Client – Prospect Estates

Site – Land off Bethania Road

Reference – 20240037-PEA

Location – Acrefair, Clwyd

Central Grid Reference – SJ 27930 43317

Date – 22nd August 2024

Preliminary Ecological Appraisal (PEA)

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Revision: 1

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Disclaimer

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In line with Chartered Institute of Environmental and Ecological Management (CIEEM) recommendations the findings of this survey are deemed valid for 18 months from the date of the survey.

1. Summary

Purpose	Planning permission is being sought for the residential development of an area of land off Bethania Road in Acrefair. A Preliminary Ecological Appraisal of the site was carried out by Switch Ecology Ltd during 2023, reference 20230040-PEA. Following comments from the local authority a survey of areas of land adjacent to the site, including a revision of the previous report, was commissioned to support the ongoing planning application, reference P/2022/0469.
Results	The habitats on the site are common habitats found in abundance in the surrounding area with the woodland assessed to display a high ecological value. The ecological receptors identified on the site included: ○ Records of amphibians in the surrounding area and pond within 500m of the site, ○ Records of bats in the surrounding area with potential roosting features in trees within the woodland and several species identified foraging on site, ○ Habitat suitable to support a range of bird species for foraging and nesting, ○ Records of hedgehogs in the surrounding area and suitable habitats for the species on site, ○ Records of reptiles in the surrounding area and suitable habitats on site.
Recommendations	○ Ensure no overall loss of biodiversity during the development of the site through the retention of the high value habitats and changes in management on the retained habitats, ○ Carry out the path improvements in a sensitive manner to reduce the impact on the woodland, ○ Ensure all trees utilised in the landscaping of the site are locally appropriate native species, ○ Implement precautionary measures for amphibians and reptiles during the construction phase of the development, ○ Implement precautionary measures to prevent badgers or other mammals becoming trapped during the construction phase of the development, ○ Retain potential roosting features or carry out surveys prior to the removal, ○ Retain dark buffers to the development and unlit paths and implement a sensitive lighting scheme during all phases of the development, ○ Carry out further surveys for nesting birds ahead of any vegetation clearance in the nesting season, ○ Enhance the site through features suitable for roosting bats, birds and hedgehogs.
Conclusions	If the development includes the retention of the high value habitats on site and includes changes in management on areas outside the development footprint, to offset the loss of biodiversity, it is considered that the development could have a negligible impact on the overall biodiversity on site. If the development is designed in a sensitive manner, carried out following further surveys, where required, and with precautionary measures implemented during the construction phase of the development, the impact on fauna species is likely to be minimal.

2. Introduction

2.1. Purpose

2.1.1. Planning permission is being sought for the residential development of an area of land off Bethania Road in Acrefair.

2.1.2. A Preliminary Ecological Appraisal (PEA) of the site was carried out by Switch Ecology Ltd during 2023, reference 20230040-PEA.

2.1.3. Following comments from the local authority a survey of areas of land adjacent to the site, including a revision of the previous report, was commissioned to support the ongoing planning application, reference P/2022/0469.

2.2. Site Description and Location

2.2.1. The site comprises an area of land off Bethania Road in Acrefair, previously extending to 0.93 hectares (ha), and an area of adjacent woodland, included following comments from the local authority, which increases the total site area to 1.56ha.

2.2.2. Figure 1 shows the original site boundary in blue with the extended site boundary overlaid in red.

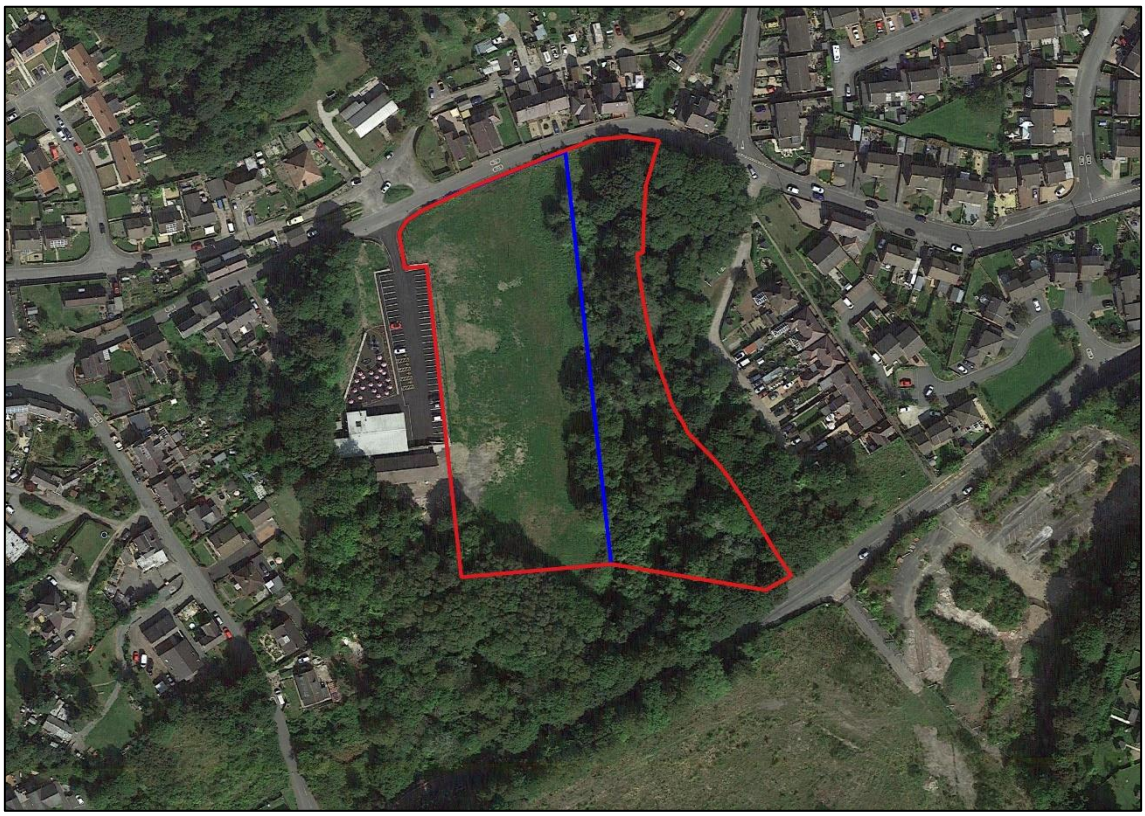


Figure 1: Showing the previous and current survey area extent.

2.2.2. The site comprises an area of grassland and woodland off Bethania Road in Acrefair. The grassland shows signs of regular use by dog walkers and there are existing pathways through the woodland.

2.2.3. The land immediately surrounding the site comprises Bethania Road to the north, The Delph bar and restaurant, and the associated parking, to the west and further areas of woodland to the south and east.

2.2.4. The wider surrounding area comprises a mixture of residential and industrial land and areas of woodland to the east, west and south with open pastureland and areas of woodland to the north.



Figure 2: Showing the site in context with the wider surrounding area.

2.3. Proposals

2.3.1. The proposals are the residential development of the site and improvements to the footpaths through the woodland.

2.3.2. The plan in Appendix IV of this report shows the proposed layout of the site.

3. Methodology

3.1. Desk Study

3.1.1. A desk study was carried out in order to identify existing records of protected or notable species or habitats within 2km of the survey area.

3.1.2. Records of locally designated sites and existing records of protected species were requested from Cofnod.

3.1.3. The MAGIC website was searched for records of statutory or non-statutory sites within 2km of the survey area.

3.1.4. The area within 500m of the site was searched for waterbodies using publicly accessible mapping including Ordnance Survey, Google Earth and the MAGIC website.

3.2. Preliminary Ecological Appraisal

3.2.1. An initial field survey of the site was undertaken on by Steven Whitcher (MCIEEM) on the 6th July 2023 with the updated site visit carried out on the 14th August 2024. The Preliminary Ecological Appraisal (PEA) was carried out in accordance with the industry standard and mapped using UKHab Classifications (*2018*).

3.2.2. The weather at the time of the 2023 survey was fine but cloudy with a light breeze (BWS-1) and a temperature of 17°C.

3.2.3. The weather at the time of the 2024 survey was cloudy but fine and still (BWS-0) with a temperature of 14°C.

3.2.4. During the survey all habitats were noted, including dominant species, mapped and notable ecological features were target noted.

