



A Preliminary Ecological Appraisal on behalf of

Mr. Gary Godfrey
For Land to the Rear of:
51-56 Ernest Street
Merthyr Tydfil
CF47 0YP



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Version: **02**

Executive Summary

Little Wing Ecology (CYF) was commissioned to undertake a preliminary ecological appraisal (PEA) on a site known as, 'Land Rear of Ernest Street, Merthyr Tydfil, CF47 0YP. Planning permission is sought for seven new-build, connected garages.

A desk study prior to the survey noted that there were no statutory sites on or adjacent to the proposed development site. The only statutory site within 1km of the proposed development site was Cwm Glo a Glyndyrys Site of Special Scientific Interest (SSSI). The closest boundary of Cwm Glo a Glyndyrys (SSSI) was 564m to the west of the development site.

There are four non-statutory sites within 1km of the proposed development site and two priority areas. The closest of these is the Afon Tâf which sits 40m west of the site and is separated from the site by a railway viaduct (the arches of which are infilled with commercial premises). All the remaining non-statutory sites and priority areas are found >500m from the site.

There are two minor streams between 215-325m from the site, both of which are separated from the site by an area of continuous urban settlement, with poor connectivity. There are three ponds between 715-947m from the site. These are all located on the opposite side of the A470 and within the Cwm Glo a Glyndyrys (SSSI). Connectivity with these is considered poor/negligible.

There are eight areas of woodland within 500m of the proposed development site between 47-481m. These are scattered among urban settlement and are generally considered small and fragmented. There are an additional six woodlands between 500-1000m from the site, some of which are more extensive. At 570m south-west of the site is an area of ancient semi-natural woodland. This area is isolated, being located between an industrial estate and the A470. A continuous tree-line follows the adjacent railway line north and south.

There were no historic records of protected/priority species on the site. There are four species recorded within 500m of the site. The closest record is for common pipistrelle (*Pipistrellus pipistrellus*) at 58m from the site. There are an additional 16 records for this species within the search radius.

In addition, there are records for soprano pipistrelle (*Pipistrellus pygmaeus*) west European hedgehog (*Erinaceus europaeus*) and otter (*Lutra lutra*) within 500m of the site. In total there are 27 records for bat species within 1km of the site.

There are seven records for west European hedgehog (*Erinaceus europaeus*) within 1km of the site and two of these are within 500m.

A site survey was carried out on Monday 19th February 2022. The site is currently used as a private allotment space. There are two small greenhouse and a store/workshop on site. The south-west corner is fenced off with Heras fencing to create a space that was formally used to house chickens. The north-west corner of the site is fenced off with steel fencing of the type used to border public utilities, and it is considered that this was the former use of this small portion of land.

This is a relatively small, relatively dark site which is managed as a private allotment space. There is low botanical diversity across the whole site including boundaries, that are dominated by a few species. As an allotment, the site offers various niches suitable for some species in terms of refugia and hibernacula. The presence of a building on the site and the nature of its construction offers a potential as a small summer bat roost.

No evidence of protected species was discovered during this survey, but the suitability of this site for reptiles, nesting birds, hedgehogs and commuting/foraging/roosting bats is such that recommendations have been made (below). Additionally, nearby woodland and grassland habitats could support some protected species. Further action is required to ensure that the proposed re-development will not negatively affect the local landscape regarding protected species.

Overall, the biodiversity of the site was found to be poor, with a limited variety of plants species and negligible/moderate likelihood for protected species. The proposed development would likely enhance the potential for biodiversity overall if a sympathetic planting scheme was adopted to the rear of the garages, as well as nesting and foraging opportunities for birds and bats. A sympathetic planting scheme would provide screening as well as providing an important connectivity corridor for a wide variety of species. This would help support the 104 species in Wales identified on the

The site was found to contain moderate potential to support protected and/or rare species. Therefore, the following recommendations have been made as outlined in Sections 6 & 7 for:

1. A minimum of two presence/possible absence surveys to be undertaken between May-September, to establish the use of the store/workshop by bats. This will also gather evidence on the use of the site by foraging/commuting bats.
2. A static survey of the interior of the store/workshop over five consecutive nights between May-September, to establish the use of the store/workshop by bats.
3. Precautions taken with regards hedgehogs during building works (Section 7).
4. If the development is to be started between March and August (inclusive), a suitably competent ecologist is required to carry out a careful, detailed check of all vegetation likely to be impacted, for nesting birds.
5. A suitably competent ecologist is required to carry out a careful, detailed check of all vegetation/features likely to be impacted and prior to works commencing at any time of year for hedgehogs and reptiles.
6. The incorporation of Eco Rocket Bat Box for bats in the development (Site Plan - Appendix A12, Example - Appendix C1).
7. A hedgehog box to be provided on-site (Site Plan - Appendix A12, Example - Appendix C5). It is also recommended that small gaps are left within boundary fencing to enable access to this sheltered area (Site Plan - Appendix A12, an example can be found within Appendix C5). This will ensure that the local hedgehog populations do not become fragmented within the local landscape.
8. A sympathetic planting scheme to be included behind the proposed garages to improve connectivity to the surrounding habitats and provide nesting opportunities for birds and support the commuting of bats (Appendix A12).
9. Mitigation for nesting birds on site will be provided by the planting of native shrubs along the south-west boundary (above - 8). This narrow area will be sheltered from human disturbance by a 4ft wire fence. The proposed elevations are very low and not ideal for the addition of nesting boxes. In addition, the north-east elevation is very exposed to human disturbance. Therefore, the addition of nesting boxes is not recommended but they are available as an optional extra (Appendix C2).
10. The inclusion of Bee Bricks (Site Plan - Appendix A12, Appendix C7).
11. No external lighting is planned for the site. If any changes occur with regards to this then the provision of suitable external lighting to support the foraging and commuting of bats (Appendix C8).

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SECTION ONE: INTRODUCTION

Little Wing Ecology (CYF) was commissioned to undertake a preliminary ecological appraisal (PEA) on a site known as, 'Land Rear of Ernest Street, Merthyr Tydfil, CF47 0YP (Appendix A1, A2 & A3).' For the purposes of this report, this land will be referred to as, 'the site.'

This report contains the results from the PEA, as well as an assessment of the likely impact that the proposed works will have on protected species at the site. This report was prepared with recommendations for mitigation measures to reduce these impacts and recommendations for supporting a net gain for biodiversity through the development process and to advise on additional species-specific surveys, if necessary.

The site survey was carried out on Saturday 19th February 2022 by Nicholas Aldridge MSc., a Natural Resources Wales licensed bat worker and author of this report.

1.1 PROPOSED WORKS

Planning permission is sought for seven new-build garages on a plot of land currently used as a private allotment. The site is currently actively used by the owner. There are two small greenhouse and a store/workshop on site. The south-west corner is fenced off with Heras fencing to create a space that was formally used to house chickens. The north-west corner of higher ground is fenced off with steel fencing, of the type used to border public utilities, and it is considered that this was the former use of this small portion of land (Appendix A6).

The proposed development includes:

- Six single and one double garages (all attached); and,
- A new retaining wall.

This development will extend over the whole of the lower section of ground on the site and will include the building of a retaining wall which will increase the width of the lower section and decrease the width of the higher ground.

1.2 SITE / HABITAT DESCRIPTION

The site covers an area of approximately 250 square meters and is situated less than 600 meters south-southeast of Merthyr Tydfil Town Centre. Access is available via a tarmac track that extends along the rear of Ernest Street - a row of traditionally built terraced houses. Merthyr Tydfil is situated at the northern edge of the Taff Valley and borders the southern limit of the Brecon Beacons National Park.

Habitats in the immediate vicinity of the site comprise residential properties, buildings and made surfaces, such as roads and pavements. The on-site habitat which is presently an allotment is bordered by neighbouring garages to the north and south. The adjacent street to the west (Clare Street) sits opposite a railway viaduct, the arches of which are filled in and utilised as commercial premises. This feature forms both a

natural boundary (wall) locally and a linear feature creating connectivity with other sites to the north and south. The Afon Tâf is located 40m west of the site, on the far side of the railway. This feature also provides connectivity north and south.

There are several small woodlands within Merthyr Tydfil itself, but these are mostly small and fragmented in nature.

The site is positioned at grid reference SO 05228 05469

1.3 POLICY AND LEGISLATION

Under the Environment (Wales) Act 2016, public authorities (including local councils and the National Parks), 'must seek to maintain and enhance biodiversity in the exercise of functions in relation to Wales, and in so doing promote the resilience of ecosystems, so far as consistent with the proper exercise of those functions.' This replaces the section 40 duty in the Natural Environment and Rural Communities Act 2006 (NERC Act 2006), in relation to Wales, which states that; 'All public authorities have a statutory duty to conserve biodiversity in all of their functions.'

Local authorities are legally required to make efforts to protect and enhance wildlife and its habitat and this is executed, in part, through the requirement of an ecological assessment for planned development sites.

The framework for this protection is provided within several pieces of legislation from the Government of Wales and the UK Government. Furthermore, a number of pieces of legislation exist that are specifically relevant to individual species. These include:

- Conservation of Habitats and Species Regulations 2010;
- The Conservation of Habitats and Species Regulations (2017) - as amended;
- The Environment (Wales) Act 2016;
- The Wildlife and Countryside Act (1981) - as amended;
- Natural Environment and Rural Communities Act 2006; and
- Conservation of Habitats and Species Regulations 2017.

Under regulations 9 (1 & 5) of the Habitat Regulations, local authorities have a duty to have regard for the requirements of the Habitats Directive. This includes maintaining populations of European Protected Species in "favourable conservation status", and potential for such protected species (for example, bats) should be taken into account when carrying out a preliminary assessment.

Additional information on the legal scope of these acts can be found in Appendix B and a link to the full documentation can be found in the References and Bibliography of this report.

1.3.1 Merthyr Tydfil Nature Recovery Plan (2019-2024)

Given the requirements set out in the Environment (Wales) Act 2016, Merthyr Tydfil County Borough Council have prepared key policies as outlined within the Merthyr Tydfil Nature Recovery Plan (2019-2024). In the context of the planned development, these policies require that there are no significant effects on biodiversity and that development will only be permitted where it protects and, where possible, enhances biodiversity.

The context for these is outlined in the Merthyr Tydfil Nature Recovery Plan (2019-2024) as follows:

‘Throughout our operations we will (where possible) seek to maintain and enhance the diversity of our natural environment to make it resilient and able to support the social, economic, health and well-being of local communities, both for enjoyment and for its own inherent value’.

1.4 SURVEY AIMS & OBJECTIVES

Considering this legal framework and local planning requirements, the objectives of this survey were to:

- consider the site's position in relation to local habitat features, connectivity and the wider environment;
- establish any potential or indirect effects upon the proposed development site;
- provide an informed overview of the habitat(s) on-site;
- identify the potential use of the site by protected species through the identification of supporting habitat features, field signs, or other relevant information;
- consider if there will be impacts on protected species from the proposed works;
- consider if protected species are present which might be affected by the development proposals;
- gather sufficient information to be able to make appropriate recommendations, inform mitigation and further species-specific survey (if necessary); and,
- provide solutions to enhance the development by suggesting features to create a net-gain for biodiversity.

1.5 GOOD PRACTICE

For the purpose of ecological survey and assessment, consideration should be given to; Biodiversity: Code of Practice for Planning and Development - BS 42020:2013 (2013).

SECTION TWO: THE SURVEY METHOD

2.1 DESKTOP SURVEY

Prior to visiting the development site, pre-existing information relevant to the site was assessed as part of the desk study. Good practice guidelines recommend a desk study incorporate data from the local biodiversity records centre. To this end, a request was placed with the South East Wales Biodiversity Records Centre (SEWBRc) for any records for protected and priority species within the local vicinity of the development site along with records of statutory and non-statutory sites (within 1km).

This data was supplemented with a search of a number of online resources for the 10km square containing the site. This included, but was not limited to:

- a search through the NBN atlas for species data;
- the utilisation of the Magic Map, incorporating some habitats and protected sites e.g., special areas of conservation, sites of special scientific Interest etc;
- study of OS maps and aerial photography through Google Maps;
- the website of Natural Resources Wales (NRW) for details on designation reasons of protected sites;
- an assessment of known data relating to previous surveys within the vicinity of the site (by Nicholas Aldridge and others) was also carried out. Only those species records occurring within the last ten years were considered relevant;
- a review of aerial photography was undertaken to assess the provision of suitable foraging and commuting habitat within close proximity to the site; and
- this information was used in combination with a review of statutory designated sites, via the MAGIC website, including Special Areas of Conservation (SAC) and Sites of Special Scientific Interest (SSSI) to help in confirming the presence of protected species locally.

Some species such as bats are often considered cryptic species and can be difficult to confirm whether they are present or not. Although the provision of a Local Environmental Records Centre (SEWBRc) data search would provide a range of information, such records can only be relied upon as relative where they are reasonably recent and when supplied by an experienced bat surveyor.

N.B. Due to the nature and proximity of this site to local woodland, care was taken to identify foraging and commuting potential and identify connectivity with the surrounding habitat.

2.2 FIELD SURVEY

A field survey was carried out on Saturday 19th February 2022 by Nicholas Aldridge MSc., an experienced ecologist and Natural Resources Wales (NRW) licenced bat worker (see Section 2.4).

