boundary to support habitats and species and the implications that any future development proposals could have on them.

1.1 Site Description

The proposed development site comprises a parcel of land, rectangular in shape, flat and measuring approximately 0.2 ha. The site is centred at grid reference ST 10317 96483 and is located on the eastern edge of an urban environment with the housing to the north, south and west and open fields to the east.

Habitats within the site include bramble scrub, grassland and scattered trees. The site is bounded to the north, south and east by dry stone walling, while to the west the boundary is mainly wooden fencing with one small section being breeze block. A public footpath runs across the south of the site. There is a telephone mast near the western boundary.

Immediately to the east of the site the landscape comprises stone wall/tree bounded fields with small areas of woodland. The wider landscape is a mixture of urban developments, small areas of woodland and open countryside.

There are three watercourses within the vicinity of the site. The River Taff lies approximately 650 m away to the west; the Afon Taff Bargoed lies approximately 430 m away to the north-west and flows into the River Taff. The Nant Caeach, a tributary of the Afon Taff Bargoed lies approximately 360 m to the east.

1.2 Survey Constraints

The site visit was completed during October which is outside the optimal time of year to undertake habitat assessments. However, broad conclusions on habitat type and species suitability were still possible to draw.

The optimal time period to carry out ground-based visual assessments of trees for bat roosting potential is between December to March inclusive, when broadleaved trees are devoid of leaves and features are more readily visible. It should be noted that ground based assessments are inherently constrained and potential roosting features present upon the skyward facing surfaces of limbs and branches will most likely be missed.

The absence of desk study records cannot be relied upon to determine absence of particular species/habitat. Often, the absence of records is a result of under-recording within the given search area.

1.3 Surveyor Experience

Beth Lewis is an associate member of Chartered Institute of Ecology and Environmental Management (CIEEM). Beth is an ecologist with 6 years experience undertaking a wide range of flora and fauna surveys. All survey work is undertaken following JNCC Phase 1 Survey Guidelines and CIEEM Guidelines for Preliminary Ecological Appraisal (2nd Ed 2017).

1.4 Previous Survey Work

Preliminary Ecological Assessment - 2021

A Preliminary Ecological Assessment (PEA) survey of the site was completed on the 15th March 2021 by Ecological Services Ltd. Please refer to the full report for detailed information. Habitats within the site during this visit included: semi-improved grassland, bramble scrub, scattered trees and hedgerow.

The site was considered sub-optimal for dormouse, due to the small amount of suitable habitat within the site and lack of aerial connectivity to the wider landscape. The site was considered suitable for nesting birds. The site contained one building which was unsuitable for bats but the site itself could be utilised for foraging. The dry stone wall and small areas of scrub were considered suitable to house a small number of reptiles within the site. The habitats within the site were deemed suitable for reptiles, although, reptile surveys were not recommended due to the high levels of disturbance the site experiences with dog walkers and grazing cattle. It was suggested that a small population of common reptiles be assumed within the site and deterrent measures be implemented during the development works.

Recommendations included within the report required:

- Tree or scrub removal be undertaken outside of nesting bird season.
- A two stage cut of any vegetation suitable for reptiles should take place along with any stone removal being undertaken by hand, these should be undertaken outside of reptile hibernation season.
- A sensitive lighting scheme be implemented to avoid light spill onto habitats suitable for bats, birds and nocturnal animals.
- Bat and bird box provisions were suggested along with native wildflower planting within any landscaping scheme and the retention of a portion of the current dry stone wall would benefit a range of small animals.

During this most recent visit to the site in 2024, it was noted that the site was in a similar condition to that during the 2021 survey visit. When comparing habitat descriptions and site photos from the previous visit the scrub had encroached slightly further into the site during this recent visit.

Ecological Impact Assessment - 2021

An Ecological Impact Assessment (EclA) Report was produced for the site by Ecological Services Ltd in September 2021 in conjunction with the PEA survey and report outlined above. The EclA Report outlines that the proposed development has the potential to negatively impact on nesting birds, common reptiles and hedgehog. Please refer to the full report for detailed information.

The EclA provides detail on vegetation clearance works to reduce and avoid potential negative impacts to birds, reptiles and small mammals such as hedgehog. It details the creation of a buffer around the north, east and southern boundary of the site measuring 2 m in width between the stone walling and construction area. This buffer zone will be fenced off and retained as part of the development site as a wildlife feature.

Enhancements outlined in the report include:

- The provision of 1 x Istock enclosed Bat Box C on the south facing elevation of two of the new buildings.
- 1 x Woodstone Build-in Open Nest Box on the east elevation of two of the new buildings.
- The planting of at least two new trees within the development site boundary.

2. Desktop Study

An updated data search was undertaken via Aderyn in 2024 (LERC Reference: 0245-553) for the proposed development site and surrounding area. A 2 km buffer zone was searched and records returned within 500 m of site are noted below:

- Palmate Newt (*Lissotriton helveticus*) - approximately 390 m southwest.
- Smooth Newt (*Lissotriton vulgaris*) - approximately 480 m west.
- Slow-worm (*Anguis fragilis*) - approximately 450 m northwest.
- Eight records of West European Hedgehog (*Erinaceus europaeus*) were returned within 500 m of the site - closest record approximately 80 m west.
- Three records of Bluebell (*Hyacinthoides non-scripta*) were returned within 500 m of the site - closest record being approximately 180 m south.
- Two records of Invasive Non-Native Plant Species (INNPS) were returned within 500 m of the site for species including: Himalayan Balsam (*Impatiens glandulifera*) and Japanese Knotweed (*Fallopia japonica*) - closest record being from 2005 for Japanese Knotweed approximately 50 m south of the site.
- Four records of bat commuting and foraging activity were returned within 500 m of the site for species including: Common Pipistrelle (*Pipistrellus pipistrellus*) and Soprano Pipistrelle (*Pipistrellus pygmaeus*). The closest record was for Common Pipistrelle approximately 180 m southwest of the site.
- Five records of bat roosts were returned within 500 m of the site for species including: Common Pipistrelle, Soprano Pipistrelle, Brown Long-eared (*Plecotus auritus*) and an Unknown bat species. The closest record being for an Unknown bat species approximately 220 m northwest.
- Three records of invertebrates were returned within 500 m of the site for species including: Small Heath (*Coenonympha pamphilus*), Ear Moth (*Amphipoea oculatea*) and Buff Ermine (*Spilosoma lutea*). All of which are listed under Section 7 of the Environment (Wales) Act 2016 (EWA 2016).
- 54 different species of bird were returned within 500 m of the site. Bird species listed under Schedule 1 of the Wildlife & Countryside Act 1981 (WCA1.1) within 500 m of the site include – Fieldfare (*Turdus pilaris*), Red Kite (*Milvus milvus*) and Peregrine (*Falco peregrinus*).
- Bird species listed under Section 7 of the Environment (Wales) Act 2016 (EWA 2016) within 500 m of the site include – Dunnock (*Prunella modularis*), House Sparrow (*Passer domesticus*), Starling (*Sturnus vulgaris*), Bullfinch (*Pyrrhula pyrrhula*), Lesser Redpoll

(*Acanthis cabaret*), Reed Bunting (*Emberiza schoeniclus*) and Song Thrush (*Turdus philomelos*).