3.2.5. The survey also looked for evidence of protected or notable fauna species or invasive non-native plant species and followed specific survey guidelines, where applicable, including:

- Checking all buildings, trees and structures for bat roosting potential in line with the Bat Conservation Trust (BCT) Good Practice Guidelines, 3rd edition (*Collins 2016*), BTHK Bat Roosts in Trees (*BTHK 2018*) and BRHK Bat Roosts in Rock (*BRHK 2021*).
- Assessing all accessible ponds within 500m of the surveyed area using the Habitat Suitability Index (HSI) assessment criteria (*Oldham et al. 2000*).
- Assessing the habitats on site for their suitability to support protected or notable species, including but not limited to, badgers (*Harris et al 1989*), water voles (*Strachan et al 2011*), otters (*Channin, 2003*), crayfish, nesting birds (*BBS,BTO*), reptiles (*Froglife 1999*), hedgehogs and hazel dormice.

3.3. Nighttime Bat Walkover (NBW)

3.3.1. A Nighttime Bat Walkover (NBW) was carried out by Steven Whitcher on the 14th August 2024. The NBW was carried out in accordance with the BCT Good Practice Guidelines (*2023*).

3.3.2. The NBW comprised the surveyor walking a predefined route around the site, including a period of monitoring at the start of the survey and predefined stop points at intervals along the route. Figure 3 shows the NBW route and predefined stop point locations.

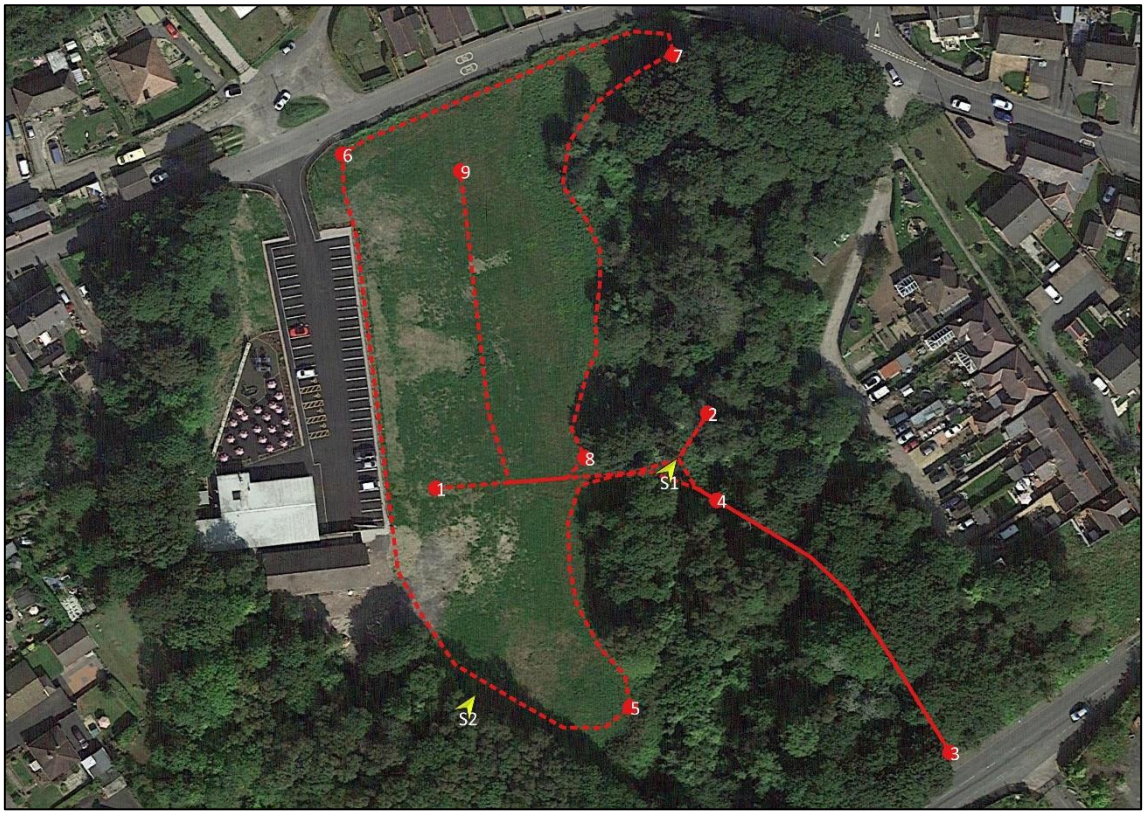


Figure 3: Transect route, including stop points, and static monitoring locations.

3.3.3. During the NBW the bat activity was recorded for subsequent analysis and the walked route was GPS tracked.

3.3.4. Static bat monitoring was also carried out at two locations along the walked route for a period of five consecutive nights between 14th and 19th August 2024. The static monitoring locations are shown by the yellow arrows on Figure 3.

3.4. Limitations/Constraints

3.4.1. This survey was carried out to CIEEM methodologies and therefore provides an overview of the habitats present on the site with dominant, notable or indicator species within those habitats noted. As such the species lists included are intended to be sufficient to confidently assess habitat condition but are not intended to provide an exhaustive list of all species present.

3.4.2. The 2024 survey was carried out during the late summer, when vegetation levels were high and birds were still nesting. Therefore, the survey of the woodland habitat utilised existing paths through the woodland to avoid trampling the understorey. This is considered a constraint to specific findings for some areas of the woodland but not to the overall assessment of the woodland habitat.

3.4.3. The ground assessment of trees within the woodland concentrated on the trees along the woodland edge and along the existing paths within the woodland to avoid trampling the understorey. This is considered a constraint to the overall findings of the survey but considered suitable to assess the impact of the proposed development.

3.4.4. Static monitoring was carried out using Anabat Express bat detectors. Anabat Expresses are zero crossing units, not full spectrum. This is considered a constraint to the analysis of some bat species, notably myotis species, although not a constraint to assessing bat activity levels on the site. Therefore, the use of the units is not considered a significant constraint to the findings of the survey.

4. Results and Interpretation

4.1. Designated Sites

4.1.1. Cofnod returned records of six non-statutory and two statutory sites within the 2km search area, although no records within or immediately adjacent to the surveyed area.

Table 1: Non-statutory sites within 2km

Site Name	Designation	Reason for Designation	Location
Plas Bennion	Local Wildlife Site (LWS)	Habitats – grassland and scrub	450m northeast
Cefn-mawr	Regionally Important Geological Site (RIGS)	Unknown	500m south
Acrefair Railway Cutting	LWS	Habitats – grassland	650m southeast
Ty Mawr & Tan Y Cut Wood	LWS	Unknown	1.5km south
Australia Quarry	RIGS	Unknown	1.5km southwest
Gardden Wood/Rocky Wood	LWS	Habitats – woodland	1.75km northeast

Table 2: Statutory sites within 2km.

Site Name	Designation	Reason for Designation	Location
Afon Dyfrdwy (River Dee)	Site of Special Scientific Interest (SSSI)	River habitat and supported flora and fauna	1.5km south
River Dee and Bala Lake	Special Area of Conservation (SAC)	River habitat and supported flora and fauna	1.5km south

4.1.2. The proposed development will not have a direct impact on any designated sites and is unlikely to have an indirect impact on the sites through changes in foot traffic or domestic pets due to the size and location of the development and the presence of existing urban land in the area.

4.2. Habitats

4.2.1. Cofnod returned records of several areas of ancient woodland within the 2km search area, although no records within or immediately adjacent to the site. The closest records are located 750m to the west.

4.2.2. The habitats present within the surveyed area are outlined below and shown on the plan in Appendix I of this report. Appendix III includes species lists for each habitat.

4.2.3. g4-32 Modified grassland – scattered trees (0.828ha)

4.2.3.1. The site predominantly comprises a large area of grassland that shows signs of regular use for recreational purposes, including dog walking.

4.2.3.2. The sward is short, implying the grassland is regularly managed.

4.2.3.3. The grassland was classified as modified grassland due to the abundance of common grass and forb species, including perennial rye grass (*Lolium perenne*), white clover (*Trifolium repens*), dock (*Rumex sp.*) and dandelion (*Taraxacum officinale*), although several other less

common species are also present within the grassland, including common knapweed (*Centaurea nigra*), birds foot trefoil (*Lotus corniculatus*) and cinquefoil (*Potentilla reptans*).



Figure 4: Looking north across the grassland.



Figure 5: Looking south across the grassland.

4.2.3.4. The grassland displays a short sward dominated by common grass and forb species with regular disturbance across the grassland and minimal opportunities for fauna species. Therefore, the grassland was assessed to display a generally low ecological value.