The habitat assessment used standard phase 1 habitat techniques as the guiding principle, along with following CIEEM's Guidelines for Preliminary Ecological Appraisal

(2nd Ed, 2017). The surveyor started at the (eastern) entrance of the proposed development area (located on the lane behind Ernest Street) and walked a rough zig-zag, making notes systematically and methodically of the habitat. This was then followed by a circuit of the relevant site boundaries with additional notes made where necessary. Photographs were taken of the site's boundaries along with areas of interest (including buildings) and areas that characterised the habitat present on site.

Appropriate precautions were taken with respect to Covid-19.

2.3 SPECIES & HABITAT ASSESSMENT

During the course of the survey, the potential for protected species was assessed and any signs and/or evidence of use seen as an incidental part of the survey was noted. This included, but was not limited to:

- nesting potential for birds (including barn owls) at the time of the survey, with the surveyors looking for signs of bird activity, nests, nest building, feeding at nest sites, and evidence of collections of bird droppings, feathers, or any other indications of use by birds;
- features such as piles of rubble, banks or tree roots that could be used as refugia or hibernacula for reptiles and hedgehogs;
- water bodies that could provide opportunities for amphibians and/or grass snakes;
- physical signs of other relevant species (if seen), such as droppings and/or latrines, footprints, hair, food remains or foraging marks; and
- features that could be utilised by bats e.g., hollows in trees, peeling bark etc.

2.4 MEET THE TEAM

Nicholas Aldridge is the lead ecologist with Little Wing Ecology and the author of this report. He is a licensed bat worker with five years' experience surveying built-structures, open habitats, and woodlands for bats. Following a degree in Botany and Zoology, Nic completed an MSc in Wildlife Management, Conservation and Control, both at the University of Reading. He has practical experience in field-based research with a focus on invertebrate and vegetation diversity and producing phase 1 habitat surveys and habitat management plans. He has carried out the ringing of Daubenton's bats as part of a multi-year project on the species and has undertaken monitoring work on several important lesser horseshoe bat roosts. He has attended courses with the Bat Conservation Trust to improve his knowledge and skills and has led voluntary projects to develop habitats and collect species data.

NRW Bat Licence: S089980/1 (22nd July 2021 - 21st July 2021).

2.5 LIMITATIONS OF SURVEY METHOD

The principal constraint was the time of year when the preliminary ecological appraisal was conducted. The site is at a relatively high altitude and sits at approximately 591ft/180m above sea level, and therefore in a cooler climate zone. Many plants have

died back by December/January, making positive identification difficult. At any given time of year, it will not be possible to identify all plant species by conducting a single visit. Sward height and the weather conditions of late winter can hinder the identification of specimens. This being said, it is possible to classify habitats and identify some species outside the main survey period.

The majority of the site was accessible for survey and access to the site was possible at all times. The few areas with limited access were due to established bramble scrub (on the steeper portions of the boundary).

SECTION THREE: RESULTS - DESKTOP SURVEY

Information was collected from a range of sources (detailed in Section 2) including but not limited to:

- local biodiversity records;
- satellite imagery;
- Natural Resources Wales website; and,
- local knowledge and other available records.

This was analysed and interpreted considering the connectivity of the site with the local habitat and the relationship with the wider environment.

No part of the site contains, or is within, any statutory sites of nature conservation interest, such as a Site of Special Scientific Interest (SSSI), Special Area of Conservation (SAC), National Nature Reserves (NNRs) or Local Nature Reserves (LNRs) etc.

There are no historic records for protected and/or priority species within the boundaries of the site.

3.1 HABITAT & CONNECTIVITY

The site covers an area of approximately 250 square meters and is situated less than 600 meters south-southeast of Merthyr Tydfil Town Centre. Access is available via a tarmac track that extends along the rear of Ernest Street - a row of traditionally built terraced houses. Merthyr Tydfil is situated at the northern edge of the Taff Valley and borders the southern limit of the Brecon Beacons National Park.

Habitats in the immediate vicinity of the site comprise residential properties, buildings and made surfaces, such as roads and pavements. The on-site habitat which is presently an allotment is bordered by neighbouring garages to the north and south. The adjacent street to the west (Clare Street) site opposite a railway viaduct, the arches of which are filled in and utilised as commercial premises. This feature forms both a natural boundary locally and a linear feature creating connectivity with other sites. The Afon Tâf is located 40m west of the site, on the far side of the railway. This feature also provides connectivity north and south.

There are several small woodlands within Merthyr Tydfil itself, but these are mostly small and fragmented in nature.

3.2 STATUTORY SITES

The ecological data received from SEWBRc, along with Countryside Council for Wales records retrieved online, revealed one statutory protected site (e.g., LNR, SSSI, SPA, SAC or Ramsar) within the 1km of the site. This is a Site of Special Scientific Interest (SSSI).

Name	Designation	Distance (metres)	Direction from site
Cwm Glo a Glyndyrys	Site of Special Scientific Interest (SSSI)	564	SW

Figure 3.2 Statutory Sites within 1km of the site

No statutory sites fall on or adjacent to the proposed development site itself.

3.3 NON-STATUTORY SITES

The ecological data received from SEWBRcC confirmed the presence of four local non-statutory protected sites within 1km of the proposed site. These include three Sites of Importance to Nature Conservation (SINC - Adopted), and a B-Lines designated area. In addition, there are two priority areas within the search zone.

These are as follows:

3.3.1 Local Non-statutory Sites

Name	Designation	Distance (metres)	Direction from site
Afon Tâf	Site of Importance to Nature Conservation – Adopted (SINC)	40	W
Rhydycar West	Site of Importance to Nature Conservation – Adopted (SINC)	535	SW
Cwm Glo	Site of Importance to Nature Conservation – Adopted (SINC)	671	W
B-Lines	B-Lines are a series of 'insect pathways' running through our countryside and towns. They link existing wildlife areas together, creating a network, across the landscape.	750	N
Ancient Woodland	Priority Area.	570	SSE
Heathland and Grassland. This overlaps the designated SSSI and Sinc (above) and continues further south beyond their boundaries.	Natural Resources Wales (NRW) Priority Area.	534	SW

Figure 3.3.1 Non-Statutory Sites within 1km of the site

3.3.2 Woodland Sites

The survey of woodland sites was undertaken by consulting Magic Map and by information provided by SEWBRcC.

The National Forestry Inventory shows the following records within 1km of the site:

Woodland Type / Description	Notes	Distance from Site (m)	Direction from site
Semi-natural broadleaved		168	ENE
Semi-natural broadleaved		200	E
Semi-natural broadleaved		145	NE
Planted broadleaved	Small area	260	ESE
Planted broadleaved	Large area between settlement and dual carriageway	600	SE
Ancient semi-natural woodland	Isolated: between industrial stand and A470	570	SSW
Broadleaved		47	W
Broadleaved		304	S
Broadleaved		562	W
Broadleaved		481	NW
Broadleaved		527	WNW
Broadleaved		673	W
Broadleaved		550	SSE
Broadleaved		464	SSW

Figure 3.3.2 National Forestry Inventory Records within 1km of the site (non-statutory)

Ancient semi-natural woodlands are site which are believed to have been in existence for over 400 years.

None of the woodland locations falls within the boundaries of, nor is directly adjacent to the proposed development site.

3.3.3 Grassland Sites

A survey of natural grasslands was undertaken by consulting Magic Map and by information provided by SEWBRcC. The following sites of interest were identified:

Name / Description	Notes
Semi Improved Neutral Grassland (B2.2)	235m southwest, adjacent to cinema and leisure centre. Continues east and north-east but is fragmented. In addition, an area runs north and south along far side of A470. A second large area is recorded 660m south-east beyond the urban settlement.
Marshy Grassland (B5)	Very small areas adjacent to the A470 570m west of the site.

Dry Acid Heath (D1.1)	Small and fragmented sections withing Cwm Glo a Glyndyrys (SSSI).
Semi Improved Acid Grassland (B1.2)	A small area bordering the A470, 432m to the west of the site.
Unimproved Acid Grassland (B1.1)	Small and fragmented sections withing Cwm Glo a Glyndyrys (SSSI).
Amenity Grassland (J1.2)	Several areas in town. The closest is 303m east-south-east beyond the adjacent settlement.

Figure 3.3.3 Grassland Records within 1km of the Site

None of the grassland locations falls within the boundaries of, nor is directly adjacent to the proposed development site.

3.3.4 Flowing and Standing Water Sites

The survey location was examined by consulting Magic Map and from information provided by SEWBRc. The following sites of interest were identified:

Name / Description	Type	Distance from Site	Direction From Site
Afon Tâf - Opposite side of railway.	Running water	40	W
A small stream – Across dense urban settlement.	Running water	215	SE
A small stream – across dense urban settlement	Running water	325	SE
A pond – Opposite side of A470 within the SINC.	Standing water	715	W
A pond - Opposite side of A470 within the SINC.	Standing water	770	WSW
A pond - Opposite side of A470 within the SINC.	Standing water	947	WSW

Figure 3.3.4 Flowing and Standing Water Records within 1km of the site.

None of the areas of flowing or standing water is found within or adjacent to the boundaries of the proposed development site.

3.4 SPECIES RECORDS

As with habitat, records were also evaluated to identify protected species that may be impacted by the proposed development (below).

Species Group	Notes
Amphibians	Within the ecological data search provided by SEWBRc, three amphibian species have been recorded within the 1km search radius. The records are for the great crested newt (<i>Triturus cristatus</i>), common frog (<i>Rana temporaria</i>), and palmate newt (<i>Lissotriton helveticus</i>). Only

	common frog (<i>Rana temporaria</i>) and palmate newt (<i>Lissotriton helveticus</i>) have been recorded within 500m of the site; the nearest record being at 459m (common frog). There is a single record for great crested newt (<i>Triturus cristatus</i>) which is at the limit of the search radius (986m) withing the Cwm Glo a Glyndyrys. In addition to this, there are three additional records for this species outside the search zone: at 1192m, 1636m and 1486m. There are no records of amphibians being present on the site.
Birds	A total of 19 priority species have been recorded within the 1km search radius, with the nearest sightings being of house sparrow (<i>Passer domesticus</i>) at 273m from the site. Of these eight species have been recorded with 500m of the site including song thrush (<i>Turdus philomelos</i>), Dunnock (<i>Prunella modularis</i>), and common kingfisher (<i>Alcedo atthis</i>). A total of 19 species of conservation control have been recorded within the 1km search radius, with the nearest sightings being of long-tailed tit (<i>Aegithalos caudatus</i>) at 273m from the site. Of these 15 species have been recorded with 500m of the site including goldcrest (<i>Regulus regulus</i>), Grey heron (<i>Ardea cinerea</i>), Grey wagtail (<i>Motacilla cinerea</i>), Green finch (<i>Chloris chloris</i>) and dipper (<i>Cinclus Cinclus</i>). There are no historic records of bird species on the proposed development site.
Crustaceans	The ecological data search provided by SEWBRcC revealed no records of crustaceans within 1km of the site.
Fish	Within the ecological data search provided by SEWBRcC, one fish species has been recorded within 1km of the site, this being of brown trout (<i>Salmo trutta</i>). This was recorded at 753m from the site and is an out-of-date record (>10 years).
Fungi	Within the ecological data search provided by SEWBRcC, two fungus species are recorded within 1km of the site. These are: dark purple earth tongue (<i>Geoglossum atropurpureum</i>) and earth tongue (<i>Geoglossum fallax</i>). Both are recorded at 851m from the site. There are an additional four species recorded locally but these were all recoded >500m from the site are for the purposes of this report these records are considered older records (>10 years). There are no records of fungus species on or adjacent to the site.
Plants	Within the ecological data search provided by SEWBRcC, one protected floral species was revealed in the search radius, no species of

	conservation concern are recorded, and 10 records exist for locally important species, although only four of these records are recent (<10 years). There is a single record for the protected species bluebell (<i>Hyacinthoides non-scripta</i>), and this was recorded at the limit of the search area (990m). The nearest record to the proposed development site was for fragrant agrimony (<i>Agrimonia procera</i>). All the records for locally important species occur between 715-990m from the site. There are no records of protected floral species on or adjacent to the site.
Invertebrates	Within the ecological data search provided by SEWBRc, 22 protected invertebrate species are recorded in the 1km search radius. These records include 19 species of moth, two butterflies and one beetle. Only one of these records is within 500m of the site. This is for cinnabar moth (<i>Tyria jacobaeae</i>). There are recent records for six locally important species within 1km of the site. These include four species of bee, one moth and one butterfly species. All of these records are >500m from the site. The nearest record is for early bumblebee (<i>Bombus pratorum</i>) at 686m. There are no historic records of protected invertebrate species on the site.
Mammals	Within the ecological data search provided by SEWBRc, eight mammal species are recorded within the 1km search radius of the site. There are four species recorded within 500m of the site. The closest record is for common pipistrelle (<i>Pipistrellus pipistrellus</i>) at 58m from the site. There are an additional 16 records for this species within the search radius. In addition, there are records for soprano pipistrelle (<i>Pipistrellus pygmaeus</i>) European hedgehog (<i>Erinaceus europaeus</i>) and otter (<i>Lutra lutra</i>) within 500m of the site. In total there are 27 records for bat species within 1km of the site. There are seven records for European hedgehog (<i>Erinaceus europaeus</i>) within 1km of the site and two of these are within 500m. There are three additional species recorded within the search radius: polecat (<i>Mustela putorius</i>), weasel (<i>Mustela nivalis</i>) and European water-vole (<i>Arvicola amphibius</i>). All of these records are located

	between 937-990m of the site. There are no historic records of protected mammal species on, or adjacent to, the site.
Molluscs	Within the ecological data search provided by SEWBrEC, no terrestrial mollusc species have been recorded within 1km of the site.
Reptiles	Within the ecological data search provided by SEWBrEC, there is only one record for reptiles. This is for a slow worm (<i>Anguis fragilis</i>) recorded at 821m from the site.