Records of note returned for the rest of the buffer zone are detailed below:

- Five records of Eurasian Badger (*Meles meles*) were returned within the rest of the buffer zone.
- 29 records of Eurasian Otter (*Lutra lutra*) were returned within the rest of the buffer zone.
- Two records of Adder (*Vipera berus*).
- Nine Common Lizard (*Zootoca vivipara*).
- Grass Snake (*Natrix helvetica*).
- 20 records of Common Frog (*Rana temporaria*).
- 17 records of Common Toad (*Bufo bufo*).
- Hazel Dormouse (*Muscardinus avellanarius*).
- Three records of Polecat (*Mustela putorius*).
- 28 records of bat roosts were returned within the rest of the buffer zone for species including: Common Pipistrelle, Soprano Pipistrelle, Brown Long-eared and an Unknown bat species. Roosts of interest include a roost of over 80 individuals within an attic approximately 800 m west for an Unknown bat species and a Common Pipistrelle maternity roost of over 40 individuals approximately 1.3 km south of the site.
- 139 records of bat commuting and foraging activity were returned within the rest of the buffer zone for species including: Brandt's Bat (*Myotis brandtii*), Brown Long-eared, Common Pipistrelle, Daubenton's Bat (*Myotis daubentonii*), Lesser Horseshoe Bat (*Rhinolophus hipposideros*), Nathusius's Pipistrelle (*Pipistrellus nathusii*), Natterer's Bat (*Myotis nattereri*), Noctule Bat (*Nyctalus noctula*), Serotine (*Eptesicus serotinus*), Soprano Pipistrelle, Unknown bat species and Whiskered Bat (*Myotis mystacinus*).
- 181 records of invertebrates were returned within the rest of the buffer zone for 41 different species. Many of which are listed under Section 7 of the Environment (Wales) Act 2016 (EWA 2016). The closest 10 records include: Grayling (*Hipparchia semele*), Wall (*Lasiommata megera*), Brown-Banded Carder Bee (*Bombus humilis*), Buff Ermine, Long-horned Bee (*Eucera longicornis*), Small Heath, Cinnabar (*Tyria jacobaeae*), Shoulder-striped Wainscot (*Leucania comma*), Dot Moth (*Melanchra persicariae*), Shaded Broad-bar (*Scotopteryx chenopodiata*), Knot Grass (*Acronicta rumicis*), Dingy Skipper (*Erynnis tages*) and White Ermine (*Spilosoma lubricipeda*).

- Bird species listed under Schedule 1 of the Wildlife & Countryside Act 1981 (WCA1.1) within the rest of the buffer zone include – Barn Owl (*Tyto alba*), Brambling (*Fringilla montifringilla*), Goshawk (*Accipiter gentilis*), Hobby (*Falco subbuteo*), Kingfisher (*Alcedo atthis*), Osprey (*Pandion haliaetus*), Redwing (*Turdus iliacus*), Green Sandpiper (*Tringa ochropus*) and Merlin (*Falco columbarius*).
- Bird species listed under Section 7 of the Environment (Wales) Act 2016 (EWA 2016) within the rest of the buffer zone include – Cuckoo (*Cuculus canorus*), Herring Gull (*Larus argentatus*), Linnet (*Linaria cannabina*), Spotted Flycatcher (*Muscicapa striata*), Wood Warbler (*Phylloscopus sibilatrix*), Kestrel (*Falco tinnunculus*), Lapwing (*Vanellus vanellus*), Lesser Spotted Woodpecker (*Dryobates minor*), Black-headed Gull (*Chroicocephalus ridibundus*), Grasshopper Warbler (*Locustella naevia*), Tree Pipit (*Anthus trivialis*), Skylark (*Alauda arvensis*), Curlew (*Numenius arquata*), Pied Flycatcher (*Ficedula hypoleuca*), and Marsh Tit (*Poecile palustris*).

2.1 Protected Sites

A data search for species records was undertaken for the proposed development site and surrounding area. The search also considered statutory and non-statutory protected sites.

Statutory Protected Sites

There is one Site of Special Scientific Interest (SSSI) within 2 km of the site. Nelson Bog is located approximately 1.2 km east of the site. It contains a mire community, alder Carr and upland woodland and is a site associated with many ornithological species.

Non-Statutory Protected Sites

There are 24 non-statutory protected sites within 2 km of the site. All are Sites of Importance for Nature Conservation (SINCs), 22 are within MTCBC and two within Rhondda Cynon Taf (RCT). The nearest being Berthlwyd (within Merthyr Tydfil County Borough council (MTCBC)), which is located approximately 335 m away to the west at its nearest point. Details of the remaining SINC sites within MTCBC are listed below:

- Craig Berthlwyd
- Lower Taf & Edwardsville Woods
- Nant Caeach
- Afon Bargoed Taf
- Brooklands Marsh, North of Nelson
- Cwm Mafon
- Cwm Afon, West of Nelson

- Whitehall Golf Course
- Cwm Afon Railway Line, West of Nelson
- Treharris Park & Cardiff Road Woodlands
- Llancaich-Fawr Meadows, Llancaich
- Wern Woodland Nelson
- Goetre-coed Wood
- Coed Cefn-fforest & Cwm Cothi
- Trelewis Wood
- Lower Cwm Bargod
- Mynydd Goetre-coed
- Nant Caeach, North of Llancaich
- Coed Gelliau'r-Gwellt, East of Llancaich
- Gelligaer Common
- Afon Taf

SINC sites within the 2 km buffer zone within the boundary of RCT include:

- AW 8.70 Darren y Celyn
- AW 878 Craig-Evan Leyshon Common

There are 77 areas of Ancient Semi Natural Woodland (ASNW) within the search area. The closest area is approximately 380 m northeast of the site. Ancient Semi Natural Woodlands area broadleaf woodlands comprising mainly native tree and shrub species which are believed to have been in existence for over 400 years. The ground vegetation will reflect the naturalness of these woodlands and will frequently feature species which provide clear indication of long and continued woodland cover. They will have been woodland for centuries and contribute substantially to our natural and cultural heritage.

There are two areas of Restored Ancient Woodland within the search area. The closest area is approximately 3.2 km west of the site. These are woodlands which are predominately broadleaves now and are believed to have been continually wooded for over 400 years. They will have gone through a phase when canopy cover will have been more than 50% non-native conifer tree species and now have a canopy cover of more than 50% broadleaf.