4.2.3.5. Eight scattered trees were present along the western edge of the grassland, adjacent to the tarmac parking associated with The Delph. The trees comprise a series of non-native ornamental saplings, including boxelder maple (*Acer negundo*), *Sorbaronia likjormaja liquorice* and Japanese rowan (*Sorbus dodong*).



Figure 6: Looking along the line of trees.

4.2.3.6. The scattered trees are small examples of predominantly ornamental species potentially planted in connection with works on the adjacent site. Therefore, although the

trees provide potential for some fauna species the presence of non-native species and placement of the trees reduces the biodiversity value.

4.2.4. w1g Other broadleaved woodland (0.0.737ha)

4.2.4.1. To the east and south areas of woodland extend within, and adjacent to, the surveyed area.

4.2.4.2. The woodland comprises broadleaved woodland, including willow (*Salix sp.*), sycamore (*Acer pseudoplatanus*) and ash (*Fraxinus excelsior*) in the canopy.



Figure 7: Looking along the edge of the woodland.



Figure 8: The dense understorey within the woodland.

4.2.4.3. The shrub and understorey layers of the woodland are dense away from the existing paths and comprise elder (*Sambucus nigra*), hazel (*Corylus avellana*), bramble (*Rubus fruticosus*) and nettle (*Urtica dioica*), among other species.

4.2.4.4. The woodland displays signs of historic industrial disturbance or usage, with ground levels dropping away towards the east and a flat area running through the lowest point of the woodland, and current disturbance from pedestrian access, including steps leading into the woodland from the grass areas of the site (T2).

4.2.4.5. Despite the previous industrial disturbance and current public access the woodland provides suitable opportunities for fauna species and benefits a range of ecosystem services, therefore the woodland was assessed to provide a high ecological value.

4.2.5. u1e Built linear features (232m)

4.2.5.1. To the west and north the site boundaries comprise a mixture of wooden post and rail and chain-link fencing, separating the site from the adjacent public road and restaurant. A short section of fencing also extends along the southern edge of the woodland where the site meets the A539.

4.2.5.2. The boundary features display negligible ecological value and therefore the loss of the boundary features will not have an impact on the biodiversity on site.

4.3. Fauna

4.3.1. Amphibians

4.3.1.1. Cofnod returned occasional records of amphibian species within the 2km search area, although no records specific to the surveyed area. The records include records of great crested newt (*Triturus cristatus*), smooth newt (*Lissitriton vulgaris*) and common toad (*Bufo bufo*) with the closest records referring to the presence of great crested newts 400m to the east.

4.3.1.3. Four ponds were identified within 500m of the site whilst on site and on maps of the area. The location of the ponds is shown in Figure 8.

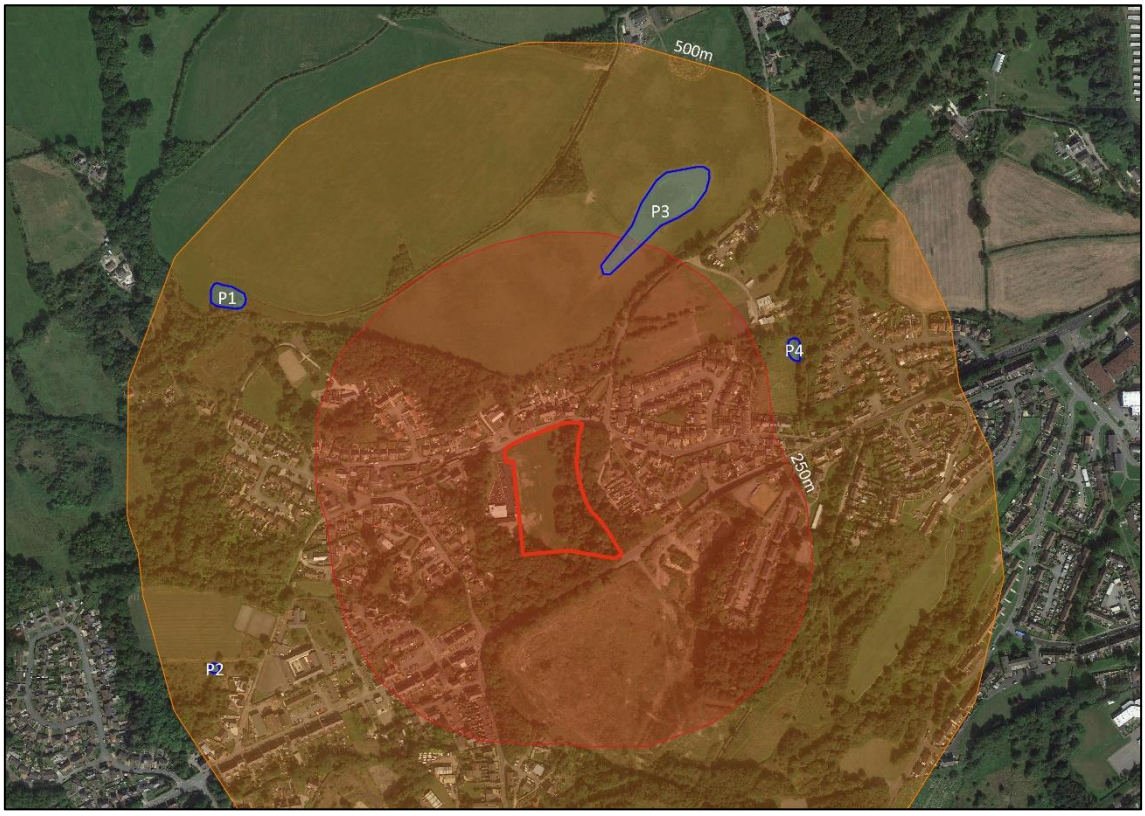


Figure 9: Showing the site, 250m and 500m standoffs and pond locations.

4.3.1.4. A Habitat Suitability Index (HSI) assessments of the ponds was carried out, where access could be gained to the ponds.

4.3.1.5. Pond P1 comprises a pond located within grazing pasture 400m to the northwest of the site. The pond displays high levels of cattle poaching around the margins with dense bulrush (*Typha sp.*) present and little visible open water.

4.3.1.6. Pond P2 is shown on maps 450m to the southwest of the site in an area of land associated with Acrefair Primary School. The pond was not visible from areas of public access.

4.3.1.7. Pond P3 comprises a large pond located in a horse paddock 240m to the northeast of the site. The pond displays poaching from horses and high levels of waterfowl with occasional areas of bulrush present.

4.3.1.8. Pond P4 is shown on maps 340m to the east of the site. The pond was not visible from areas of public access but appears to be the pond referred to in the existing records for the area, which confirm the presence of great crested newts in the pond.



Figure 10: Pond P1.



Figure 11: Pond P3.

Table 3: Habitat Suitability Index scores for the ponds.

Pond Reference	P1	P2	P3	P4
Location	1	-	1	-
Pond area	0.95	-	-	-
Pond drying	0.5	-	0.5	-
Water quality	0.33	-	0.33	-
Shade	1	-	1	-
Fowl	1	-	0.01	-
Fish	0.33	-	0.67	-
Ponds	0.7	-	0.8	-
Terrestrial habitat	0.33	-	0.33	-
Macrophytes	0.8	-	0.5	-
HSI	0.61	-	0.36	-
Suitability	Average	-	Poor	-

4.3.1.9. The grassland provides a low value terrestrial habitat for amphibians due to the managed nature of the site and the lack of suitable refugia. The woodland provides a higher terrestrial value for amphibians, due to the refugia provided by the understory, although no terrestrial amphibians were identified during the survey.

4.3.1.10. The proposed works are assessed as unlikely to have a significant impact on great crested newts or other amphibians due to the location of the ponds, which all lie on the edge of, or outside, the core sustenance zone for the species, which extends 250m from their ponds. Precautionary measures implemented during the proposed development will further reduce the likely impacts.

4.3.2. Badgers

4.3.2.1. [redacted]

4.3.2.2. No badger setts or other badger field signs were identified within the surveyed area. Occasional paths were identified across the grassland and throughout the woodland, although there were no signs that these were created by badgers. The paths were assessed as likely to be due to the regular public use of the area.

4.3.2.3. There are no signs that the site provides a foraging resource for badgers in the surrounding area and therefore if precautionary measures are put in place to prevent animals from becoming trapped during the construction phase of the development the impact on badgers is likely to be negligible.

4.3.3. Bats

4.3.3.1. Cofnod returned abundant records of bat species within the 2km search area, although no records specific to the surveyed area. The closest records refer to the presence of common pipistrelle (*Pipistrellus pipistrellus*) and whiskered bat (*Myotis mystacinus*) at Trefynant Park, located 400m to the southwest.