Figure 3.4 Species Records within 1km of the site.

3.4.1 Invasive and Non-native Species

The survey location was examined by consulting Magic Map and from information provided by SEWBrEC. The following sites of interest were identified:

Common Name	Scientific Name	Number of Records	Closest Record (m)
Japanese knotweed	<i>Fallopia japonica</i>	32	126
Greater periwinkle	<i>Vinca major</i>	1	487
Buddleia	<i>Buddleja davidii</i>	3	>500
Least Duckweed	<i>Lemna minuta</i>	1	>600
Snowberry	<i>Symphoricarpos albus</i>	2	>700
Indian Balsam	<i>Impatiens glandulifera</i>	1	>750
Cotoneaster	<i>Cotoneaster bullatus</i>	1	>750
Harlequin ladybird	<i>Harmonia axyridis</i>	1	>800
Himalayan honeysuckle	<i>Leycesteria formosa</i>	1	>850
Montbretia	<i>Crocasmia pottsii x aurea</i>	1	>850
Blue-bell cross	<i>Hyacinthoides non-scripta x hispanica</i>	1	>850
Grey squirrel	<i>Sciurus carolinensis</i>	2	>950
Pampas grass	<i>Cortaderia selloana</i>	1	>950
Heath star moss	<i>Campylopus introflexus</i>	1	>950

Figure 3.4.1 Invasive and Non-native Species Recorded within 1km of the site.

There are no records of non-native and/or invasive species on or adjacent to the site.

3.5 SUMMARY OF RESULTS

The desktop survey has highlighted certain areas that require further investigation, and which will become a focus of the field survey (below).

3.5.1 Habitat Features

From satellite images, this site sits to the rear of residential properties which themselves are bordered to the west by a railway viaduct. From local knowledge, the arches of this

viaduct are infilled and used as commercial premises. These features may provide potential for this to be a dark site, shielded from artificial street lighting. Consideration must therefore be given to the use of the site for commuting and foraging bats and as a potential roosting location.

Consideration will need to be given to these features during the field survey.

3.5.2 Boundaries

From satellite imagery, the site boundaries include trees and/or shrubs and the interior is green possibly grassy. These features may include suitable habitats for nesting birds, hedgehogs, and reptiles.

In addition, this mosaic of mature trees and scrub within an enclosed dark site may provide suitable opportunities for bats, both in terms of foraging and potentially summer roosts. This will need to be considered during the field survey.

3.5.3 Protected Species

The suitability of these three features to support protected and/or priority species will be further scrutinised during the field survey.

SECTION FOUR: RESULTS - FIELD SURVEY

The survey was carried out on Saturday 19th February 2022 starting at the eastern entrance to the site. Weather conditions were dry and bright with a slight breeze at the start of the survey. The temperature was 6°C.

A complete record of environmental data can be found in Appendix A9.

February falls outside the optimal time of year for preliminary ecological appraisal. The site is at a high altitude sitting approximately 180m/591ft above sea level and is therefore in a relatively cold climate zone. Many plants have died back by December, so making a positive identification can be difficult.

At any given time of year, it will not be possible to identify all plant species by conducting a single visit. Varying sward height and the weather conditions of late winter can hinder the identification of specimens. It is possible to classify habitats and identify some species outside the main optimal survey period. All of the site was accessible for survey and access to the site was possible at all times.

A complete species list for the field survey can be found in Appendix A10.

4.1 SITE DESCRIPTION

The survey site covers a plot of approximately 250sq.m, consisting of two levels. Higher ground runs along the south-western border and lower ground runs along the north-eastern border. A short wall runs between the two and dividing the land in half.

The site is currently used as a private allotment space. There are two small greenhouse and a store/workshop on site. The south-west corner is fenced off with Heras fencing to create a space that was formally used to house chickens. The north-west corner of higher ground is fenced off with steel fencing of the type used to border public utilities and it is considered that this was a former use of this small portion of land.

The plot was accessed via Warlow Street via a tarmacked lane to the rear of Ernest Street. Please refer to Appendix A2 & A3 for a map of the site and the proposed development.

4.2 HABITAT ON SITE

The preliminary ecological appraisal survey revealed two habitat types and two building types on site.

The phase 1 habitat map is in Appendix A6, and target notes (along with photographic evidence) are located within Appendix A8.

The following habitats were recorded on site:

4.2.1 Improved Grassland (B4)

Approximately one half of the site is dominated by this habitat type and these areas represent section of the allotment that have either fallen out of use (chicken enclosure and former utilities area) or which are currently maintained informally as a lawn around the greenhouses.

Grassy areas on site are dominated by a medium/short sward height of species such as annual meadow grass (*Poa annua*). Identification was difficult due to short sward height. This site has not previously been recorded on any available records.

Within the former chicken enclosure (south-west corner), a goat willow (*Salix caprea*) has self-seeded and has been coppiced, showing recent regrowth.

The field survey was undertaken following several weeks of consistent rainfall and no areas of standing or flowing water were identified on site. It is therefore considered that as no standing water is present, opportunities for amphibians on the development site are negligible.

Photographic evidence can be found in Appendix A7.

4.2.2 Bare Ground (J4)

The bare ground identified on site refers to areas that have recently been used for growing vegetables. There are several specimens of rhubarb growing on the higher section of ground. All of the bare ground has a covering of winter weed growth, predominantly dandelion (*Taraxacum officinale*), herb-robert (*Geranium robertianum*), garlic mustard (*Alliaria petiolata*), creeping buttercup (*Ranunculus repens*) and bittercress (*Cardamine hirsuta*).

Photographic evidence can be found in Appendix A7.

4.2.3 Buildings (J3.6)

There are two small greenhouses on site. These are found on the southern portion of the lower ground.

Along the northern boundary of the site is a store/workshop. This is a single skin, concrete block structure with a corrugated steel roof. The structure has been partially insulated with a layer of polystyrene beneath the sheet roofing. This has created a dark cavity between the roofing material and the insulation. There are numerous access points to the cavity offering potential for this structure as a summer bat roost.

Photographic evidence can be found in Appendix A8 (Target Notes).

4.2.6 Non-native species

There is one non-native species on site. This is a specimen of Butterfly Bush (*Buddleja davidii*) which is found on the enclosed area in the northern corner of the site.

Photographic evidence can be found in Appendix A7.

4.2.7 Refugia/Hibernacula

There are several structures on site which offer potential refugia for slow-worms (*Anguis fragilis*) and a large compost/cuttings pile that provides a suitable hibernaculum for over-wintering West European hedgehogs (*Erinaceus europaeus*).

Photographic evidence can be found in Appendix A8 (Target Notes).

4.3 THE BOUNDARY

The south-western and north-eastern boundary's (along adjacent lanes) are predominantly composed of steel wire. Sections have been filled with corrugated sheeting and Heras fencing.

The northern and southern boundaries of the site are marked by neighbouring garages.

The former utilities area on the north-west corner has a 6ft pressed steel fence and a tubular steel farm gate on the northern side.

4.4 SUMMARY OF RESULTS FROM THE FIELD SURVEY

The following features were identified during the field survey which provides varying degrees of potential for protected species:

- **Buildings** – The nature of the store/workshop in addition to this being a relatively dark site, provides the potential for this building being used as a summer roosting site of bats (Appendix A8).
- **Grassland:** This is a sunny site and will benefit from ample solar gain during the summer months. This character offers some potential foraging for mammals (e.g., hedgehogs and bats) and reptiles (e.g., slow worms).
- **Hibernaculum** – the presence on site of a compost heap/cut branches offers a potential hibernaculum (hibernation site) for overwintering mammals (e.g., hedgehogs) (Target Notes - Appendix A8).
- **Refugia** - The presence on site of building debris, e.g., corrugated roofing sheets provide potential refugia (summer shelters) for reptiles (e.g., slow worms) (Target Notes - Appendix A8).

- **Mature Trees:** The presence of a single mature apple tree offers limited potential as a roosting site of birds.
- **Dark site:** The absence of artificial light on-site increases the potential of this site for foraging bats.

SECTION FIVE: EVALUATION

This is a relatively small, relatively dark site which is managed as a private allotment space. There is low botanical diversity across the whole site including boundaries that are dominated by a few species.

As an allotment naturally offers various niches suitable for some species in terms of refugia, hibernacula.

The presence of a building on site and the nature of its construction offers a potential as a small summer bat roost.

5.1 EVALUATING THE IMPACT ON PROTECTED SPECIES

- **Amphibians:** The UK Government provides the following advice to local planning authorities. This outlines when to ask for a survey of great crested newts:
 - When distribution and historical records suggest there may be GCN;
 - there's a suitable water body such as a pond or ditch within 500 metres of the development, even if it only holds water for some of the year, and/or;
 - the development site includes refuges, such as log piles, rubble, grassland, scrub, woodland or hedgerows within 500 metres of suitable aquatic habitats (static or slow-moving water body).

The habitats on the proposed development site are not deemed suitable for terrestrial amphibians and have poor/negligible connectivity to the known nearby suitable habitats (static or slow-moving water body).

There is a single record for great crested newt (*Triturus cristatus*) which is at the limit of the search radius (986m) within the Cwm Glo a Glyndyrys (SSSI). In addition to this, there are three additional records for this species outside the search zone: at 1192m, 1636m and 1486m. However, these records are outside the recommended priority area (500m) and connectivity to the site and Cwm Glo a Glyndyrys (SSSI) is negligible.

There is low/negligible potential for amphibians (common frog). There are good opportunities provided by the spoil heap for winter hibernaculum but with the lack of connectivity to suitable water bodies, the immediate habitat is sub-optimal to support these species.

- **Reptiles:** The National Amphibian and Reptile Recording Scheme (see References) provide the following guide to identify features of interest for reptile habitat.

'Vegetation structure – ideal reptile habitat has a variable structure with a mixture of vegetation heights, tangled or thorny areas, mosaics, bare patches, lots of edges ('ecotones') and good basking places.

- **Extent** – must be big enough area to support a population. Small habitat patches can be sufficient for lizards, whereas snakes need larger areas (although grass snakes can cross unsuitable habitats).
- **Aspect** – sunny, sheltered locations, unshaded, south-facing • Topography - undulating topography, banks, hummocks, hollows, south-facing slopes; generally, not north-facing slopes.
- **Connectivity** – essential to allow colonisation when habitat is created, and recolonisation after local extinctions. For example, if an area of good habitat is surrounded by intensive arable farmland, reptiles might not be able to colonise it.
- **History** – habitat that has been recently created might look deceptively good, but it takes time for reptiles to colonise, and there must be connectivity with neighbouring areas where they are present.'

The habitat on the proposed development site is considered too small to support a terrestrial reptile population and connectivity with local habitat is considered poor.

However, it is considered that the site may offer incidental use by individuals, particularly slow worms (*Anguis fragilis*) which have been recorded locally.

It is considered that the habitat is unsuitable for adders (*Vipera berus*) and common lizards (*Zootoca vivipara*) – these reptiles prefer larger areas such as heathland, moorland, open woodland and sea cliffs and have a low likelihood of utilising an urban brownfield site. There is also nil potential for grass snakes (*Natrix helvetica*) as this species prefers damp areas and water bodies/watercourses where it predated mainly on frogs and fish (these are lacking).

5.1.1 Birds

Due to the time of year, it was not surprising that no nesting birds were observed although nesting opportunities on site are limited.

As there is a small possibility of nesting birds on site, further, but moderate, precautionary measures are necessary (please refer to Section 6 for more information).

5.1.2 Mammals

- **Badgers:** During the field survey, no evidence of badger (*Meles meles*) presence was found on the survey site or within the zone of influence from the proposed scheme of works.
- **Bats:** There is moderate potential for roosting bats at the store/workshop. Due to the small size of the site, foraging opportunities are negligible although as the site occupies a dark space to the rear of Ernest Street, there is a moderate opportunity for commuting, and the site may offer some foraging

opportunities when it is considered as a part of the whole space - occupied by neighbouring gardens.

It is not uncommon for species like pipistrelle (*Pipistrellus* spp.) to utilise the woodland margins along lanes for foraging and commuting. Due to this, further precautionary measures are necessary (please refer to Section 6 for more information).

It is not considered that the store/workshop is suitable as a hibernation roost. The potential for bats to use the structure is limited by the lack of temperature moderation. The space available for bats sits beneath a sheet metal roof. It is likely to become both too hot and too cold dependent on weather conditions.