There are six areas of Plantation on Ancient Woodland Sites within the search area. The closest area is approximately 1.86 km west of the site. These are sites which are believed to have been continuously wooded for over 400 years. They have been replanted with native or

non-native species, most commonly with conifers. They currently have a canopy cover of more than 50% non-native conifer tree species. They will have varying levels of remnant features of ASNW.

There are six Ancient Woodland Sites of Unknown Category within the search area. The closest area is approximately 740 m north of the site.

There are six Natural Resources Wales (NRW) Priority Woodland Areas within 2 km of the site. This is located approximately 1.86 km west of the site. NRW Priority habitat areas are large scale areas which were prioritised for targeted conservation work, based on factors including the habitats within them.

Hedgerow habitat is present within the site boundary. Hedgerow is a section 7 habitat of importance for protection under The Environment (Wales) Act 2016. Therefore any impacts to hedgerow must be avoided. If impacts are unavoidable hedgerow translocation and or replacement hedgerow planting must be provided.

2.2 Potential Impacts to Protected Sites

It is considered unlikely that there will be any direct impact on any protected site in the local area.

It is noted that hedgerow is a Section 7 habitat of importance for protection under The Environment (Wales) Act 2016. Any hedgerow loss must be avoided and appropriately mitigated for if undertaken. Additional hedgerow planting within the site of native species with an appropriate aftercare regime must be provided. The translocation of already established hedgerow should also be considered.

3. Phase 1 Survey

3.1 Habitats

A walkover survey of the site was completed on the **4th October 2024**. All areas of the site were accessible. A species list can be found in Appendix 1, photographs of the site can be found in Appendix 2 and a map of the habitats found within the site is provided in Appendix 3.

The site is enclosed by a **dry stone wall** along the northern, southern and eastern boundaries; in places along the eastern boundary the wall has collapsed leaving small piles of stones. The western boundary is created by **wooden garden fencing**. Access to the site is off Harris Court, via a gate in the south west of the site. A public access path runs along the southern end of the site and exits the site to the adjacent field again via a metal gate.

A **telephone mast** is sited close to the western boundary and is enclosed in chain link fencing. Two metal, electrical substation buildings are present within the fencing.

The site is dominated by **semi-improved grassland**. Species include: annual meadow-grass, clover sp., common bent, common mouse-ear, common nettle, common sorrel, creeping buttercup, creeping thistle, crested dog's tail, dandelion, dock sp., field rose, greater plantain, meadow buttercup, perennial rye grass, pineapple-weed, red clover, ribwort plantain, sweet vernal-grass, willowherb sp. and Yorkshire fog.

The grassland is used by local dog walkers as a path to the adjacent field in the east. Grazing cattle are present in the adjacent field and can gain accessing the site via the gap in the stone wall along the east of the site. Cattle hoof prints and dung are present within the site.

There are several patches of dense **bramble scrub** with common nettle and field rose. There are large patches along the eastern boundary and around the telephone mast enclosure, with smaller patches in the south east corner and along the northern boundary. There is some scattered scrub along the western boundary behind the telephone mast.

There are several **scattered trees** within the site. Along the northern boundary there are a number of hazel trees. Holly and hawthorn trees are present in the northeast of the site and two pedunculate oak trees are present within the site, along the eastern stone wall boundary. A third pedunculate oak tree is present along this stone wall boundary but sits just outside of the site.

Along the western boundary there is a small non native **hedgerow**, approximately 2 m high, comprising a spiny evergreen shrub, thought to be a species of pyracantha, a garden shrub.

3.2 Great crested newts

Great crested newts (*Triturus cristatus*) are a European protected species and are protected under the Conservation of Habitats and Species Regulations 2017. In summary, they are protected from:

- Deliberate capture, killing and injuring,
- Deliberate disturbance of a breeding site or resting place,
- Deliberate taking or destroying of eggs,
- Damage or destruction of a breeding site or resting place.

Great crested newts (GCN) are listed on schedule 5 of The Wildlife & Countryside Act 1981 which protects them from intentional or reckless disturbance or obstruction when using a structure or place for shelter and / or protection. It is also an offence to sell, offer or expose for sale a GCN. GCN and Common toad are listed in section 7 of the Environment (Wales) Act 2016 which makes them key species to sustain and improve biodiversity.

There were no records of GCN returned within the data search.

There is no standing water within the site and no standing waterbodies within 500 m of the site boundary. However garden ponds may not be visible from aerial imagery. The site does not sit between any waterbodies and so is unlikely to act as a pathway for amphibians to commute between ponds. The grassland within the site is disturbed by dog walkers and grazing cattle, thus reducing the suitability for GCN to utilise this habitat. The dry stone walls around the periphery of the site and the stone piles in the east provide hibernacula habitat for amphibian overwintering and sheltering.

The development proposals, although in their early stages, propose to remove much of the grassland and scrub within the site along with repairing the dry stone wall. This will result in a loss of potential foraging and over wintering habitat for amphibians.

Due to the lack of local records and lack of a well connected pond network, it is considered unlikely GCN are present within the site. **No further survey recommendations are made for this species.**

3.3 Dormouse

The Dormouse (*Muscardinus avellanarius*) is a European protected species and is protected under the Conservation of Habitats and Species Regulations 2017. In summary, they are protected from:

- Deliberate capture, killing and injuring,

- Deliberate disturbance of a breeding site or resting place,
- Damage or destruction of a breeding site or resting place.

Dormouse is listed on schedule 5 of The Wildlife & Countryside Act 1981 which protects them from intentional or reckless disturbance or obstruction when using a structure or place for shelter and / or protection. It is also an offence to sell, offer or expose for sale a native dormouse. Dormouse is listed in section 7 of the Environment (Wales) Act 2016 which makes them a key species to sustain and improve biodiversity.

There is one record for Hazel Dormouse approximately 1.1 km away to the south, dated 2019, the record is of an unconfirmed nest.

The good proportion of the land within the site boundary is grassland which is considered to be unsuitable for use by Hazel Dormouse. Grassland habitat provides no foraging or nesting habitat for such species. Although Hazel Dormouse will on occasion come to ground level for commuting purposes, Dormouse are generally considered to be arboreal.

Habitat within the site is considered sub-optimal habitat for use by Hazel Dormouse. There is some bramble scrub and hazel present, known to be the preferred food resource for Hazel Dormouse. However species diversity is low amongst the scattered trees and the site is considered too small to support a viable population of this species. Connectivity to suitable habitat within the wider landscape is poor. Field boundaries appear to be dominated by stone walls. Dormouse are considered unlikely to be present within the site given the lack of local records and the overall small areas of suitable habitat being unable to sustain a Dormouse population.

The development proposes to remove some scrub within the site but retain and enhance the small section of hedgerow within the northwest of the site. **No further surveys are recommended for this species.**

3.4 Otters

The Otter is a European protected species and is protected under the Conservation of Habitats and Species Regulations 2017. In summary, they are protected from:

- Deliberate capture, killing and injuring,
- Deliberate disturbance of a breeding site or resting place,
- Damage or destruction of a breeding site or resting place.