4.3.3.2. No buildings that would provide roosting opportunities for bats were identified within the surveyed area. A stone structure is present along the eastern boundary of the site (T3) although the structure was not assessed to be suitable for roosting bats.

4.3.3.3. Two trees displaying Potential Roost Features (PRF) were identified within the surveyed area.

4.3.3.3.1. A willow tree was identified on the edge of the site adjacent to the steps leading into the woodland (T1). The tree was identified to display three PRF.



Figure 12: The willow tree adjacent to the steps (T1).



Figure 13: PRF1, the knot hole.

4.3.3.3.1.1. PRF1 was identified to be a knot hole at 2.5m on the main stem facing northeast. The knot holes entrance measures 3cm x 3cm and was identified to lead to a cavity in the stem. The cavity was filled with slugs at the time of the survey and therefore a thorough

assessment of the cavity could not be carried out. Due to the size of the cavity the feature was assessed to provide PRF-M (suitable for multiple bats) suitability.

4.3.3.3.1.2. PRF2 comprises several compressed stems low on the main stem of the tree. The features were shallow with no access to significant cavities. Therefore, the feature was assessed to provide PRF-I (suitable of individual bats) suitability.

4.3.3.3.1.3. PRF3 was identified to be a hazard beam located on a small limb at 2.5m, directly over the path. The ends of the cavity were inspected and no bat field signs were identified. Due to the small size of the limb and the location of the limb, over the footpath, the feature was assessed to provide PRF-I suitability.

4.3.3.3.2. A further willow tree was identified at the southern edge of the woodland adjacent to the footpath leading to the A539 (T5). The tree was identified to display a single PRF.

4.3.3.3.2.1. PRF1 comprises a split stem at 3m facing southeast. A thorough inspection of the PRF was not carried out during the survey and therefore the PRF was assessed to as FAR (Further Assessment Required).



Figure 14: The willow tree located adjacent to the path.



Figure 15: PRF1, the split stem.

4.3.3.4. If the proposed development is carried out in a manner that retains all trees that display suitable roosting features, with a buffer to the trees, and a sensitive lighting scheme is implemented ensuring that there is no increase in lighting along the woodland edge, the impact on roosting bats is likely to be negligible.

4.3.3.5. The habitat on and around the site was assessed to provide a moderate value for foraging and commuting bats due to the presence of areas of woodland and woodland edges.

4.3.3.6. A Nighttime Bat Walkover (NBW) survey was completed on the 14th August 2024. The results of the survey are outlined in Table 4, shown in Figure 16 and included in more detail in Appendix V of this report.

Table 4: NBW results, based on the walked route and stop points shown in Figure 3.

Location	Time	Surveyor Results	Recorded bat passes
Stop 1	20:40-21:31	21:27 Noctule briefly heard passing	No bat activity
Walk	21:31-21:34	No bat activity	No bat activity
Stop 2	21:34-21:40	21:39 Brief bat pass, possible brown long eared	No bat activity
Walk	21:40-2144	No bat activity	No bat activity
Stop 3	21:44-21:49	No bat activity	No bat activity
Walk	21:49-21:52	No bat activity	No bat activity
Stop 4	21:52-21:57	No bat activity	No bat activity
Walk	21:57-22:00	No bat activity	No bat activity
Stop 5	22:00-22:05	22:03 Bat pass, heard not seen	22:03-22:04 Two brown long eared bat passes
Walk	22:05-22:11	No bat activity	No bat activity
Stop 6	22:11-22:16	22:13 Noctule pass, heard not seen 22:15 Common pipistrelle foraging around lights	22:13 A single noctule pass 22:15-22:17 Four common pipistrelle passes
Walk	22:16-22:18	22:18 Noctule pass, heard not seen	22:18 A single noctule pass and a single common pipistrelle pass
Stop 7	22:18-22:23	No bat activity	No bat activity
Walk	22:23-22:28	No bat activity	No bat activity
Stop 8	22:28-22:33	22:30 Bat pass along woodland edge	22:30 A single brown long eared pass
Walk	22:33-22:37	No bat activity	No bat activity
Stop 9	22:37-22:42	No bat activity	No bat activity

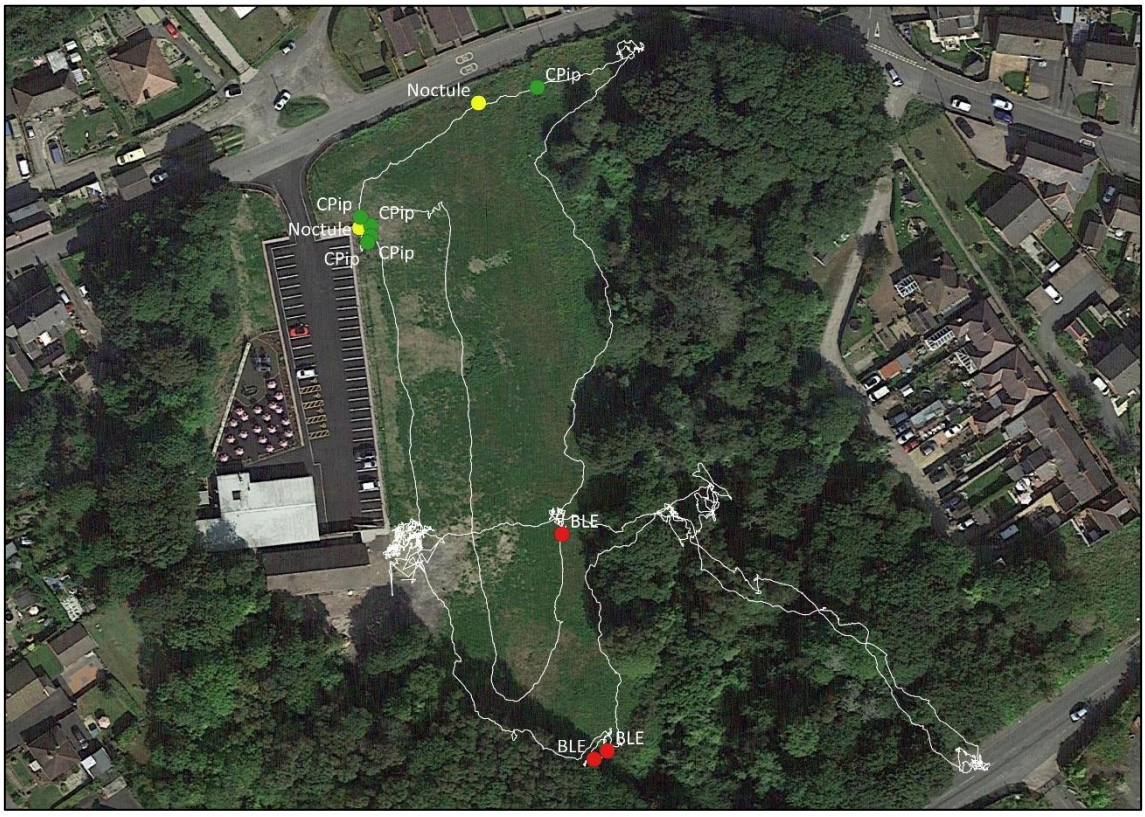


Figure 16: NBW results. CPip is common pipistrelle and BLE is noctule.

4.3.3.7. During the NBW it was noted that the light levels from the lighting along the car park of The Delph affect the majority of the grassland and the woodland edge.



Figure 17: Light levels on the site during the NBW.



Figure 18: Lighting on the car park of The Delph.

4.3.3.8. Static monitoring was carried out at two locations on the site (S1 & S2 on Figure 3) for a period of five consecutive nights from 15th August to 22nd August 2024. The results from the monitoring are shown below.

4.3.3.9. The charts in Figures 19 & 20 below show the number of bat passes and the species of bat present throughout the five nights of monitoring. The species of bat present comprise common pipistrelle (CPip), soprano pipistrelle (*Pipistrellus pygmaeus*) (SPip), noctule (*Nyctalus noctula*) (Noctule) and myotis species (*Myotis sp.*) (Myotis).

4.3.3.10. The static monitoring shows that the majority of the bat activity on the site is common pipistrelle activity at both monitoring locations, with the peaks of activity around sunset and sunrise for S1 and sunset for S2. The remaining activity comprises occasional passes from several species with no significant peaks in the activity. Overall activity levels were higher at S2, with total passes equalling 269 against 48 at S1.