- **Dormouse:** The habitats at the survey site were not deemed suitable to support any local hazel dormouse (*Muscardinus avellanarius*) populations. This, in combination with no local records, means that no further action is required regarding this species.
- **Otters:** The site did not offer any suitable habitat for otters.
- **Hedgehogs:** The habitat on site has moderate potential to support the local hedgehog populations (*Erinaceus europaeus*) by providing hibernaculum (a hibernation space). This, in combination with the nearby records of this species, means that further precautionary measures are necessary for this project (please refer to Section 7).
- **Other Mammal Species:** There was no suggestion of other mammal species using the proposed development area. It is considered that other species are unlikely to use the site.

5.1.3 Invertebrates

- **Insects:** Due to the time of year no evidence of invertebrate species was found on the survey site or within the zone of influence of the proposed development. However, the ecological data set provided by SEWBRc identified that the proposed redevelopment site falls 750m south of a designated (non-statutory) B-Lines zone (Appendix A11). B-Lines are a series of 'insect pathways' running through our countryside and towns, along which we are restoring and creating a series of wildflower-rich habitat steppingstones. This, in combination with the nearby records for the early bumblebee (*Bombus pratorum*)- a locally important species, means that further precautionary measures are recommended for this project (please refer to Section 7).

5.2 IMPACT ASSESSMENT

Based on current known plans for the site and considering survey results and other

available data the following will likely apply:

5.2.1 Short-Term Impacts (during development)

The disturbance of nesting birds and foraging bats during development is deemed to be low/negligible. There is a relatively low chance of disturbing nesting birds, even if works were to be carried out during the breeding season, due to the availability of nesting opportunities being restricted to the margins of the site, areas that fall outside the building zone (Appendix A3). Direct disturbance to foraging bats is unlikely unless lighting is used at night during the development.

The site has potential for hedgehogs, reptiles and the store/workshop has been identified as offering moderate potential as a small summer bat roost. Due to this, further precautionary measures are necessary (please refer to Section 7 for more information).

5.2.2 Long-Term Impacts (post-development)

- Post-development impacts are considered low, and the development has the potential to increase the biodiversity of the site and enhance nesting/roosting opportunities for native species.
- The development improves the site for the local community but overall, removes the habitat for those species that do occur (although these are few).
- Habitat/connectivity impacts are considered negligible. A sympathetic planting scheme to the rear of the garages could increase the diversity of both plant species and increase opportunities for birds, bats and other species to forage, nest and utilise the site in general. Furthermore, the inclusion of an artificial bat roost would introduce a further enhancement in terms of increasing opportunities for bats.

5.2.3 Wider Impact

It is not expected that the planned development will have an impact on the wider landscape or that this impact will be negligible.

5.3 CONCLUSIONS

With a focus on the aims of this report as set out in Section 1, the following conclusions have been drawn:

- **Bat Roost Potential Assessment:** The store/workshop is considered to offer a moderate potential as a bat roost. No evidence of bats was found. There are several potential access points. The surrounding gardens offer some foraging and connectivity opportunities to the nearby railway and its associated shrub/treeline. It is considered that this structure is unlikely to

support a roost of a high conservation status.

It is not considered that the store/workshop is suitable as a hibernation roost. The potential for bats to use the structure is limited by the lack of temperature moderation. The space available for bats sits beneath a sheet metal roof. It is likely to become both too hot and too cold dependent on weather conditions.

- The site was found to have limited connectivity with adjacent scrubland and deciduous woodland and in a wider context, negligible connectivity to the Cwm Glo a Glyndyrys (SSSI).
- No statutory designated sites were revealed from the Ecological Data Set provided by SEWBRc to fall on or adjacent to the proposed redevelopment site. Therefore, the proposed redevelopment will have no impact upon any statutory sites as the works are due to remain within the site boundary.
- No evidence of protected species was discovered during this survey, but the suitability of this site for reptiles, nesting birds, hedgehogs and commuting/foraging/roosting bats is such that recommendations have been made in section 6.
- No habitats of conservation concern were located on the site itself. Therefore, the proposed scheme of works will not impact any rare or valuable habitats.
- The ecological data set provided by SEWBRc identified that the proposed redevelopment site falls 750m south of a designated (non-statutory) B-Lines zone (Appendix A11). B-Lines are a series of 'insect pathways' running through our countryside and towns, along which we are restoring and creating a series of wildflower-rich habitat steppingstones. This, in combination with the nearby records for the Carder Bee (*Bombus pascuorum*) - a locally important species, means that further precautionary measures have been recommended for this project (please refer to Section 6).

5.3.1 Impacts on Protected Species from the Proposed Works

No evidence of protected species was discovered during this survey, but the suitability of this site for amphibians, reptiles, nesting birds, hedgehogs and commuting/foraging/summer roosting bats is such that recommendations have been made in sections 6 & 7.

Based upon the results from the desktop survey, field survey and using a degree of academic supposition, the uncompensated re-development impacts have been summarised as follows:

- Amphibians – Negligible
- Reptiles - Negligible/Moderate
- *Bats – Moderate

- Badgers - Negligible
- Birds – Low/Negligible
- Flora – Negligible
- Hedgehog – Negligible/Moderate

*This habitat, when compared with criteria given in table 4.2 of Bat Surveys: Good Practice Guidelines (Collins, 2016 [ed.]) can be considered as having moderate suitability for commuting and foraging bats (depending on the results of the proposed additional surveys) (Roost assessment – page 22).

5.3.2 Suggested Mitigation

The site was found to contain moderate potential to support protected and/or rare species. Therefore, the following recommendations have been made as outlined in Sections 6 & 7 for:

1. A minimum of two presence/possible absence surveys to be undertaken between May-September, to establish the use of the store/workshop by bats. This will also gather evidence on the use of the site by foraging/commuting bats.
2. A static survey of the interior of the store/workshop over five consecutive nights between May-September, to establish the use of the store/workshop by bats.
3. Precautions taken with regards hedgehogs during building works (Section 7).
4. If the development is to be started between March and August (inclusive), a suitably competent ecologist is required to carry out a careful, detailed check of all vegetation likely to be impacted, for nesting birds.
5. A suitably competent ecologist is required to carry out a careful, detailed check of all vegetation/features likely to be impacted and prior to works commencing at any time of year for hedgehogs and reptiles.
6. The incorporation of Eco Rocket Bat Box for bats in the development (Site Plan - Appendix A12, Example - Appendix C1).
7. A hedgehog box to be provided on-site (Site Plan - Appendix A12, Example - Appendix C5). It is also recommended that small gaps are left within boundary fencing to enable access to this sheltered area (Site Plan - Appendix A12, an example can be found within Appendix C5). This will ensure that the local hedgehog populations do not become fragmented within the local landscape.
8. A sympathetic planting scheme to be included behind the proposed garages to improve connectivity to the surrounding habitats and provide nesting opportunities for birds and support the commuting of bats (Appendix A12).

9. Mitigation for nesting birds on site will be provided by the planting of native shrubs along the south-west boundary (above - 8). This narrow area will be sheltered from human disturbance by a 4ft wire fence. The proposed elevations are very low and not ideal for the addition of nesting boxes. In addition, the north-east elevation is very exposed to human disturbance. Therefore, the addition of nesting boxes is not recommended but they are available as an optional extra (Appendix C2).
10. The inclusion of Bee Bricks (Site Plan - Appendix A12, Appendix C7).
11. No external lighting is planned for the site. If any changes occur with regards to this then the provision of suitable external lighting to support the foraging and commuting of bats (Appendix C8).

SECTION SIX: RECOMMENDATIONS - FOR PLANNING

Based on the results of this report the following recommendations have been made.

6.1 ADDITIONAL ECOLOGICAL WORK

1. A minimum of two presence/possible absence surveys to be undertaken between May-September, to establish the use of the store/workshop by bats. This will also gather evidence on the use of the site by foraging/commuting bats.
2. A static survey of the interior of the store/workshop over five consecutive nights between May-September, to establish the use of the store/workshop by bats.
3. Precautions taken with regards hedgehogs during building works (Section 7).
4. If the development is to be started between March and August (inclusive), a suitably competent ecologist is required to carry out a careful, detailed check of all vegetation likely to be impacted, for nesting birds.
5. A suitably competent ecologist is required to carry out a careful, detailed check of all vegetation/features likely to be impacted and prior to works commencing at any time of year for hedgehogs and reptiles.
6. The incorporation of Eco Rocket Bat Box for bats in the development (Site Plan - Appendix A12, Example - Appendix C1).
7. A hedgehog box to be provided on-site (Site Plan - Appendix A12, Example - Appendix C5). It is also recommended that small gaps are left within boundary fencing to enable access to this sheltered area (Site Plan - Appendix A12, an example can be found within Appendix C5). This will ensure that the local hedgehog populations do not become fragmented within the local landscape.
8. A sympathetic planting scheme to be included behind the proposed garages to improve connectivity to the surrounding habitats and provide nesting opportunities for birds and support the commuting of bats (Appendix A12).
9. Mitigation for nesting birds on site will be provided by the planting of native shrubs along the south-west boundary (above - 8). This narrow area will be sheltered from human disturbance by a 4ft wire fence. The proposed elevations are very low and not ideal for the addition of nesting boxes. In addition, the north-east elevation is very exposed to human disturbance. Therefore, the addition of nesting boxes is not recommended but they are available as an optional extra (Appendix C2).

10. The inclusion of Bee Bricks (Site Plan - Appendix A12, Appendix C7).

11. No external lighting is planned for the site. If any changes occur with regards to this then the provision of suitable external lighting to support the foraging and commuting of bats (Appendix C8).

Should works not start within two years (i.e., 2024) further survey may be necessary to qualify the results of these surveys and recommended adaptations (if required) to the mitigation measure detailed below.

6.2 EVIDENCE

The reasons for these additional recommendations are evidenced in Section 5 of this report and supported by Appendix A6, A7 & A8.

6.3 EXPIRATION OF THIS REPORT

This report is valid for two years (i.e., March 2024)

SECTION SEVEN: RECOMMENDATIONS: AT THE START OF WORKS

7.1 TIMING OF WORKS

If the development is to be started between March and August (inclusive), a suitably competent ecologist is required to carry out a careful, detailed check of all vegetation likely to be impacted, for nesting birds prior to works commencing. Written confirmation should be provided to confirm no nesting birds are present/likely to be harmed. If nesting is found to be occurring, works will need to be delayed until any young have fledged, unless it is possible for suitable measures to be put in place to prevent harm while development occurs. Such measures should be agreed upon in advance of work starting.

Similarly, A suitably competent ecologist is required to carry out a careful, detailed check of all vegetation likely to be impacted and prior to works commencing at any time of year for hedgehogs and reptiles.

These measures will allow the development to conform to current protective legislation as laid out in the Wildlife and Countryside Act 1981 (plus amendments).

7.2 PROTECTED SPECIES

Based on the results of this report the following recommendations have been made.

- **Birds:** As a precautionary measure, it is recommended that any tree/shrub removal is undertaken outside of the bird breeding season (the bird breeding season runs from March to August, inclusive). If these features are required to be altered during the bird breeding season, then a further inspection by a suitably qualified ecologist is required no more than 24 hours before this process commences. This is to ensure that no active nest site is illegally destroyed, due to the protections afforded to all active bird nests under the Wildlife and Countryside Act 1981. If an active nest is found by a site inspection, an exclusion zone around the nest will be necessary to preserve this feature until the chicks have fledged the nest.
- **Mammals (Hedgehogs):** As a purely precautionary measure, it is recommended that provisions are incorporated during the construction phase. This will be to create provisions for hedgehogs to escape in the form of creating slopes or the inclusion of ramps at the end of each working day from all trenches dug into the ground. Additionally, any pipework left on-site that is greater than 150mm in diameter will need to be planked off. Should this information be strictly adhered to, then the development works will not negatively impact the local mammal populations. As a purely precautionary measure, it is recommended that a fingertip search is undertaken on the morning works are proposed to commence by a suitably qualified ecologist.
- **Reptiles:** As a purely precautionary measure, it is recommended that a fingertip search is undertaken in the morning works are proposed to

commence by a suitably qualified ecologist. If reptiles are found to be living on-site during the proposed surveys, these will be translocated away from the proposed development site (see section 7.3).

7.3 ENCOUNTERING A PROTECTED SPECIES DURING WORKS

If at any point during works a protected species is encountered on-site, it is essential that all work is to cease and that a suitably experienced ecologist is connected for advice.

7.3.1 Relocation of Reptiles

If reptiles are discovered in the process of development, agreement has been made with the committee of The Royal Crescent Allotment Society, to relocate individuals to their site.

The Royal Crescent Allotments are located approximately 1km north-north-east of the proposed development site. This site is deemed to provide very similar habitat to that provided by the proposed development site.

The Royal Crescent Allotments offered a small woodland, the edge of which would provide an ideal site for reptiles.

There are no historic records available for reptiles on the site (SEWBRReC) and the members of the allotment committee have no knowledge of reptiles using the site.

A suitable refugia and basking site will be provided if necessary.

Due to the size and location of the proposed development site, and the availability of local records, the only reptiles likely to use the site would be slow worm (*Anguis fragilis*).

Due to the small size of the site, the distance to available records for slow worm (*Anguis fragilis*) and the lack of connectivity to other suitable locations, it is not considered that large numbers of individuals will be found. It is deemed that the Royal Crescent Allotment site will be able to accommodate any individuals found during works. If at any point during works large numbers of individuals are discovered, it is essential that all work is to cease and that a suitably experienced ecologist is connected for advice.