Otter are listed on schedule 5 of The Wildlife & Countryside Act 1981 which protects them from intentional or reckless disturbance or obstruction when using a structure or place for shelter and / or protection. It is also an offence to sell, offer or expose for sale an otter. Otter

is listed in section 7 of the Environment (Wales) Act 2016 which makes them a key species to sustain and improve biodiversity.

29 records of Otter were returned within 2 km of the site with the closest record being approximately 560 m west of the site. Many of the records are associated with the River Taff to the west. Records are also present within the Bargod Taff and the Nant Caeach watercourses to the north and east, both of which are connected to the River Taff.

Otters tend to prefer secluded locations for their holts to help prevent them being disturbed by other animals. It is accepted that otters can travel long distances from river corridors to find acceptable holt sites.

The majority of the site is considered to be unsuitable for otter holt creation as it is dominated by grassland. The site is relatively small in size compared to the field habitats in the wider landscape. The site is surrounded on its north, west and south by a housing estate with street lighting present, reducing the likelihood that otter will commute through the site to access these areas. The site boundary to the east is a dry stone wall which provides little sheltered commuting opportunities towards and away from the site. The site is subject to disturbance by dog walkers and grazing cattle.

The scrub within the site does provide some level of shelter habitat for otter but the suitable habitat within the site itself is considered too small in size to provide opportunities for otters to reside and utilise for holt creation.

The development is expected to require the removal of much of the scrub within the site but aims to retain some hedgerow and trees around the periphery of the site. A new lighting scheme is also expected to be required within the site.

Although there are records for this species within 2 km of the site, these are associated with River corridors and it is unlikely that individuals may utilise the site when there is more suitable habitat in the wider landscape, closer to the watercourses. The habitat within the site boundary is considered sub optimal for use by otter for resting or breeding purposes due to the disturbance and close proximity to housing on the north, west and south. **No further survey recommendations are made for this species.**

3.5 Bats

All British bats are a European protected species and are protected under the Conservation of Habitats and Species Regulations 2017. In summary, they are protected from:

- Deliberate capture, killing and injuring,
- Deliberate disturbance of a breeding site or resting place,

- Damage or destruction of a breeding site or resting place.

Schedule 5 of The Wildlife and Countryside Act (1981) also protects all species of British bat and their roosting locations. British bats are protected from intentional or reckless disturbance and or obstruction of their roosting places. Barbastelle, Bechstein, Noctule, Brown long-eared, Common pipistrelle, Soprano pipistrelle, Greater horseshoe and Lesser horseshoe bats are also listed in section 7 of the Environment (Wales) Act 2016 which makes them a key species to sustain and improve biodiversity.

33 records of bat roosts were returned within 2 km of the site with five of these being within 500 m of the site. The closest record being for an Unknown bat species approximately 220 m northwest. Other roosts of interest include a roost of over 80 individuals within an attic approximately 800 m west for an Unknown bat species and a Common Pipistrelle maternity roost of over 40 individuals approximately 1.3 km south of the site. 143 records of bat commuting and foraging activity were returned within 2 km of the site with four of these records being within 500 m of the site. The closest record was for Common Pipistrelle approximately 180 m southwest of the site. The site is well connected via fields in the east to wooded areas along the Nant Caeach and along the River Taff to the west.

Tree Assessment for bats

The trees within the site boundary were subject to a cursory ground level assessment for the potential presence of roosting bats. Should any tree be considered likely to have above low potential for roosting use and also be affected by any impacts imposed by the development, further detailed survey work will be recommended following the ground based visual roost assessment methodology provided in the BCT Bat Surveys for Professional Ecologists - Good Practice Guidelines 2023 (4th Ed).

No potential bat roost features (PRFs) were identified from ground level during this survey visit. Although no potential bat roost features (PRFs) were identified from ground level during this survey visit the mature Oak trees along the east boundary of the site were of an age where bat roost features could have developed upon them over time and these could be obscured from view if on the upper sides of branches or high within the canopy. The issue of disturbance of PRF features within retained trees has been raised. Indirect disturbance can be a difficult issue to prove and quantify. Providing a suitable lighting design can be implemented within the development proposals, indirect disturbance via lighting should not be experienced. Further survey work at this point does not seem proportionate to the proposed impacts of the scheme or potential of the trees to be retained.

All trees within the site are proposed to be retained during the site development, therefore no survey work in relation to bats and trees is recommended. **If the development proposals**

change and any trees within the site will be impacted by the development, additional surveys for bats may be required.

Habitat Assessment for bats

The habitat within the site is considered to have **LOW** suitability for use by commuting and foraging bats.

The site is predominantly open grassland and scrub with a large metal mast in the centre of the site. The site boundaries are all stone wall and the site is bounded by housing and street lighting on its north, west and south sides. The field to the east of the site provides more suitable habitat for bat commuting and foraging with less street lighting and housing within close proximity. The site is connected to the wider landscape via stone wall field boundaries and a tree line along the north boundary. The site is small in size and has little habitat variation and no large stands of trees.

There are numerous records of bat roosts and activity but few are within 500 m of the site. Whilst the site does have habitat connectivity to the wider landscape, the habitats within the site itself are not considered to be overly suitable for bat use. On balance the site has been categorised as having low suitability for use by bats. It is considered likely. The development proposes to retain the dry stone wall boundary features within the site and provide supplementary native planting within the new plan.

Providing the development can be designed to limit lighting impacts and retain the hedgerow and mature trees along the east of the site, negative impacts to bat species are considered to be unlikely. Bat transect survey is not recommended in this instance providing habitat connectivity around the site can be provided and trees retained around the periphery. A **wildlife friendly lighting and soft landscaping plan for the site is suggested. The hedgerow within the site should be retained and supplementary native planting will be incorporated in the new design to create commuting features within the site for bats.**

Building Assessment for bats

Two buildings were present within the site. These are electrical substation structures within the fenced footprint of the mast. Internal access into the buildings was not possible as chain link fencing surrounds them.

The buildings has been assessed as having **NONE** bat roost suitability. Both are metal structures with flat roofs, no windows were present and no suitable gaps were identified to allow access into the buildings for bats. The chain link fencing surrounding the buildings is placed close to building walls on most sides. It is expected that the buildings and mast will be removed to make way for the new development. **No further survey work is recommended for buildings in relation to bats.**



View of buildings and mast



View through fence of buildings

3.6 Badger

Badgers are protected under the Protection of Badgers Act 1992. In summary they are protected from:

- Taking, killing or injuring;
- Cruelty;
- Interfering with a badger sett;
- The selling and possession of badgers;
- Marking or ringing.

Badgers are also listed on schedule 6 of the Wildlife and Countryside Act 1981 as amended.