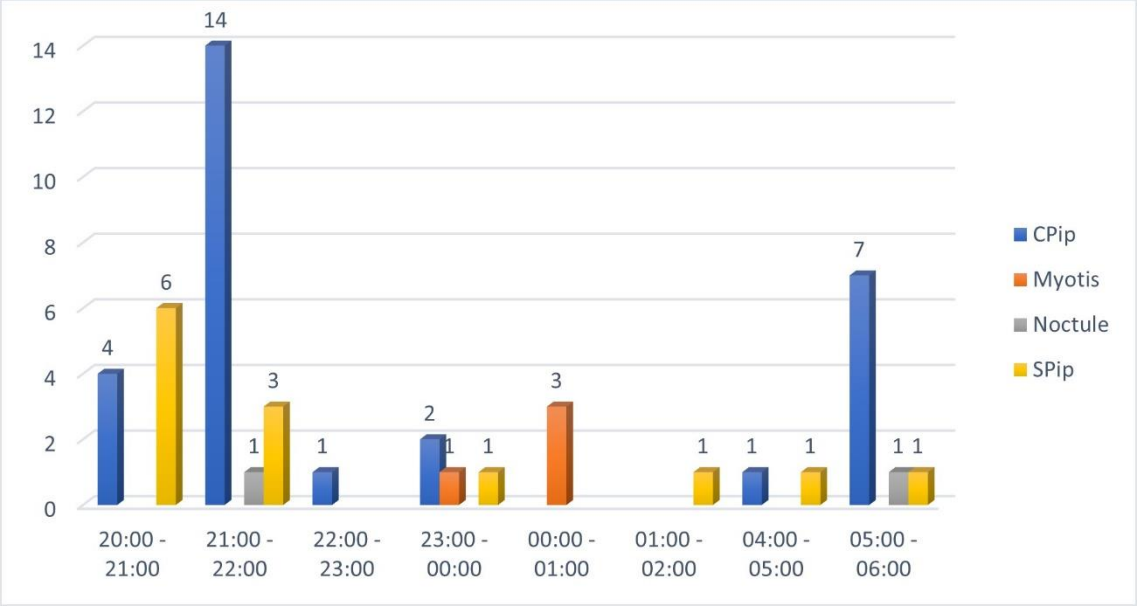


Figure 19: Static monitoring results for S1 from 15th to 22nd August 2024.

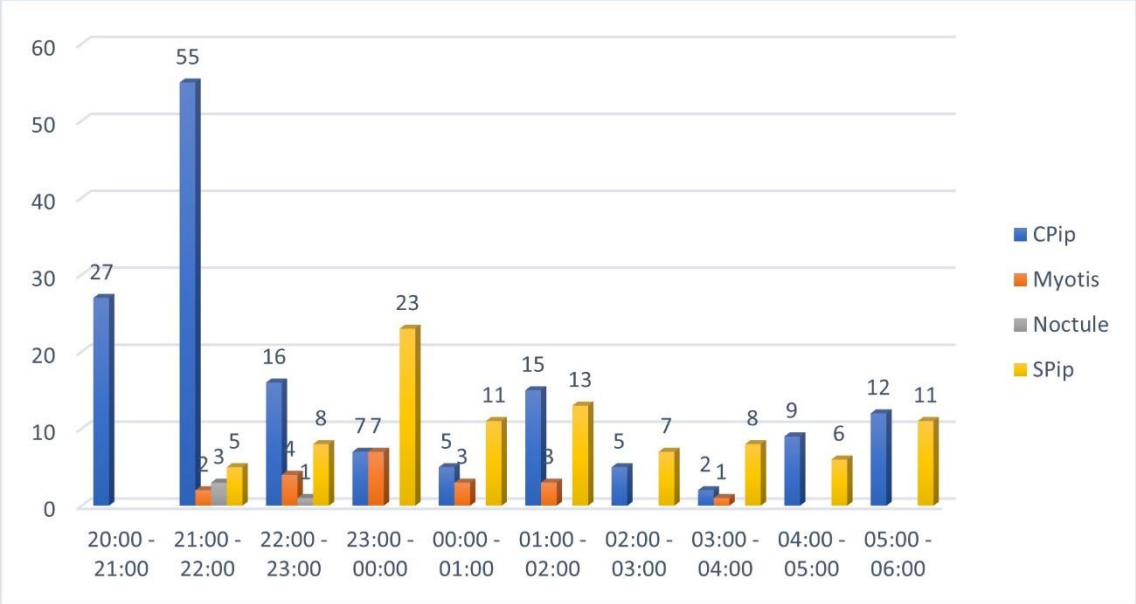


Figure 20: Static monitoring results for S2 from 15th to 22nd August 2024.

4.3.3.11. If the development requires the removal of areas of woodland or will impact on the levels of light and disturbance within or adjacent to the woodland, the development is considered likely to have an impact on foraging and commuting bats. The impact is considered likely to be more significant on the less light tolerant species identified on the site, those being brown long eared and myotis species.

4.3.4. Birds

4.3.4.1. Cofnod returned abundant records of bird species within the 2km search area, although no records specific to the surveyed area. The closest records refer to the presence of several species within 250m of the site, including UK Birds of Conservation Concern Red List species such as hen harrier (*Circus cyaneus*), curlew (*Numenius arquata*), grey partridge (*Perdix perdix*), woodcock (*Scolopax rusticola*) and lapwing (*Vanellus vanellus*).

4.3.4.2. The site provides foraging and nesting opportunities for a range of bird species, although the regular disturbance to the grassland will deter ground nesting species. Crows (*Corvus corone*) were identified foraging on the grassland during the survey and chiffchaff (*Phylloscopus collybita*) and other species were heard in the woodland.

4.3.4.3. Any vegetation clearance carried out during the nesting season, which extends from March to September each year, will potentially have a significant impact on any nests present in the vegetation.

4.3.5. Crayfish

4.3.5.1. Cofnod did not return any records of crayfish species within the 2km search area and there are no suitable habitats for crayfish on or adjacent to the surveyed area. Therefore, there will be impact on crayfish species during the proposed development.

4.3.6. Hedgehogs

4.3.6.1. Cofnod returned occasional records of hedgehog (*Erinaceus europaeus*) within the 2km search area, although no records specific to the surveyed area. The closest records are several broad records of rescued baby hedgehogs from the areas around the site.

4.3.6.2. The site provides foraging opportunities and areas of suitable shelter for hedgehogs, although no hedgehog field signs were identified during the survey.

4.3.6.3. The development will cause of loss of suitable habitats for hedgehogs although if the works are carried out under precautionary working methods, notably during the hibernation season, and measures are put in place to allow hedgehogs continued access across the site, the impact on the species will be minimal.

4.3.7. Invertebrates

4.3.7.1. Cofnod returned abundant records of invertebrate species within the 2km search area, although no records specific to the surveyed area. The closest records refer to the presence of southern hawker (*Aeshna cyanea*) in grid square SJ2843 and the presence of large red damselfly (*Pyrrhosoma nymphula*) at Trefynant Park, both located over 500m from the surveyed area.

4.3.7.2. The habitats on the site provide opportunities for invertebrate species although due to the regular disturbance the habitats were not considered high value or likely to support notably invertebrate communities. Therefore, it is unlikely that the proposed development will have a significant impact on invertebrate communities in the surrounding area.

4.3.8. Otters

4.3.8.1. Cofnod returned occasional records of otter (*Lutra lutra*) within the 2km search area, although no records specific to the surveyed area. The closest records refer to the presence of a roadkill otter 900m to the south and the presence of the species along the Llangollen Canal and River Dee, in excess of 1km to the south of the site.

4.3.8.2. No habitats suitable to support otters were present on the site or in the immediate surrounding area. Therefore, there will be no impact on the species during the proposed development.

4.3.9. Reptiles

4.3.9.1. Cofnod returned occasional records of reptile species within the 2km search area, although no records specific to the surveyed area. The records include records of grass snake (*Natrix helvetica*) and slow-worm (*Anguis fragilis*) with the closest records referring to the presence of slow-worms 400m to the south.

4.3.9.2 The site provides a generally low value habitat for reptiles due to the regular management of the grassland and the disturbance throughout the area. No reptiles were identified during the survey.

4.3.9.3. The proposed development will potentially have an impact on reptiles, if they are present on site, although precautionary measures implemented during the construction phase of the development will reduce the likely impacts.

4.3.10. Water Voles

4.3.10.1. Cofnod returned a single record of water vole (Arvicola amphibius) within the 2km search area. The record refers to the presence of the species at Ty Mawr and Tan Y Cut Wood LWS, 1.5km to the south.