SECTION EIGHT: RECOMMENDATIONS - NET BIODIVERSITY GAIN

These measures are designed to support the local Authority's commitment to provide 'net gain' for biodiversity of the site or off-site, if on-site cannot accommodate such requirements.

Based on the results of this report the following recommendations have been made.

- **Habitat Enhancement:** The re-development of this site provides an opportunity to enhance boundary habitat features of treelines. These features provide screening as well as important connectivity corridors for a wide variety of species. This would help support the 104 species in Wales identified on the UK Biodiversity Action Plan.

The recommendation is made to include a planting regime to the rear of the garages for hedgerow/native woodland habitats as part of the redevelopment landscaping using native species (Appendix C6).

- **Hedgehogs:** In order to encourage and support hedgehogs on-site an Eco Hedgehog Nest Boxes (Appendix C5) should be included in the site, post-development, at an appropriate location. It is also recommended that small gaps are left within any boundary fencing to enable the animals to continue to commute through the area (an example can be found within Appendix C5). This will ensure that the local hedgehog populations do not become fragmented within the local landscape.
- **Bats:** In order to encourage bat roosting activity and increase roosting opportunities on-site post-development, it is recommended that a roosting box is included in the development. However, as the proposed buildings are single story, they would not provide the appropriate height needed to position a bat box. Therefore, the following solution is recommended.

1. An Eco Rocket Bat Box. This offers a simple solution for sites which lack suitable buildings or trees on which to mount a roost box. The roosting areas runs around a central pole which raises the roost to an appropriate height (Appendix A12, The NestBox Company - Appendix C1).

As European Protected Species, disturbance of bats during foraging/commuting, even if accidental, is to be avoided. Artificial lighting is known to cause disturbance to bats and can discourage them from using a previously utilised site – it has been shown to be particularly harmful if used along river corridors, near woodland edges and near hedgerows. With this in mind, it is recommended that any additional lighting forming part of the development be kept to a minimum (Appendix C8).

- **Birds:** Mitigation for nesting birds on site will be provided by the planting of native shrubs along the south-west boundary. This narrow area will be

sheltered from human disturbance by a 4ft wire fence. The proposed elevations are very low and not ideal for the addition of nesting boxes. In addition, the north-east elevation is very exposed to human disturbance. Therefore, the addition of nesting boxes is not recommended but they are available as an optional extra (Appendix C2).

- **Invertebrates:** At present, the site is not considered to be of any importance to local invertebrate populations but has been identified as falling 750m south of a local B-Line designated zone (Appendix A11). It is recommended that two bumblebee boxes /Bee Bricks are incorporated into the scheme (Appendix A12). This will enhance the site for the local invertebrate populations, which will thus attract additional species. The B-Lines are a series of 'insect pathways' running through our countryside and towns, along which we are restoring and creating a series of wildflower-rich habitat stepping-stones (Appendix A11).

REFERENCES

& Bibliography

References & Bibliography

Bat Conservation Trust. Bats and Artificial Lighting in the UK: Bats and the Built Environment Series Guidance Note 08/18 (2018).

Accessed on 14/11/2021.

Available at: <https://cdn.bats.org.uk/uploads/pdf/Resources/ilp-guidance-note-8-bats-and-artificial-lighting-compressed.pdf?v=1542109349>

Bat Conservation Trust. Bats and Lighting in the UK: Bats and the Built Environment Series (A Working Document).

Accessed on 14/11/2021.

Available at: https://plan-actions-chiropteres.fr/sites/default/files/fichiers/bats_and_lighting_in_the_uk_2009.pdf

Bat Conservation Trust (2010) UK Bats.

Accessed on 14/11/2021.

Available at: http://www.bats.org.uk/pages/uk_bats.html

Biodiversity: Code of Practice for Planning and Development - BS 42020:2013 (2013).

Accessed on 14/11/2021.

Available at:

<https://www.omegawestdocuments.com/media/documents/43/43.35%20BSI%20Biodiveristy%20Code%20of%20Practice.pdf>

Buglife: Saving the small things that run the planet - B-Lines.

Accessed on 09/01/2022.

Available at: <https://www.buglife.org.uk/our-work/b-lines/#:~:text=The%20B%2DLines%20are%20a,weave%20across%20the%20British%20landsc ape.>

Collins, J. (Ed.) (2016). 'Bat Surveys for Professional Ecologists – Good Practice Guidelines, 3rd Edition.' Bat Conservation Trust, London

English Nature: Great Crested Newt Mitigation Guidelines.

Accessed on 27/11/2021.

Available at:

https://mokrady.wbs.cz/literatura_ke_stazeni/great_crested_newt_mitigation_guidelines.pdf

Froglife: Just Add Water: How to Build a Wildlife Pond

Accessed on 27/11/2021.

Available at: <https://www.froglife.org/wp-content/uploads/2013/07/JAW2014-for-printing-HLF1.pdf>

Government of Wales: Environment [Wales] Act (2016).

Accessed 14/11/2021.

Available at: <https://www.legislation.gov.uk/anaw/2016/3/contents>

Hundt, L. (Ed.) (2012). 'Bat Surveys: Good Practice Guidelines, 2nd edition.' Bat Conservation Trust, London.

Mitchell-Jones, A.J. (2004). 'Bat Mitigation Guidelines.' English Nature, Peterborough.

Mitchell-Jones, A.J. (1992). 'Focus on Bats.' English Nature, Peterborough.

Mitchell-Jones A.J. and McLeish A.P. (2004). 'The Bat Workers Manual, 3rd Edition,' English Nature, Peterborough.

National Amphibian and Reptile Recording Scheme (Undated).

Accessed 16/01/2022.

<https://www.arc-trust.org/narrs>

NestBox Company Ltd (undated) Bat Boxes.

Accessed 14/11/2021.

Available at: <https://www.nestbox.co.uk/collections/bat-boxes>

Ninnes, R. (2015). 'NRW Approach to Bats and Planning,' Natural Resources Wales, Bangor.

Replacement Local Development Plan (2018-2033)

<https://democracy.blaenau-gwent.gov.uk/documents/s4300/CO1912D5%20Full%20Document%20Nov%2019%20LDP.pdf?LLL=0>
Accessed November 2021

RSPB: House Sparrow Nesting (undated).

Accessed 14/11/2021.

Available at: <https://www.rspb.org.uk/birds-and-wildlife/wildlife-guides/bird-a-z/house-sparrow/breeding/>

Russ, J. (2012). 'British Bat Calls: A Guide to Species Identification.' Pelagic Publishing, Exeter.

Russ, J. (Ed.) (2021). 'Bat Calls of Britain and Europe: A Guide to Species Identification.' Pelagic Publishing, Exeter.

UK Government: Conservation of Habitats and Species Regulations 2010

Accessed 20/11/2021

<https://www.legislation.gov.uk/uksi/2010/490/contents>

UK Government: Conservation of Habitats and Species Regulations 2017

Accessed 20/11/2021

<https://www.legislation.gov.uk/uksi/2017/1012/contents/made>

UK Government: Magic Map Application

Accessed 02/01/2022

<https://magic.defra.gov.uk/magicmap.aspx>

UK Government: Natural Environment and Rural Communities Act 2006

Accessed 20/11/2021

<https://www.legislation.gov.uk/ukpga/2006/16/contents>

UK Government: The Conservation of Habitats and Species Regulations (2017) - as amended.

Accessed 14/11/2021.

Available at: <https://www.legislation.gov.uk/uksi/2017/1012/contents/made>

UK Government: Wildlife and Countryside Act (1981) - as amended.

Accessed 14/11/2021.

Available at: <https://www.legislation.gov.uk/ukpga/1981/69>

University of Bristol (2005) The Bats of Britain.

Accessed on 14/11/2021.

Available at: <http://www.bio.bris.ac.uk/research/bats/britishbats/index.htm>

Williams, C. (2010). 'Biodiversity for Low and Zero Carbon Building: A Technical Guide for New Build.' RIBA Publishing, London

Wray, S., Wells, D., Long, E., & Mitchell-Jones, A.J. 2010. Valuing bats in ecological impact assessment. In Practice, No 70, Institute of Ecology and Environmental.

Birds of Conservation Concern 4: The Red List for Birds (2015).

Accessed on 14/11/2021.

Available at: <https://www.bto.org/our-science/publications/psob>

APPENDICES

APPENDIX A

Site and Survey Details

APPENDIX B

Legislation & Guidelines

APPENDIX C

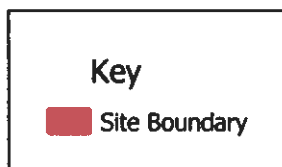
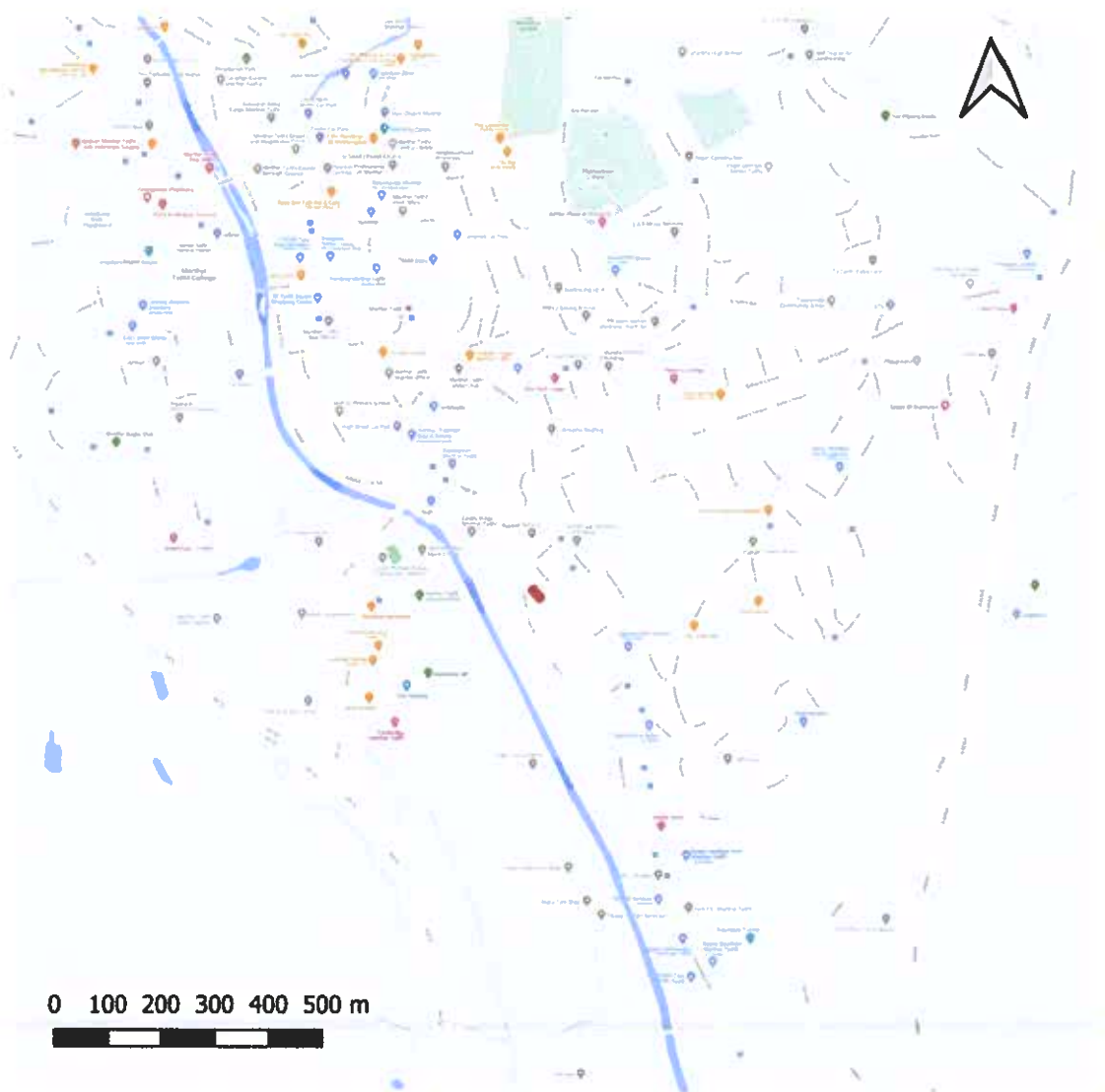
Recommendations for Net Biodiversity Gain