Badgers tend to have a variety of setts with different uses and functions within the territory for the family unit. In general there is usually a main sett which the family will use the most. There are then annex, subsidiary and or outlier setts which depending on family structures and environmental pressures may be used at different times of the year. As female Badgers tend to have their cubs over winter the disturbance and damage of badger setts is prohibited between December and June inclusive. NRW are the licensing body for any actions which may contravene the above legislation.

Five records of badger were returned within 2 km of the site. The closest record being for a field sign approximately 910 m north of the site. All records returned in the data search are not well connected to the site with many being beyond the rail line, large areas of housing or past the A472 road.

Badgers favour a dry sloping site for digging their setts preferably within woodland or even under a large hedgerow bank. Badgers are creatures of habit and tend to follow regular pathways between their setts and foraging grounds.

No evidence of the presence of badger such as latrines, digging or evidence of regular pathways was found within the proposed development site. The site appears superficially suitable for badger sett creation being open grassland field with scrub for shelter. The site is well walked by local people and dog walkers along with grazing cattle being able to access the site freely. The site is close to a large housing estate which is well lit with street lighting, all reducing the likelihood that badger will utilise the site. The adjacent field to the east was surveyed for badger signs with no evidence of mammal pathways or badger digging.

Badgers are not currently utilising the site for sett creation but could utilise the site at least on occasion for commuting and foraging. **Further survey work for badger is not recommended.**

3.7 Birds

All breeding birds are protected under schedule 1 of the Wildlife and Countryside Act (1981) as amended. Under this Act it is an offence to:

- Intentionally take, damage or destroy the nest of any wild bird while it is in use or being built.
- Intentionally take or destroy the egg of any wild bird.

Enhanced protection is afforded to species listed on Schedule 1 of the Act, this additional protection makes it an offence to:

- 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.

The hedgerow, scrub and trees within the site are suitable for nesting birds. The grassland is suitable for foraging birds. The metal mast within the centre of the site is also suitable for nesting birds. Many Starlings were noted to be perching upon the mast during the survey visit.

The loss of grassland, scrub and some scattered trees within the site is expected to be required for the new development, along with the removal of the mast structure. A new lighting scheme is expected to be required within the site.

A precautionary approach to the removal of habitat with bird nesting potential will be required, including the removal of the mast structure within the site. Compensation measures for the loss of bird foraging and nesting habitat will be required.

3.8 Reptiles and Amphibians

Reptiles such as the Slow-worm, Common lizard, Adder and Grass snake are protected under the Wildlife and Countryside Act 1981 (as amended). They are protected from killing, injuring and sale. They are protected from killing, injuring and sale. They are also listed in section 6 of The Environment (Wales) Act 2016.

The four widespread species of amphibian i.e. the Smooth and Palmate newts, Common frog and Common toad, are protected under the Wildlife and Countryside Act 1981 (as amended) by Section 9(5) of the Wildlife and Countryside Act 1981. This section prohibits sale of these species. Common toad is listed in section 6 of The Environment (Wales) Act 2016.

20 records of Slow-worm, two records of Adder, nine records of Common Lizard and one record of Grass Snake were returned within 2 km of the site. With the closest record being for Slow-worm approximately 450 m northwest. All other species records were returned over 1 km away from the site.

20 records of Common Frog, 17 records of Common Toad, 10 records of Palmate Newt and one record of Smooth Newt were returned within 2 km of the site. The closest record being approximately 390 m southwest for Palmate Newt.

Reptiles prefer a mosaic of habitats with diverse vegetation structure creating open areas and nearby cover to provide protection from predators and the elements. Common amphibian species require still pools of water for breeding purposes and damp conditions with foraging habitat during their terrestrial life stages.

There is no standing water within the site and no standing waterbodies within 500 m of the site boundary. However garden ponds may be present in the local area which are not be visible from aerial imagery. The site does not sit between any waterbodies and so is unlikely to act as a main pathway for amphibians to commute between ponds. The grassland within the site is disturbed by dog walkers and grazing cattle, thus reducing the suitability for amphibians and reptiles to utilise this habitat as it provides limited cover from predation. The scrub and grassland structure within the site provides areas for reptiles to forage with sheltering opportunities close by. The dry stone walls around the periphery of the site and the stone piles in the east provide hibernacula habitat for amphibians and reptiles for overwintering and sheltering.

The development proposals, although in their early stages, are likely to entail the removal of grassland and much of the scrub within the site along with repairing the dry stone wall. This will result in a loss of potential foraging habitat.

Consideration has been given to the need to undertake reptile surveys within the site. The site measures approximately 0.2 ha and is a mixture of grazed grassland and small areas of scrub habitat. Reptiles using the site for hibernation purposes within the dry stone wall and pile of stone would not be found during a reptile survey of the site. Any reptiles using the site are likely to be present in small numbers due to the size of the site and habitats present. The site is open and easily accessed by local people and any reptile refugia are highly likely to be disturbed or moved which may skew any survey results.

It is recommended that the presence of a small number of common reptile species is assumed within the site boundary. Reptile surveys are not recommended in this instance due to the likelihood of disturbance by grazing and members of the public. **A reptile mitigation strategy will be required to inform the development proposals.**

3.9 Other Mammals

Other notable mammal species listed under Section 7 of the Environment (Wales) Act 2016 which had records returned during the data search included Hedgehog and Polecat. These are species of principle importance for the purpose of maintaining and enhancing biodiversity in relation to Wales.

Polecat - Four records of Polecat were returned within 2 km of the site. All records were over 1 km away and recorded over 10 years ago. This species is unlikely to be present within the site due to the small size of the site itself and the lack of local, recent records close by. This species it not considered further.

Hedgehog - This species is considered likely to be present within the site on occasion. 40 records of Hedgehog were returned within 2 km of the site with the closest record being approximately 80 m west. Hedgehog is considered to be a species of principal importance, for the purpose of maintaining and enhancing biodiversity in relation to Wales. As such, consideration must be given to this species in any plans proposed for the site. Any fencing or boundary features created within the site must allow small mammals to easily enter or exit the site.

3.10 Invertebrates

The habitats of the site were assessed for their potential to support invertebrates using the Invertebrate Habitat Potential Assessment (IHPA) as found in CIEEM in practice Issue 112, June 2021. The IHPA protocol has been produced to allow ecologists without specialised

entomological expertise to identify key habitats and features likely to support important invertebrate assemblages. Full details of habitat types can be found in Appendix 6.