4.3.8.2. No habitats suitable to support water voles were present on the site or in the immediate surrounding area. Therefore, there will be no impact on the species during the proposed development.

4.4. Invasive Non-Native Plant Species

4.4.1. No invasive non-native plant species listed on Schedule 9 of the Wildlife and Countryside Act 1981 were identified within the surveyed area.

5. Recommendations

5.1. Designated Sites

5.1.1. There will be no impact on designated sites during the proposed development and therefore there are no recommendations relating to designated sites.

5.2. Habitats

5.2.1. In line with local policy, it is recommended that the development aims to ensure that there is no loss of biodiversity during the development. This should be achieved through the retention of the high value habitats present within the site, notably the woodland, and through changes in management to the retained habitats, to reduce the impact of recreational use and to encourage diversity.

5.2.2. It is recommended that any improvements made to existing paths through the woodland are carried out in a manner that will minimise the impact on the woodland, including tree roots and loss of understory.

5.2.3. It is recommended that any trees used in the landscaping on the site utilise native locally appropriate species rather than non-native ornamentals.

5.3. Fauna

5.3.1. Amphibians and reptiles

5.3.1.1. It is recommended that precautionary working methods for amphibians and reptiles are implemented during the construction phase of the development. The precautionary measures should include the following, as a minimum:

- All personnel working on the site should be briefed on the potential presence of amphibians and reptiles on the site, how to identify the species and what to do if animals are encountered,
- Vegetation clearance work should be carried out with care with the vegetation initially taken no lower than 150mm, to allow animals to escape,
- Where possible materials should be stored on pallets or batons to prevent animals from seeking refuge underneath,
- Aggregates stored on site should either be stored in bulk bags or should be compacted to deter animals from seeking refuge in the materials.

5.3.1.2. In the event that common amphibian or reptile species are identified they should be carefully moved to suitable areas of terrestrial habitat outside the development footprint.

5.3.1.3. In the event that large numbers of common amphibians or reptiles (5+) or any great crested newts are encountered works on site should cease and further advice should be sought.

5.3.2. Badgers

5.3.2.1. To prevent badgers, or other mammals, becoming trapped during the works it is recommended that any excavations created have at least one sloped side. Pipe ends should be blocked between shifts to prevent inquisitive animals seeking refuge in the pipes and becoming trapped.

5.3.3. Bats

5.3.3.1. It is recommended that the trees at T1 and T5 are retained during the development and that there is no increase in light or disturbance around the trees. If it is not possible to retain the trees and suitable buffers to the trees it is recommended that further surveys of the trees are carried out prior to the tree removal, in line with the Bat Conservation Trust (BCT) Good Practice Guidelines (*2023*).

5.3.3.2. It is recommended dark buffers are retained to the woodland edges during the development with any lighting used on the site, during all phases of the development, being designed in a sensitive manner, in line with BCT and Institute of Lighting Professionals (ILP) Guidance (*2023*).

5.3.3.3. It is recommended that tree removal is avoided during the pathway improvement works. Any tree removal should only be carried out following further bat surveys, carried out in line with the BCT Good Practice Guidelines (*2023*).

5.3.3.4. It is recommended that the paths through the woodland remain unlit. If there is a requirement for lighting it is recommended that this is designed in line with BCT and ILP Guidance (*2023*).

5.3.3.5. If it is not possible to retain dark corridors to the woodland edges or significant lighting is required within the woodland it is recommended that the work is preceded by additional NBW surveys, in line with the BCT Good Practice Guidelines (*2023*).

5.3.3.6. As an enhancement to the site, it is recommended that roosting opportunities for bats are included in the buildings on the site in the form of bat bricks integrated into the fabric of the buildings.

5.3.4. Birds

5.3.4.1. Ideally it is recommended that any vegetation clearance works are carried out outside the nesting season, which extends from March to September each year.

5.3.4.2. Any vegetation clearance works carried out during the nesting season must be immediately preceded by a thorough nesting bird survey carried out by a suitably experienced surveyor. Any nests identified must remain undisturbed until the young have fledged from the site.

5.3.4.3. As an enhancement to the site, it is recommended that nesting opportunities for a variety of bird species, including threatened urban species such as house sparrows (*Passer domesticus*) and swallows (*Hirundo rustica*), are included in the buildings on the site.

5.3.5. Hedgehogs

5.3.5.1. It is recommended that vegetation clearance works avoid the peak hibernation period for hedgehogs, December to February, where possible.

5.3.5.2. It is recommended that any clearance of dense vegetation is carried out with care. The vegetation should be cleared in the manner that will allow the area underneath to be checked for the presence of hedgehogs. Any animals found should be carefully moved to areas of suitable habitat outside the development footprint.

5.3.5.4. It is recommended that hedgehog highways are installed in all fences during the development to allow the species continued access around the site.

6. Conclusions

6.1. If the development includes the retention of the high value habitats on site and includes changes in management on areas outside the development footprint, to offset the loss of biodiversity, it is considered that the development could have a negligible impact on the overall biodiversity on site.

6.2. If the development is designed in a sensitive manner, carried out following further surveys, where required, and with precautionary measures implemented during the construction phase of the development, the impact on fauna species is likely to be minimal.

7. References

Bright, P., Morris, P. & Mitchell-Jones, T. (2006). The Dormouse Conservation Handbook. 2nd edition. English Nature, Peterborough.

BTHK (2018). Bat Roosts in Trees – A Guide to Identification and Assessment for Tree-Care and Ecology Professionals. Exeter: Pelagic Publishing.

BRHK (2021). Bat Roosts in Rock – A Guide to Identification and Assessment for Climbers, Cavers & Ecology Professionals. Pelagic Publishing, Exeter.

Bat Conservation Trust and Institute of Lighting Professionals (2018) Guidance Note 08/18: Bats and artificial lighting in the UK. ILP, Rugby

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

CIEEM (2017) Guidelines on Ecological Report Writing. Chartered Institute of Ecology and Environmental Management, Winchester.

Collins, J. (ed.)(2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition). The Bat Conservation Trust, London.

English Nature (2001). Great Crested Newt Mitigation Guidelines. English Nature, Peterborough.

Froglife (1999). Froglife Advice Sheet 10: reptile survey. Froglife, London.

JNCC (2010) Handbook for Phase 1 Habitat Survey – A Technique for Environmental Audit, JNCC, Peterborough.

Strachan, R., Moorhouse, T. and Gelling, M. (2011) Water Vole Conservation Handbook. Third Edition. Wildlife Conservation Research Unit, Oxford.

UKHab Ltd (2023). UK Habitat Classification Version 2.0 (at https://www.ukhab.org)

Legislation and Policy.

Conservation of Habitats and Species Regulations 2017. Available at http://www.legislation.gov.uk/uksi/2017/1012/contents/made (Accessed 20th March 2023).

Countryside Rights of Way Act 2000. Available at http://www.legislation.gov.uk/ukpga/2000/37/contents (Accessed 20th March 2023).

The Habitats Directive. Available at http://www.ec.europa.eu/environment/nature/legislation/habitatsdirective/index_en.htm (Accessed 20th March 2023).

The Environment (Wales) Act 2016. Available at https://www.legislation.gov.uk/anaw/2016/3/contents/enacted (Accessed 26th February 2024)

Planning Policy Wales, Edition 12. Available at https://www.gov.wales/sites/default/files/publications/2024-02/planning-policy-wales-edition-12_1.pdf (Accessed 24th February 2024)

Natural Environment and Rural Communities (NERC) Act 2006. Available at http://www.legislation.gov.uk/ukpga/2006/16/contents (Accessed 20th March 2023).

The Wildlife and Countryside Act 1981. Available at http://www.legislation.gov.uk/ukpga/1981/69 (Accessed 20th March 2023).