APPENDIX - A

Site and Survey Details

APPENDIX A1: The Location

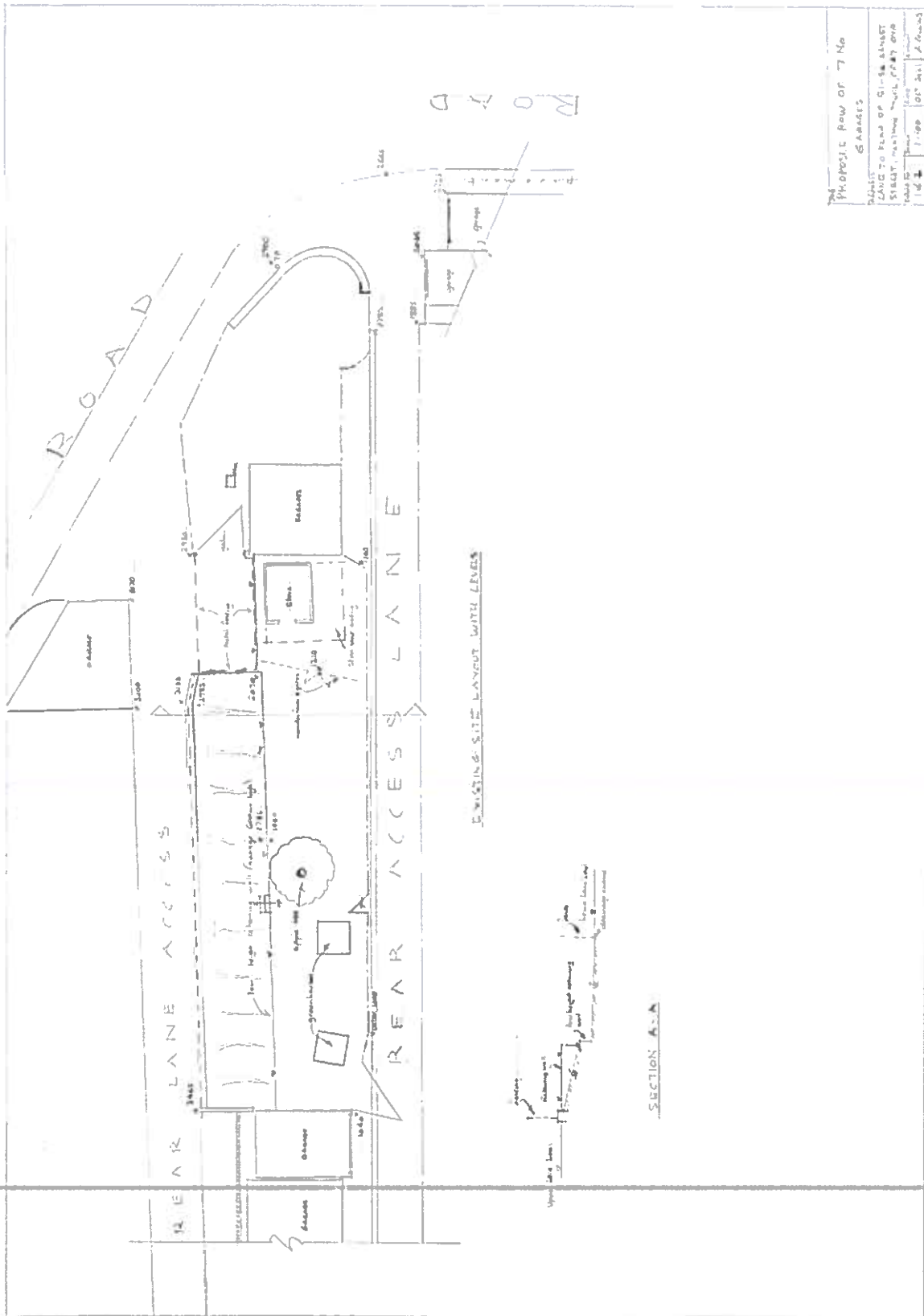
Land to the Rear of 51-56 Ernest Street, Merthyr Tydfil, CF47 0YP



QGIS Development Team, <2022>. QGIS Geographic Information System. Open-Source Geospatial Foundation Project. <http://qgis.osgeo.org>.

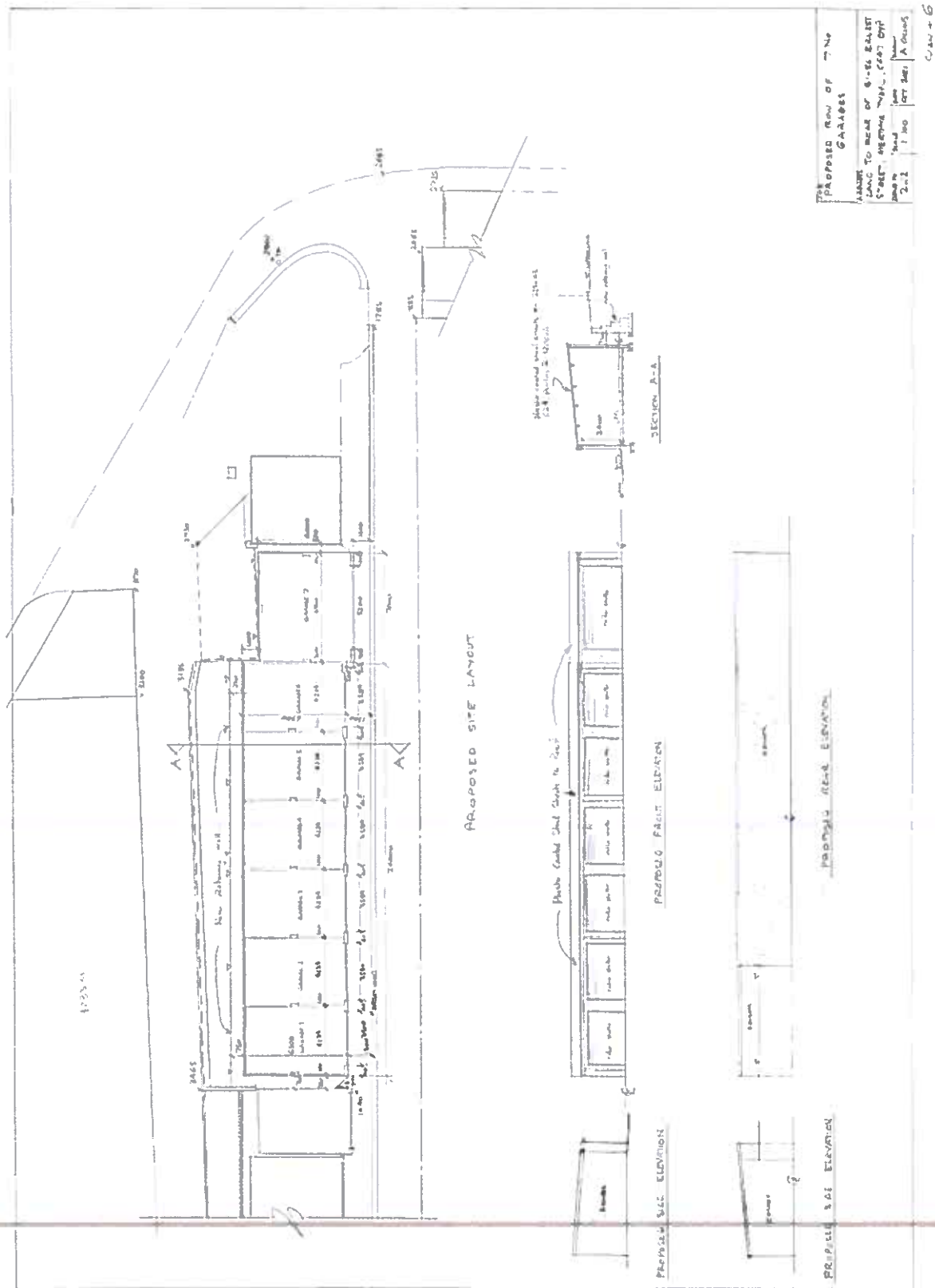
APPENDIX A2: Site Plan 1

Existing Features: Land to the Rear of 51-56 Ernest Street, Merthyr Tydfil, CF47 0YP

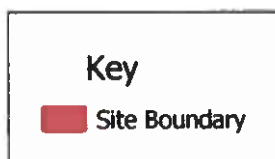


APPENDIX A3: Site Plan 2

Proposed Development: Land to the Rear of 51-56 Ernest Street, Merthyr Tydfil, CF47 0YP



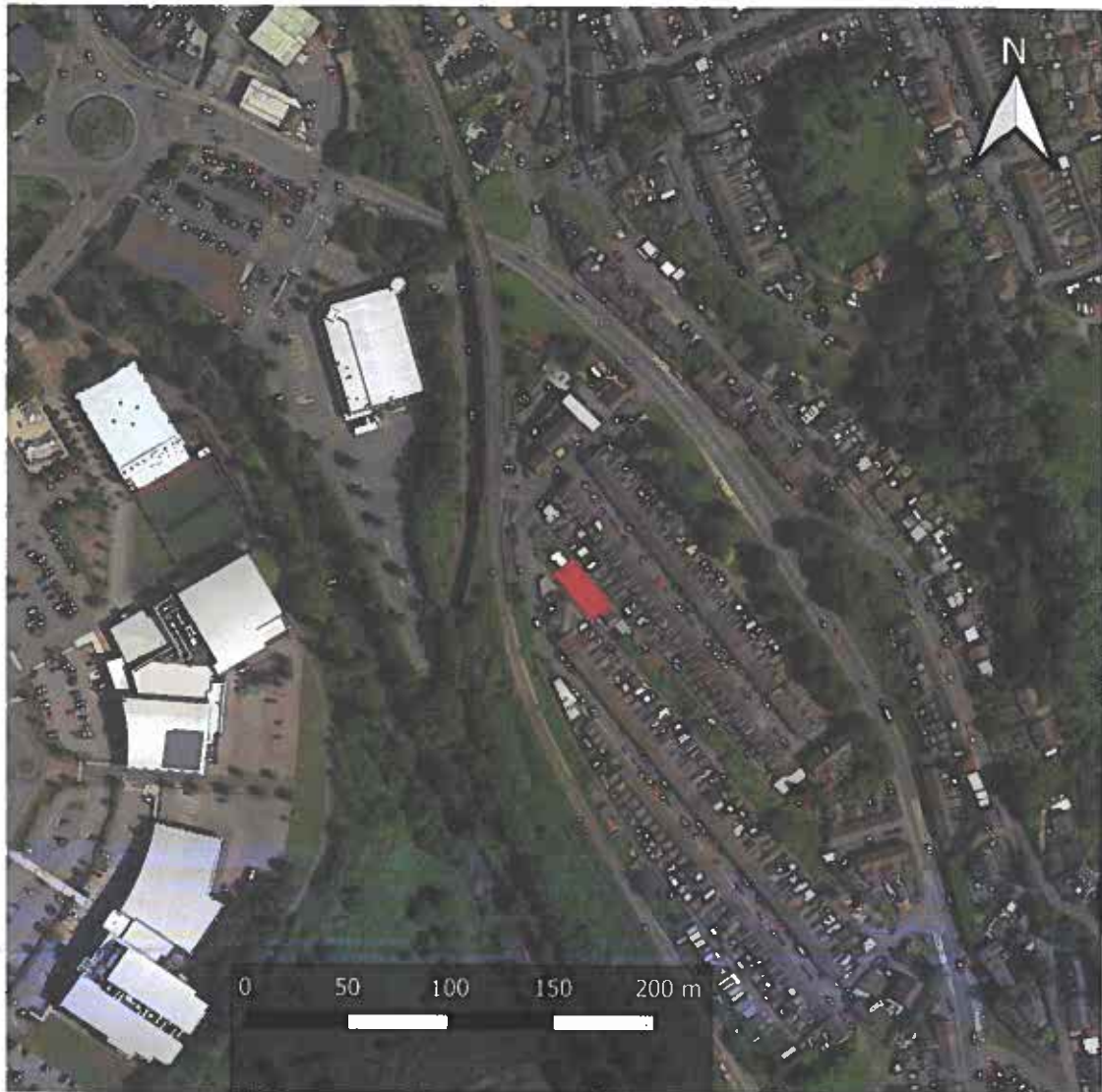
APPENDIX A4: A Satellite Image Showing the Site's Location in Relation to the Wider Environment and Landscape



QGIS Development Team, <2022>. QGIS Geographic Information System. Open-Source Geospatial Foundation Project. <http://qgis.osgeo.org>.