Table 1. Invertebrate Habitat Potential Assessment

Habitat Element	Grade
Decaying Wood – H1	E – Negligible/Absent
Rotational Management – H2	E – Negligible/Absent
Nectar Resources – H3	E – Negligible/Absent
Wet Substrates – H4	E – Negligible/Absent
Other Water Habitats – H5	E – Negligible/Absent
Structural Patchwork – H6	D - Minor
Still Air (S) – H7	D - Minor
Still Air (H) – H8	E – Negligible/Absent
Connectivity – H9	C - Moderate
Ecoclines – H10	D - Minor
Bare Earth – H11	D - Minor

Based on the Invertebrate Habitat Potential Assessment (IHPA) the site, in its current state, is considered to have **unsuitable habitats** to support species of invertebrate and the IHP does not meet the threshold for ‘further action’ based on the outcomes outlined in the table above. **No further survey recommendations are made for invertebrates on site, although, enhancements on site should be made to encourage invertebrate populations.**

4. Recommendations and Mitigation

The current development plans are in their early stages but initial plans are to create a number of residential houses within the site. The site will include an access road extending from the southwest, parking and garden areas. The hedgerow within the north west of the site is proposed to be retained and diversified with native species. Some scrub removal is expected. The dry stone wall along the east boundary is expected to be retained along with the large feature tree located along the boundary. It is expected that low level lighting will be needed within the site to illuminate pathways.

Broad recommendations are made below to help inform the design process and on site construction works. Our general recommendations are:

- Any scrub or hedgerow removal must be completed outside of the bird nesting season of March to August inclusive. If this is not achievable an ecologist must inspect any habitat with the potential for birds to be present, for active birds' nests prior to any works beginning. If an active nest is identified a buffer zone of at least 5 m around the nest must be observed until the chicks have fledged. Only then can the vegetation be cleared. Greater buffer zones around nests may be required depending on the species and habitat the nest is within. The dismantling and removal of the mast within the site should also follow this methodology to avoid impacting any birds that may be nesting within the mast structure.
- The site is considered suitable for a small number of common reptile species to be present throughout the year. A reptile mitigation strategy which is agreed with the LPA ecologist will be required to support the proposed development. Measures suitable for reptiles will include but not be limited to:
 - Habitat clearance measures such as sensitive timing of works and a two stage vegetation cut. Any herptiles present should naturally move away of their own accord due to disturbance from cutting be left to move towards the eastern boundary of the site and into the adjacent field.
 - Any stone should be lifted and removed by hand outside of the reptile hibernation period.
 - Any repairs on the stone wall should not be undertaken using cement to ensure access is retained and created for small animals such as reptiles to continue to use the wall for shelter, cover and basking.
 - Timing of works to avoid the reptile hibernation period November to March inclusive.

- Provision of features suitable for reptile use within the site layout such as suitable habitat, dry stone walling or reptile hibernacula.
- All vegetation clearance works, including alterations to the dry stone wall, will be supervised by a suitably qualified ecologist.
- It is recommended a suitable buffer zone where no works takes place be off set from the periphery of the site. The provision of a suitable buffer between the edge of the site and nearest edge of the construction footprint to create the development would be welcomed. This retained buffer zone must not be impacted as part of the development proposals. A buffer around the north, east and southern boundary of the site measuring 2 m in width should be created between the stone walling and construction area. This buffer zone will be fenced off using secure heras fencing or similar to prevent any site contractors accessing it.
- A root protection zone (RPZ) must be implemented around any retained trees which lie adjacent to or within the boundary of the proposed development site. British Standard BS 5837, *Trees in relation to design, demolition and construction - Recommendations* will be followed. Measures will include clear marking of the RPZ to guarantee no machinery is used or digging carried out in that area. This will ensure that there is no detrimental impact to the trees and the flora or fauna it supports.
- Ideally all excavations within the site will be securely covered over if left unattended. Any excavations that have a depth in excess of 0.5 m and that are left open overnight will have a means of escape let for any mammals (e.g. hedgehog) that may fall into them. A wooden board or equivalent will be left from the bottom to the top of the hole at an angle no steeper than 45°. This will allow any mammal to escape and avoid increased stress from being trapped.
- Careful consideration must be given to the use of lighting within the development site, as this can adversely affect the activity of a variety of fauna, particularly foraging bats, nesting birds and badger. Light spillage into adjacent semi-natural habitats must be avoided and brightness kept to the lowest permissible level in the areas adjacent to such habitats. All lighting must meet recommendations in the BCT Guidance Note 08/23 Bats and Artificial Lighting at Night. <https://theilp.org.uk/publication/guidance-note-8-bats-and-artificial-lighting/>.

5. Biodiversity Enhancements & Green Infrastructure

The Environment Act (Wales) 2016 places a duty on competent authorities and councils including Merthyr Tydfil County Borough Council to conserve and enhance biodiversity. Chapter 6 of Planning Policy Wales (version 12), paragraph 6.2.5 requires Green Infrastructure considerations to be included with all planning applications. Development proposals must detail how green infrastructure considerations which are proportionate to the scale and nature of the plans are being provided.

Green infrastructure currently within the development site takes the form of semi-improved grassland, scrub, hedgerow and scattered trees. The development site sits adjacent to natural habitat to the east, providing direct habitat connectivity to the wider landscape. The development proposals are likely to result in the loss of a small area of semi-improved grassland, bramble scrub and scattered trees within the site boundary.

General considerations to green infrastructure and biodiversity enhancements to be considered as part for the development include:

- Paragraph 6.4.42 of Planning Policy Wales (version 12) requires that at least three trees of a similar type and compensatory size are planted for every tree lost. The site layout should avoid tree loss where possible. If loss is unavoidable, space within the site boundary and development plans to allow a suitable amount of compensatory planting is required.
- Creating habitat connectivity around the development site would be a positive step for biodiversity. Pulling construction boundaries away from the edge of the development site boundary and providing green areas around the periphery of the site that are managed to benefit wildlife can help wildlife continue to commute across the site.
- The use of soft landscaping to strengthen boundary features would be a welcome enhancement to the site. Tree and hedgerow planting along with long term management would help to create screening around individual units for privacy and also integrate the development into the landscape. To be considered and enhancement features, tree and hedgerow planting must be above that required as habitat compensation for direct habitat loss.
- The use of integrated bat and bird boxes within any new buildings created on site is recommended. Integrated boxes must be built into the block work of the building and placed as high as possible on a suitable elevation, no lower than eaves level. It is recommended that the provision of 1 x Istock enclosed Bat Box C on the south facing elevation of two of the new buildings and the provision of 1 x Woodstone

Build-in Open Nest Box on the east elevation of two of the new buildings be provided.

- All fencing across the site must be hedgehog friendly in design. A friendly design is considered to allow passage of small animals across the site. Close board or mesh fencing should provide either a continuous gap between the bottom of the fence and ground of approximately 13 cm or 13 cm by 13 cm gaps cut every 3 m along fencing.
- A reptile hibernacula can be created within the grounds of the development site using rubble from on site clearance works. The hibernacula must at least measure 0.5 m in depth, 2 m wide and 2 m long each. It will be made by creating layers of wood, brash, rubble and soil. The hibernacula will create a mound approximately 0.3 m above ground level which will be covered over with soil and seeded using a native seed mix. A diagram of a Reptile Hibernacula is located in appendix 6 for reference.
- A bug hotel could be created within the development, making use of wooden pallets or reclaimed materials. Twig piles, bamboo canes, pine cones and leaves could be placed within sections of the pallet along with old roofing slates, terracotta pot pieces and logs with holes drilled into them. All providing some dryer areas and other damp sections to attract a wide range of invertebrate species. Pollinator friendly planting will also encourage a range of invertebrate species within the site. Perennial meadow planting containing a wide range of native species will allow flowering year on year.
- The creation of at least one butterfly bank within the grounds of the site would be welcomed. A butterfly bank creates a range of micro climates and habitats for use by invertebrates. In simplified terms, a butterfly bank requires a mound of poor quality soil to be created ideally 30 m long and 'C' shaped. At the base of the bank a gravel substrate should be spread a few metres in width. The mound can then be seeded with a native seed mix and subject to low intensity cut and collect mowing.