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Appendix I: Habitat Map

Site - Land off Bethania Road, Acrefair
Reference - 20240037-PEA

Habitats

- g4-32 Modified grassland - scattered trees
- w1g Other broadleaved woodland

Linear Habitats

- u1e Built linear features

0 25 50 m



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Appendix II: Target Notes

Site - Land off Bethania Road, Acrefair
Reference - 20240037-PEA

Site boundary

Target Notes

- T1 - Willow tree with bat roost potential
- T2 - Steps providing access to the woodland
- T3 - A stone stuructre in the edge of the grassland
- T4 - Garden waste tipped into the woodland edge
- T5 - Willow tree with bat roost potential

0 25 50 m

Appendix II: **Target Notes**

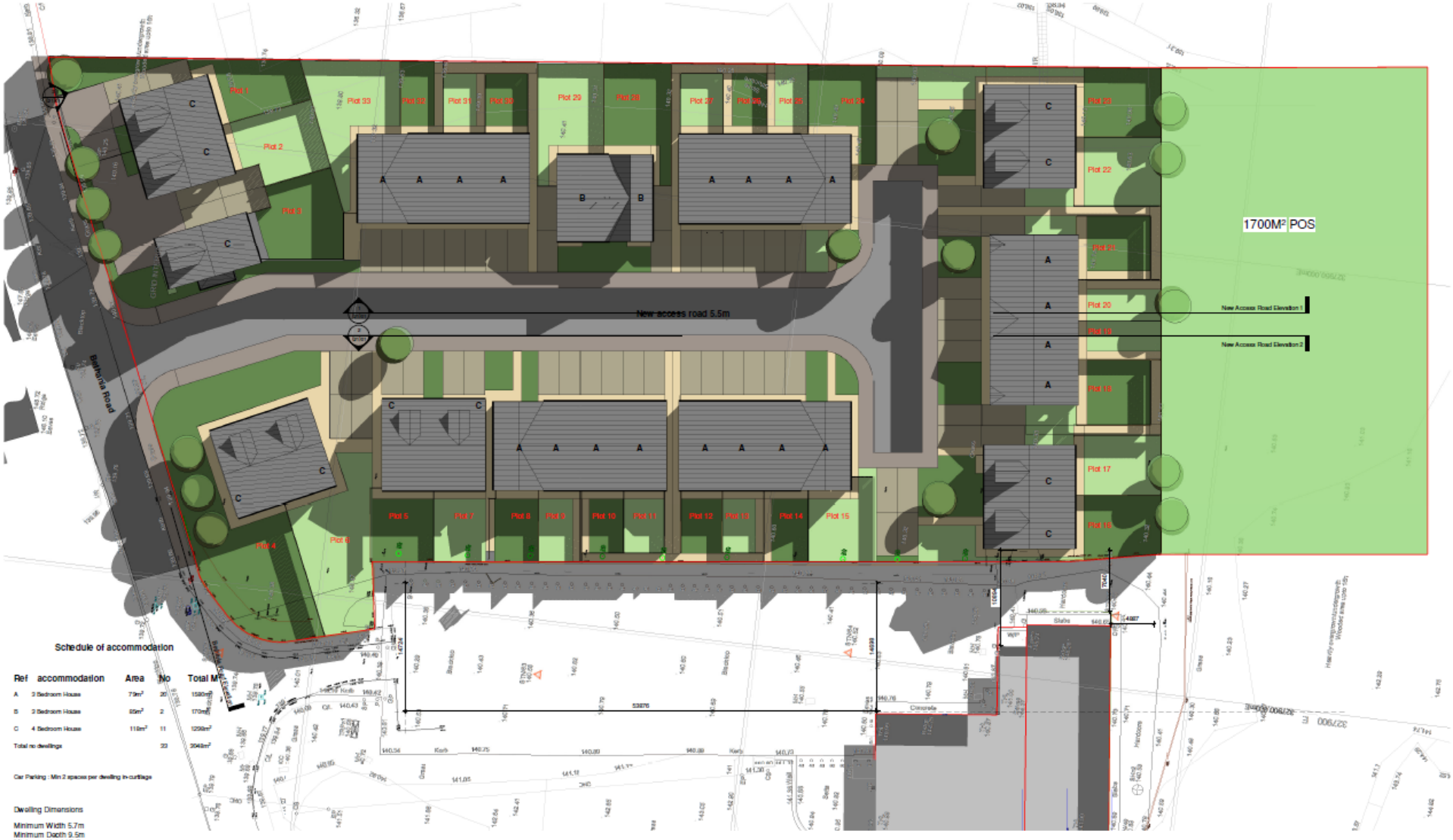
T1	A willow tree with Potential Roost Features suitable to support roosting bats.	
T2	Steps from the site into the adjacent woodland.	
T3	A stone structure along the eastern edge of the site.	
T4	Garden waste tipped into the woodland edge.	
T5	A willow tree with Potential Roost Features suitable to support roosting bats.	

Appendix III: **Species Lists**

g4-11 Modified grassland – scattered trees	
Species Present	DAFOR Assessment
Perennial rye grass (*Lolium perenne*)	D
Yorkshire fog (*Holcus lanatus*)	O
Cocks foot (*Dactylis glomerata*)	O
Common couch (*Agropyron repens*)	R
False oat grass (*Arrhenatherum elatius*)	O
Common bent (*Agrostis capillaris*)	O
Creeping buttercup (*Ranunculus repens*)	O
Cow parsley (*Anthriscus sylvestris*)	O
White dead nettle (*Lamium album*)	R
White clover (*Trifolium repens*)	A
Lesser trefoil (*Trifolium dubium*)	O
Dandelion (*Taraxacum officinale*)	F
Thistle (*Cirsium sp.*)	O
Cinquefoil (*Potentilla reptans*)	R
Hogweed (*Heracleum sphondylium*)	O
Common birds foot trefoil (*Lotus corniculatus*)	R
Rough hawkbit (*Leontodon hispidus*)	R
Red clover (*Trifolium pratense*)	O
Dock (*Rumex sp.*)	F
Ribwort plantain (*Plantago lanceolata*)	F
Yarrow (*Achillea millefolium*)	R
Groundsel (*Senecio vulgaris*)	O
Bramble (*Rubus fruticosus*)	O
Cut leaved cranesbill (*Geranium dissectum*)	R
Common knapweed (*Centaurea nigra*)	O
Bush vetch (*Vicia sepium*)	R
Common comfrey (*Symphytum officinale*)	R
Scattered trees	
Boxelder maple (*Acer negundo*)	O
Sorbaronia likjormaja liquorice	O
Japanese rowan (*Sorbus dodong*)	O
Birch (*Betula sp.*)	O

w1g Other woodland; broadleaved	
Species Present	DAFOR Assessment
Goat willow (*Salix caprea*)	O
Silver birch (*Betula pendula*)	F
Ash (*Fraxinus excelsior*)	O
Oak (*Quercus sp.*)	O
Sycamore (*Acer pseudoplatanus*)	R
Elm (*Ulmus sp.*)	O
Hawthorn (*Crataegus monogyna*)	O
Hazel (*Corylus avellana*)	F
Hogweed (*Heracleum sphondylium*)	F
Bramble (*Rubus fruticosus*)	F

Nettle (*Urtica dioica*)	O
Creeping buttercup (*Ranunculus repens*)	O
Rosebay willowherb (*Chamerion angustifolium*)	R
St Johns wort (*Hypericum perforatum*)	O
Elder (*Sambucus nigra*)	R
Horseradish (*Armoracia rusticana*)	O
Dock (*Rumex sp.*)	O
Thistle (*Cirsium sp.*)	F
Common comfrey (*Symphytum officinale*)	F
Ivy (*Hedera helix*)	F
Cleavers (*Galium aparine*)	F
Gorse (*Ulex europaeus*)	R
Broom (*Cytisus scoparius*)	O
Common ragwort (*Senecio jacobaea*)	O
Common knapweed (*Centaurea nigra*)	O
Ivy (*Hedera helix*)	F
Hedge woundwort (*Stachys sylvatica*)	O
Herb Robert (*Geranium robertianum*)	O
Cow parsley (*Anthriscus sylvestris*)	O
Hogweed (*Heracleum sphondylium*)	O
Clematis (*Clematis sp.*)	O
Hedge bindweed (*Calystegia sepium*)	O