OS Grid Reference: SO 05228 05469

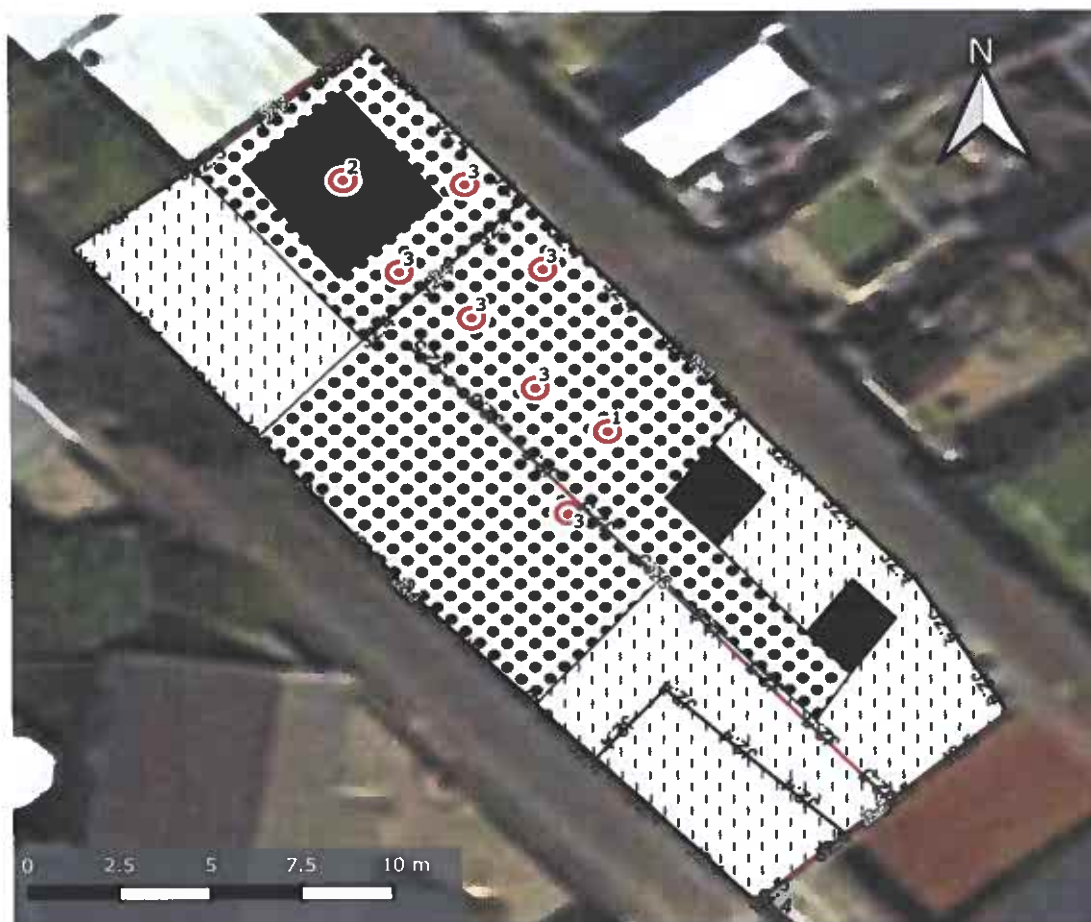
APPENDIX A5: A Satellite Image Showing the Site's Location in Relation to the Local Environment



QGIS Development Team, <2022>. QGIS Geographic Information System. Open-Source Geospatial Foundation Project. <http://qgis.osgeo.org>.

OS Grid Reference: SO 05228 05469

APPENDIX A6: Phase 1 Habitat Plan for Land to the Rear of 51-56 Ernest Street, Merthyr Tydfil, CF47 0YP



Key

- J3.6 - Buildings
- J4 - Bare Ground
- B4 - Improved grassland
- J2.4 J2.4 - Fence
- J2.5 J2.5 - Wall
- Target Notes
 - 1. Mature Apple Tree
 - 2. Store/Workshop
 - 3. Refugium/Hibernaculum

Survey Date: 19th February 2022

Produced By: Little Wing Ecology

Job Reference: LT015PEA

Author: N S Aldridge

QGIS Development Team, <2022>. QGIS Geographic Information System. Open-Source Geospatial Foundation Project.
<http://qgis.osgeo.org>.

OS Grid Reference: SO 05228 05469

APPENDIX A7: Photographic Evidence - Site Boundaries & Features



Figure A7.1: The south-western boundary taken from the north-western corner looking south. This boundary includes a mixture of steel and wire fencing.



Figure A7.2: The southern boundary looking east from the higher ground. The two garages on the right of the photograph belong to the neighbouring property. Heras fencing has previously been used to create a chicken enclosure at the south-west corner of the site.



Figure A7.3: The eastern boundary looking south from the northern corner. There are a mixture of materials including Heras fencing, wooden fencing, corrugated sheeting and wire fence.



Figure A7.4: The northern boundary taken from the western corner. The garage to the left is a neighbouring property and the white roof (centre-right) belongs to the on-site store/workshop.



Figure A7.5: The higher section of ground running along the western boundary, currently used as a private allotment.



Figure A7.6: The lower section of the site against the eastern boundary. This photograph was taken from the southern boundary looking north. The area is currently used as a private allotment. A mature apple tree (*Malus spp.*) sits centrally on the site and is pictured in the top left of this photograph.



Figure A7.7: The south-west corner of the site on the higher ground against the western boundary. This area is partitioned off with Heras fencing and was formerly used to house chickens. The area is now dominated by medium/high swarth grass, sparse bramble and a small goat willow (*Salix caprea*) that has at some time been coppiced and is showing new growth.



Figure A7.8: A view of the northern boundary showing a former amenity area on the top left of the photograph and the store/workshop on the top right.

APPENDIX A8: Photographic Evidence - Target Notes



Target Note 1: a Mature Apple Tree (*Malus spp.*)

This is the only mature tree on site and offers a potential nesting site for birds and food source for pollinating insects.



Target Note 2: Store/Workshop

A single skin, concrete block structure with a corrugated steel roof. The structure has been partially insulated with a layer of polystyrene beneath sheet roofing. This has created a dark cavity between the roofing material and the insulation. There are numerous access points to the cavity offering potential for this structure as a summer bat roost.



Target Note 3: Refugia/Hibernaculum

There are several structures on site which offer potential refugia for slow-worms and one large compost heap which offers a suitable hibernaculum for hedgehogs.

APPENDIX A9: Field Survey: Field Survey Details - Weather, Time & Temperature

Date	Timings (BST)		Survey Type & Surveyors	Weather Conditions			
	Survey			Temp (°C)		Cloud Cover	
	Start	End		Start	End	Start	End
19/02/2022	13.00	14.30	PEA: Site walkover. Preliminary assessment of store/workshop for evidence of occupation by bats. Walk over of local habitat to inform habitat connectivity	6	6	5	5
				Wind Speed (Beaufort Scale)		Humidity%	
				F2	F2	60	60
				Precipitation At Start		Precipitation At End	
				Nil		Nil	
Surveyor(s)	Nic Aldridge (NA)						

APPENDIX A10: Species List from Field Survey

Common Name	Scientific Name	Notes
Annual Meadow Grass	<i>Poa annua</i>	Short sward
Dandelion	<i>Taraxacum officinale</i>	
Creeping Thistle	<i>Cirsium arvense</i>	
Creeping Buttercup	<i>Ranunculus repens</i>	
Bittercress	<i>Cardamine hirsuta</i>	
Bindweed	<i>Convolvulus spp.,</i>	Last years growth on fencing at the eastern corner.
Garlic Mustard	<i>Alliaria petiolata</i>	Sparse, along edges.
Broad-leaved Willow-herb	<i>Epilobium montanum</i>	
Nettle	<i>Urtica dioica</i>	
Sow Thistle	<i>Sonchus oleraceus</i>	
Spurge	<i>Euphorbia spp.,</i>	Sparse, along edges.
Groundsel	<i>Senecio vulgaris</i>	
Herb Robert	<i>Geranium robertianum</i>	Along edges.
Wild Geranium	<i>Geranium spp.,</i>	Along edges.
Ivy	<i>Hedera helix</i>	
Broad Leaved Dock	<i>Rumex obtusifolius</i>	
Greater Plantain	<i>Plantago major</i>	
Bramble	<i>Rubus fruticosus</i>	Within the former chicken enclosure (south-west) and within the former utilities area (north-west)
Buddleia	<i>Buddleja davidii</i>	Found within the enclosed area at the north-west corner of the site.
Goat Willow	<i>Salix caprea</i>	Found within the former chicken enclosure.
Apple Tree	<i>Malus spp.,</i>	Centrally located
Maidenhair Spleenwort	<i>Asplenium trichomanes</i>	On central brick wall
Hart's Tongue	<i>Asplenium scolopendri-</i>	On central brick wall

	<i>um</i>	
A Fern	<i>Polypodium spp.</i> ,	On central brick wall
Male Fern	<i>Dryopteris spp.</i> ,	On central brick wall
Feather Moss	<i>Hypnales sp.</i> ,	
Rhubarb	<i>Rheum rhabarbarum</i>	Several specimens on the higher ground running along the western boundary.

APPENDIX A11: B-Lines

What are B-Lines?

B-Lines are an imaginative and beautiful solution to the problem of the loss of flowers and pollinators. The B-Lines are a series of 'insect pathways' running through our countryside and towns, along which we are restoring and creating a series of wild-flower-rich habitat stepping-stones. They link existing wildlife areas together, creating a network, like a railway, that will weave across the British landscape. This will provide large areas of brand-new habitat benefiting bees and butterflies— but also a host of other wildlife.

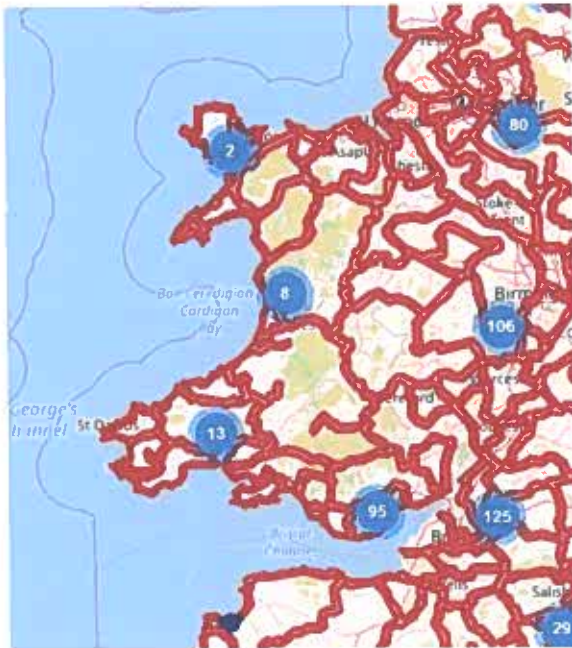


Figure A11.1: Nation distribution of B-Lines

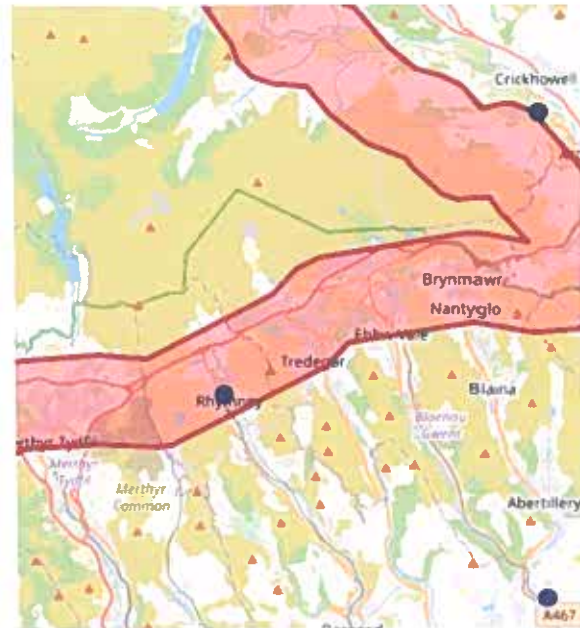
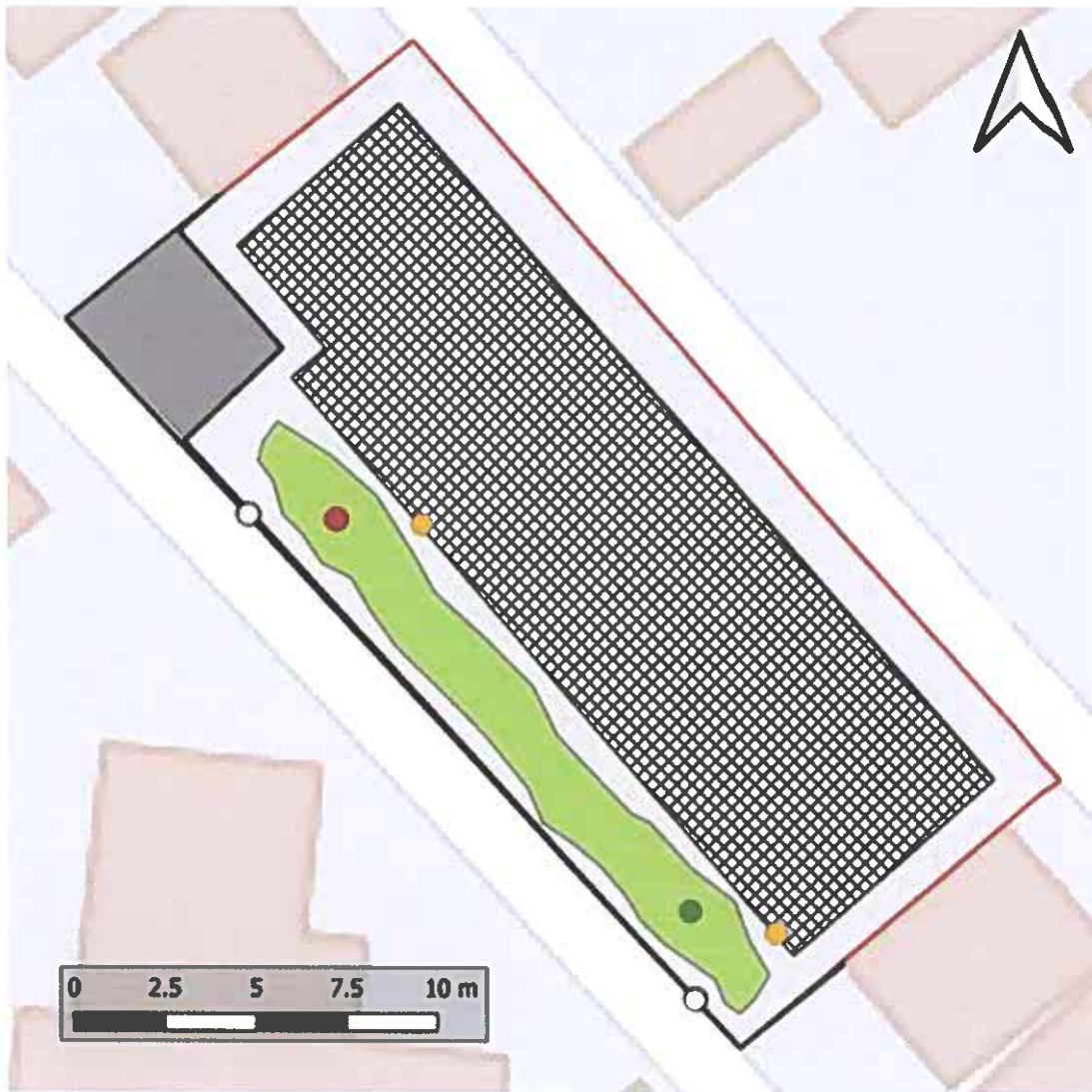


Figure A11.2: Local distribution of B-Line zone.