Appendix 1 – Plant Species Recorded

common name	scientific name
annual meadow-grass	<i>Poa annua</i>
bramble	<i>Rubus fruticosus sp</i>
clover sp.	<i>Trifolium sp.</i>
common bent	<i>Agrostis capillaris</i>
common mouse-ear	<i>Cerastium fontanum</i>
common nettle	<i>Urtica dioica</i>
common sorrel	<i>Rumex acetosa</i>
creeping buttercup	<i>Ranunculus repens</i>
creeping thistle	<i>Cirsium arvense</i>
crested dog's tail	<i>Cynosurus cristatus</i>
dandelion	<i>Taraxacum lacistophyllum</i>
dock sp.	<i>Rumex sp.</i>
field rose	<i>Rosa arvensis</i>
greater plantain	<i>Plantago major</i>
hazel	<i>Corylus avellana</i>
holly	<i>Ilex aquifolium</i>
meadow buttercup	<i>Ranunculus acris</i>
pedunculate oak	<i>Quercus robur</i>
perennial rye grass	<i>Lolium perenne</i>
pineappleweed	<i>Matricaria discoidea</i>
red clover	<i>Trifolium pratense</i>
ribwort plantain	<i>Plantago lanceolata</i>
sweet vernal-grass	<i>Anthoxanthum odoratum</i>
willowherb sp.	<i>Epilobium sp.</i>
Yorkshire fog	<i>Holcus lanatus</i>

Appendix 2 – Site Photograph (2024)



Photo 1. South boundary of site. Dry stone wall.



Photo 2. grassland and scrub within south of site.



Photo 3. Pylon mast and scrub within west of site.



Photo 4. North area of site and hedgerow along west boundary.



Photo 5. North boundary of site. Dry stone wall and scattered hazel trees.



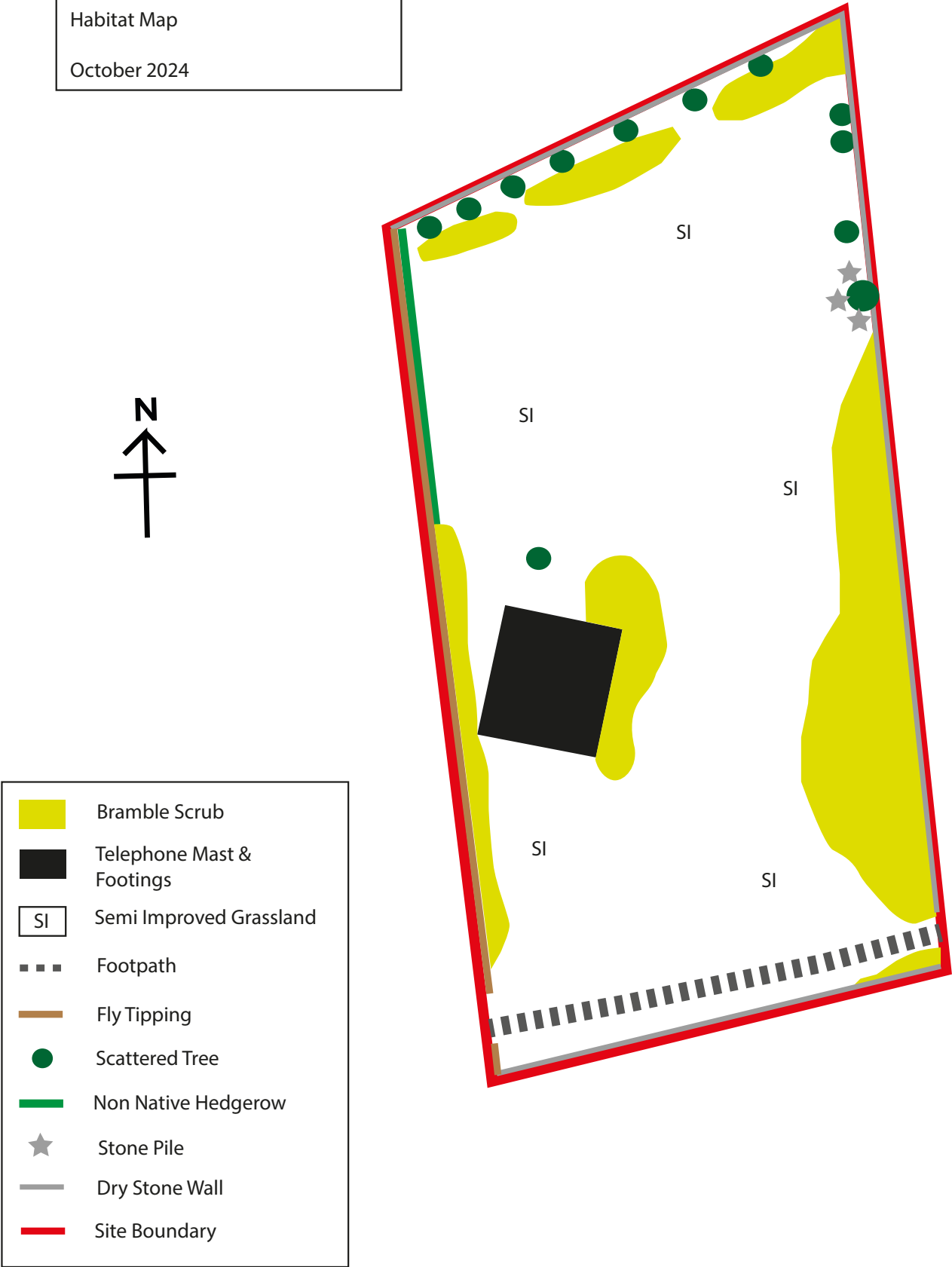
Photo 6. East boundary of site. Dry stone wall fallen in places with scattered trees.