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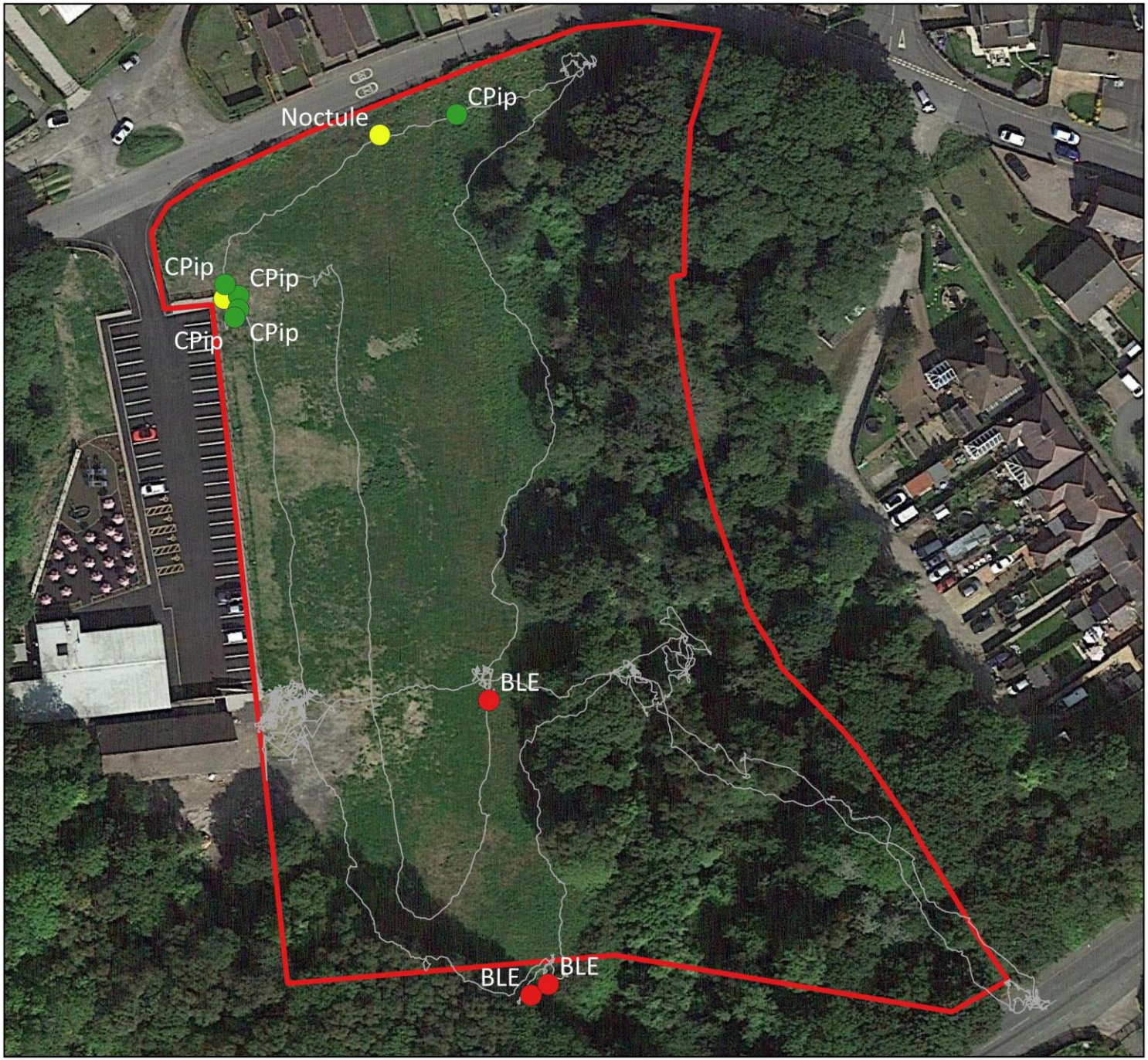
Rev	Date	Description
A	20.09.22	site plan revised

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Client	Prospect Estates
Job	Acrefair Wrexham
Drawing title	Proposed Site Plan
Project number	M3873 (90)09 Rev A
Scale	As indicated @ A1
Date	07/29/21
Drawn by	MI Checked by RF

20.09.22



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Appendix V: NBW Results

Bethania Road, Acrefair
14th August 2024

- Site boundary
- GPS track of NBW route
- Common pipistrelle calls
- Brown long · eared bat calls
- Noctule bat calls

0 20 40 m

Appendix VI: **Planning Policy and Species Legislation Summary**

1. Planning Policy

1.1. Planning Policy Wales (PPW) sets out the land use planning policies of the Welsh Government. The primary objective of PPW is to ensure that the planning system contributes towards the delivery of sustainable development and improves the social, economic, environmental and cultural well-being of Wales. Section 6.4 relates to biodiversity and ecological networks.

1.2. Paragraph 6.4.3 states:

'The planning system has a key role to play in helping to reverse the decline in biodiversity and increase the resilience of ecosystems, at various scales, by ensuring appropriate mechanisms are in place to both protect against loss and secure enhancement.'

1.3. Paragraph 6.4.11 states:

'Planning authorities must follow a step-wise approach to maintain and enhance biodiversity, build resilient ecological networks and deliver net benefits for biodiversity by ensuring that any adverse environmental effects are firstly avoided, then minimised, mitigated, and as a last resort compensated for. Enhancement must be secured by delivering a biodiversity benefit primarily on site or immediately adjacent to the site, over and above that required to mitigate or compensate for any negative impact.'

2. Legislation Summary

Site	Legislation
Locally Designated Sites	Locally designated sites are not covered by any statutory legislation but are protected by local development plans.
Statutory Sites	Statutory sites are protected in different ways depending on the reason for the sites designated with sites being covered by legislation including the Wildlife and Countryside Act 1981 and the Habitats Directive.
Species and Habitats or Principal Importance	Species and habitats of principal importance are covered by the Natural Environment & Rural Communities Act 2006.

Species	Legislation	Offences include
Badgers	Protection of Badgers Act 1992	○ Wilfully kill, injure, take, possess or cruelly ill-treat a Badger, or attempt to do so; ○ To intentionally or recklessly interfere with a sett (this includes disturbing Badgers whilst they are occupying a sett, as well as damaging or destroying a sett or obstructing access to it).
Bats	Conservation of Habitats and Species Regulations 2017 (as amended) Wildlife and Countryside Act 1981	○ Deliberately kill, injure or capture a bat; ○ Deliberately disturb bats; ○ Damage or destroy a breeding site or resting place of a bat. ○ Obstruct access to any structure or place which any bat uses for shelter or protection; or ○ Disturb any bat while occupying a structure or place which it uses for that purpose.

Birds	Wildlife and Countryside Act 1981	○ Intentionally kill, injure, or take any wild bird; ○ Intentionally take, damage or destroy a nest of any such bird whilst it is in use or being built; or ○ Intentionally take or destroy an egg of any such bird.
Crayfish	Wildlife and Countryside Act 1981	○ Obstruct access to any structure or place which a crayfish uses for shelter or protection; or ○ Disturb a crayfish while occupying a place which it uses for that purpose.
Great Crested Newts	Conservation of Habitats and Species Regulations 2017 (as amended) Wildlife and Countryside Act 1981	○ Intentionally or deliberately capture, injure, kill, or disturb the species; ○ Intentionally or recklessly damage, destroy or disturb a GCN in a place of shelter or protection, or obstruct access to such a place; or ○ Damage or destroy a breeding site or resting place.
Hazel Dormice	Conservation of Habitats and Species Regulations 2017 (as amended) Wildlife and Countryside Act 1981	○ Deliberately capture, injure or kill a dormouse; ○ Deliberately disturb dormice; ○ Damage or destroy a breeding site or resting place of a dormouse ○ Obstruct access to any structure or place which a dormouse uses for shelter or protection; or ○ Disturb a dormouse while occupying a structure or place which it uses for shelter or protection
Otters	Conservation of Habitats and Species Regulations 2017 (as amended) Wildlife and Countryside Act 1981	○ Deliberately capture, injure or kill any wild otter; ○ Deliberately disturb wild otters; ○ Damage or destroy a breeding site or resting place of an otters. ○ Disturb an otters while it is occupying a structure or place which it uses for shelter or protection; or ○ Obstruct access to such a place.
Red Squirrels	Wildlife and Countryside Act 1981	○ Kill, injure or take a red squirrel; ○ Damage, destroy or obstruct access to any structure or place which a red squirrel uses for shelter or protection; or ○ Disturb a red squirrel while it is occupying a structure or place which is used for that purpose.
Reptiles (non EPS)	Wildlife and Countryside Act 1981	○ Intentionally kill or injure a reptile.
Water Voles	Wildlife and Countryside Act 1981 Natural Environment & Rural Communities (NERC) Act 2006	○ Intentionally capture, kill or injure water voles; ○ Intentionally or recklessly damage, destroy or block access to their places of shelter or protection; or ○ Disturb water voles while occupying a place of shelter used for that purpose.

Local authorities therefore have a duty to consider protected species as a material consideration when assessing planning applications. The ODPM Government Circular 06/2005 states: '*It is essential that the presence or otherwise of protected species, and the extent that they may be affected by the proposed development, is established before the planning permission is granted, otherwise all relevant material considerations may not have been addressed in making the decision.*'