Appendix 3– Site Habitat Map

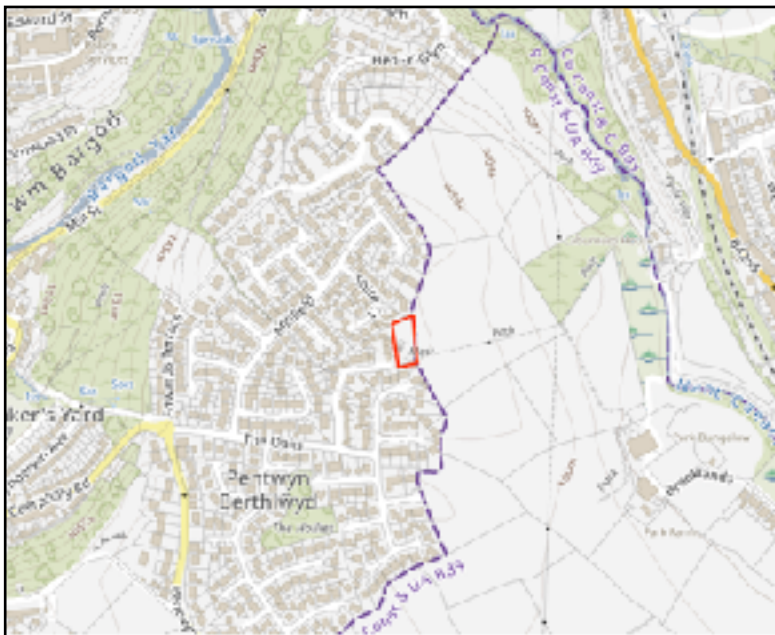
LAND AT TY LLWYD FARM, TY LLWYD
PARC, QUAKERS YARD

Habitat Map

October 2024



Appendix 4 - Aerial View of Site Location

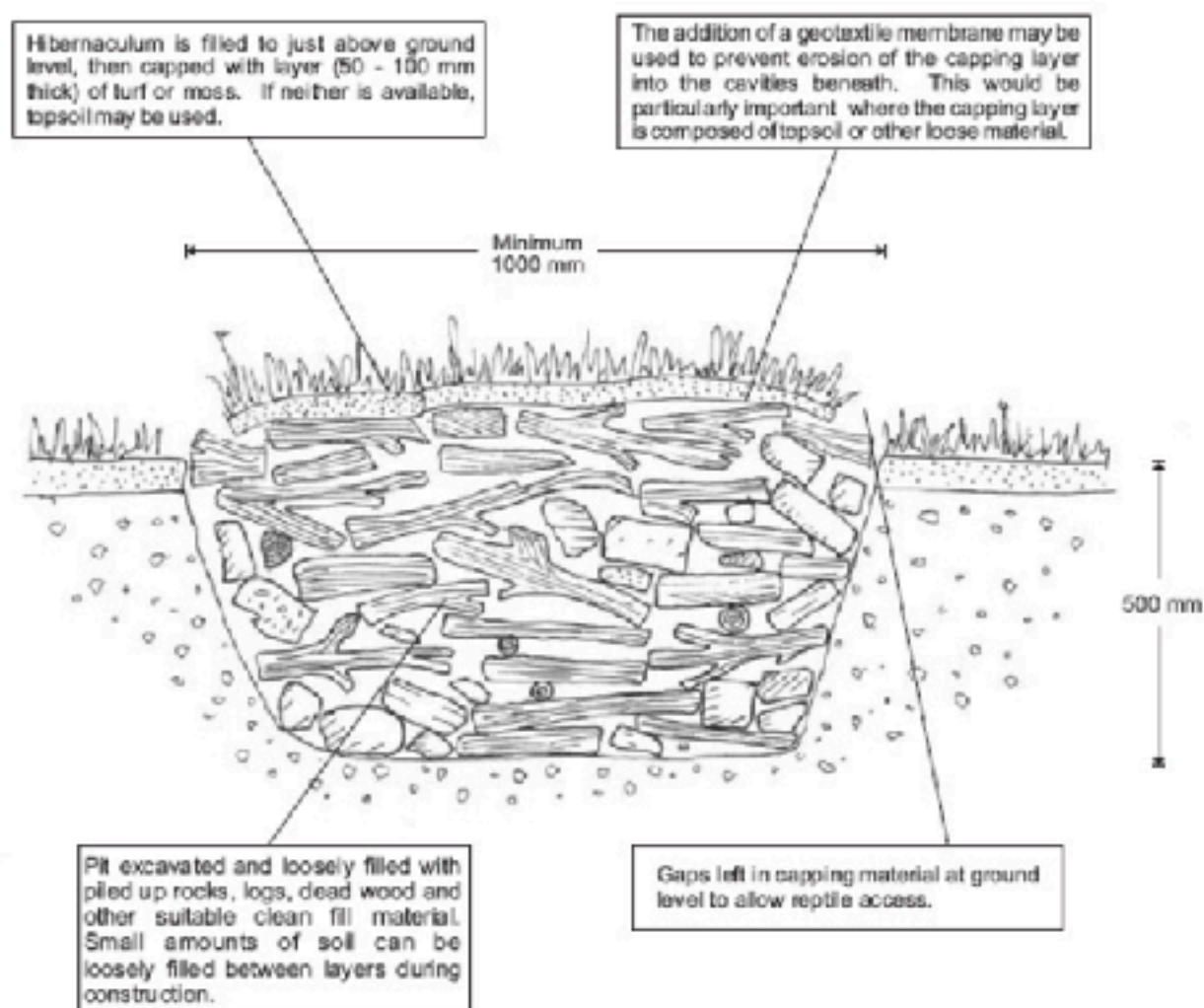


Appendix 5 – Invertebrate Habitat Potential Assessment

Table 1. Summary of the 11 habitat elements assessed by IHP survey.

Habitat element	No.	Comments
Decaying Wood	HE1	In all its forms; from decaying wood on/in large trees to woodland floor debris
Rotational Management	HE2	Planned or serendipitous; and whether for nature conservation or other purposes
Nectar Resources	HE3	As a proxy for nectar- and pollen resources, as assessment of pollen resources is impracticable on a walk-through survey
Wet Substrates	HE4	Including marginal, marshy, muddy and seasonally inundated habitats, as well as flushes
Open Water Habitats	HE5	The open water element of rivers, lakes, ponds, streams, ditches, etc.
Structural Patchwork	HE6	Habitat mosaics, including, but by no means restricted to open mosaic habitats on previously developed land
Still Air (S)	HE7	Suntraps and still-air microclimates in open situations; the term 'still air' is used in preference to 'wind breaks' as many rigid wind breaks are likely to produce turbulent air in their lee
Still Air (H)	HE8	Humid still-air microclimates in sheltered and shaded situations
Connectivity	HE9	Landscape-scale connectivity between the site and external habitats
Ecoclines	HE10	A graded transition between two or more broad habitats
Bare Earth	HE11	Unshaded bare or sparsely vegetated well-drained substrate, regardless of soil type

Appendix 6 - Reptile Hibernacula



**Source: Highways Agency (2005) *Design Manual for Roads and Bridges: Volume 10*
Section 4 Part 7 – Nature Conservation Advice in Relation to Roads and Reptiles**