Retrieved January 7th, 2022, from URL <https://www.buglife.org.uk/our-work/b-lines/b-lines-wales/>

APPENDIX A12: Site Plan Showing Mitigation Features



Key	
	Proposed Garages
	Native Shrubs
	Eco Rocket Bat Box
	Hedgehog House
	Hedgehog Opening
	Bee Bricks
	4ft Wire Fence
	Parking Space
	Boundary

Produced By: Little Wing Ecology (CYF)

Job Reference: LT01SPEA

Author: N.S.Aldridge

Date: March 2022

APPENDIX - B

Legislation & Guidelines

APPENDIX B1: Biodiversity Legislation & Policy in Wales

Biodiversity Legislation and Policy General Legislation and Policy: The framework of legislation and policy which underpins nature conservation in Wales. This is a material consideration in the planning process.

The Wildlife and Countryside Act (WCA) 1981 (As amended)

The WCA, as amended, consolidates and amends pre-existing national wildlife legislation in order to implement the Bern Convention and the Birds Directive. It complements the Conservation (Natural Habitats. & c.) Regulations 1994 (as amended), offering protection to a wider range of species. The Act also provides for the designation and protection of national conservation sites of value for their floral, faunal or geological features, termed Sites of Special Scientific Interest (SSSIs).

Schedules of the act provide lists of protected species, both flora and fauna, and detail the possible offences that apply to these species.

Conservation of Habitats and Species Regulations 2010 (Habitats Regulations 2010 as amended)

The Habitats Regulations 2010 consolidate and update the Conservation Regulations 1994 and all its various amendments.

The Habitats Regulations 2010 are the principal means by which the EEC Council Directive 92/43 (The Habitats Directive) as amended is transposed into English and Welsh law. The Habitats Regulations 2010 place a duty upon the relevant authority of government to identify sites that are of importance to the habitats and species listed in Annexes I and II of the Habitats Directive. Those sites which meet the criteria are, in conjunction with the European Commission, designated as Sites of Community Importance, which are subsequently identified as Special Areas of Conservation (SAC) by the European Union member states. The regulations also place a duty upon the government to maintain a register of European protected sites designated as a result of EC Directive 79/409/EEC on the Conservation of Wild Birds (The Birds Directive). These sites are termed Special Protection Areas (SPA) and, in conjunction with SACs, form a network of sites known as Natura 2000. The Habitats Directive introduces for the first time for protected areas, the precautionary principle; that is that projects can only be permitted having ascertained no adverse effect on the integrity of the site. Projects may still be permitted if there are no alternatives, and there are imperative reasons for the overriding of public interest.

The Habitats Regulations 2010 also provide for the protection of individual species of fauna and flora of European conservation concern listed in Schedules 2 and 5 respectively. Schedule 2 includes species such as otter and great crested newt for which the UK population represents a significant proportion of the total European population. It is an offence to deliberately kill, injure, disturb or trade these species. Schedule 5 plant species are protected from unlawful destruction, uprooting or trade under the regulations.

The Environment (Wales) Act 2016

Section 7 of the Environment (Wales) Act 2016 requires all statutory authorities including Local Planning Authorities (LPA) to have due regard for living organisms and types of habitat that are of key significance to sustain and improve biodiversity in relation to Wales. Furthermore, the LPA have a duty under the Act to take all reasonable steps to maintain and enhance the living organisms and types of habitat included on any list published under Section 7 and to encourage others to take such steps.

The Countryside and Rights of Way (CROW) Act 2000

The CROW Act, introduced in England and Wales in 2000, amends and strengthens existing wildlife legislation detailed in the WCA. It places a duty on government departments and the National Assembly for Wales to have regard for biodiversity and provides increased powers for the protection and maintenance of SSSIs.

The Act also contains lists of habitats and species (Section 74) for which conservation measures should be promoted, in accordance with the recommendations of the Convention on Biological Diversity (Rio Earth Summit) 1992.

The Natural Environment and Rural Communities (NERC) Act 2006

Section 40 of the NERC Act places a duty upon all local authorities and public bodies in England and Wales to promote and enhance biodiversity in all of their functions. Sections 41 (England) and 42 (Wales) list habitats and species of principal importance to the conservation of biodiversity. These lists supersede Section 74 of the CROW Act 2000. These species and habitats are a material consideration in the planning process.

The Hedgerow Regulations 1997

The Hedgerow Regulations make provision for the identification of important hedgerows which may not be removed without permission from the Local Planning Authority.

UK Biodiversity Action Plan

The United Kingdom Biodiversity Action Plan (UKBAP), first published in 1994 and updated in 2007, is a government initiative designed to implement the requirements of the Convention of Biological Diversity to conserve and enhance species and habitats. The UKBAP contains a list of priority habitats and species of conservation concern in the UK, and outlines biodiversity initiatives designed to enhance their conservation status. Lists of Broad and Local habitats are also included. The priority habitats and species correlate with those listed on Section 41 and 42 of the NERCA Act.

The UKBAP requires that conservation of biodiversity is addressed at a County level through the production of Local BAPs. These are complementary to the UKBAP, however are targeted towards species of conservation concern characteristic of each area. In addition, a number of local authorities and large organisations have produced their own BAPs. UKBAP and Local BAP targets with regard to species and habitats are a material consideration in the planning process.

Biodiversity 2020

Biodiversity 2020 sets out to halt overall biodiversity loss and support healthy well-functioning ecosystems by establishing coherent ecological networks, with more and better places for nature, to the benefit of wildlife and people. The government's policy is aimed at individuals, communities, local authorities, charities, businesses and government, which all have a role to play in delivering Biodiversity 2020.

APPENDIX B2: How Does Legislation Affect Individual Species?

Legislation This section contains a summary of legislation with relation to the species present or potentially present in the survey area. The reader should refer to the original legislation for definitive interpretation.

Birds (Nesting)

Nesting and nest-building birds are protected under the Wildlife and Countryside Act WCA 1981 (as amended). Some species (listed in Schedule 1 of the WCA) are protected by special penalties.

Subject to the provisions of the act, if any person intentionally:

- kills, injures or takes any wild bird.
- takes, damages or destroys the nest of any wild bird while that nest is in use or being built.
- takes or destroys an egg of any wild bird, he shall be guilty of an offence.

'Reckless' offences with regard to the disturbance of nesting wild birds included in Schedule 1 of the Wildlife and Countryside Act were added by the Countryside and Rights of Way Act 2000.

The Natural Environment and Rural Communities (NERC) Act 2006 places a duty on Government Departments to have regard for the conservation of biodiversity and maintains lists of species and habitats which are of principal importance for the purposes of conserving biodiversity in England and Wales. These lists include a number of bird species.

In addition to this, some rarer species, such as barn owls are afforded extra protection. Please refer to the original legislation for the definitive interpretation.

Badger

The main legislation protecting badgers in England and Wales is the Protection of Badgers Act 1992 (the 1992 Act). Under the 1992 Act it is an offence to:

- wilfully kill, injure, take or attempt to kill, injure or take a badger;
- possess a dead badger or any part of a badger;
- cruelly ill-treat a badger;
- use badger tongs in the course of killing, taking or attempting to kill a badger;
- dig for a badger;
- sell or offer for sale or control any live badger;
- mark, tag or ring a badger; and
- interfere with a badger sett by:
 - damaging a sett or any part thereof;
 - destroying a sett;
 - obstructing access to a sett;
 - causing a dog to enter a sett; and
 - disturbing a badger while occupying a sett.

The 1992 Act defines a badger sett as: "any structure or place which displays signs indicating current use by a badger".

Bats

All species of bat are fully protected under a variety of domestic, European and international legislation and conventions. These include:

- Bern Convention (Appendix II)
- Bonn Convention (Appendix II)
- Conservation of Habitats and Species Regulations 2010
- Countryside Rights of Way Act 2000
- Eurobats Agreement Habitats Directive (Annexes IV and II)
- NERC Act 2006
- Wildlife and Countryside Act 1981 (as amended)
- Wild Mammals Protection Act

In addition to this, some species have additional protection by being listed on the UK Biodiversity Action Plan (UKBAP).

The legislation afforded to bats makes it illegal to possess or control any live or dead specimens, to damage, destroy or obstruct access to any structure or place used for shelter, protection or breeding,

and to intentionally disturb a bat while it is occupying a structure or place which it uses for that purpose.

Freshwater White-clawed Crayfish

The white-clawed crayfish is partially protected under Wildlife and Countryside Act 1981 (as amended). It is listed on schedule 5 and therefore afforded protection under Section 9 (1 and 5). Therefore, it is an offence to take white-clawed crayfish and to sell, or attempt to sell, any part of the species, alive or dead, or intend to buy or sell.

Great Crested Newt

The great crested newt (*Triturus cristatus*) is fully protected under a variety of legislation and conventions. These include:

- Bern Convention (Appendix II)
- Conservation (Natural Habitats, &c.) Regulations 1994 (as amended)
- Conservation of Habitats and Species Regulations 2010
- EU Habitats Directive (Annex II and IV)
- NERC Act 2006 (Section 41 England; Section 42 Wales)
- Wildlife and Countryside Act 1981 (as amended)

In addition to this, the great crested newt has been listed as a priority species on the UK Biodiversity Action Plan (UKBAP).

This legislation covers all aspects of newt life stages (eggs, efts and adult newts) and makes it illegal to damage, destroy or obstruct access to any structure or place used for shelter, protection or breeding, and to intentionally disturb a great crested newt while it is occupying a structure or place which it uses for that purpose.

Hazel Dormouse

Hazel Dormouse and their habitats are protected by:

- Wildlife and Countryside Act 1981 (as amended)
- Countryside Rights of Way (CROW) 2000
- The Natural Environment and Rural Communities Act 2006
- Conservation of Habitat and Species Regulations 2010

These make it an offence to:

- Capture, injure or kill a Hazel Dormouse
- Disturb a Hazel Dormouse
- Damage or destroy breeding or nesting sites in use by Hazel Dormice
- Disturb a Dormouse whilst it is occupying a structure or place that they use for shelter or protection
- Obstruct access to any structure or place that the Dormouse uses for shelter and protection.
- To possess or control any live or dead specimens.

Otter

Otters are fully protected by the European Habitats Directive (92/43/EEC) by being incorporated in Annex II of the legislation. In addition to this, otters are listed on schedule 5 of the Wildlife and Countryside Act 1981 (as amended). This makes it an offence to:

- To intentionally kill, injure or take an otter.
- To possess or control any live or dead specimens.
- To intentionally or recklessly damage, destroy or obstruct access to any structure, feature or place of shelter in use by otters.
- To intentionally or recklessly disturb an otter whilst it is in occupation of a feature or structure.
- To sell, possess or transport for the purpose of sale or publicly declare the desire to buy or sell otters.

Reptiles

All six native reptiles within Great Britain are legally protected, with the extent of protection varying dependent upon their rarity and conservation importance.

Those that receive full protection under the Wildlife and Countryside Act 1981 (as amended) are the ~~rare sand lizard and smooth snake~~. These species also receive protection under the Conservation (Natural Habitats &c.) Regulations 1994 (also referred to as the Habitats Directive). This means that they are protected from deliberate disturbance, killing, injury or capture and the habitat in which they live is also fully protected against damage or destruction.

The remaining four reptile species are 'partially protected' under the Wildlife and Countryside Act 1981 (as amended), with these species being slow-worm, common lizard, grass snake and adder. This means that these species are protected against intentional killing, injuring and against sale, but their habitat is not protected. In planning terms this means that the presence of these species is a material consideration and there is a requirement to ensure that any reptile interest is safeguarded. If a proposed development is likely to have an impact on these reptiles, then the statutory nature conservation organisation must be notified, particularly if capture and translocation is being proposed. In some parts of the UK, sites that support common reptile species such as common lizards and slowworms can qualify as County Wildlife Sites. Sites of this designation may receive protection in planning policy.

Water Voles

Water Voles are fully protected under the Wildlife and Countryside Act 1981 (as amended). This makes it an offence to:

- To intentionally kill, injure or take a water vole.
- To possess or control any live or dead specimens.
- To intentionally or recklessly damage, destroy or obstruct access to any structure, feature or place of shelter in use by water voles.
- To intentionally or recklessly disturb a water vole whilst it is in occupation of a feature or structure.
- To sell, possess or transport for the purpose of sale or publicly declare the desire to buy or sell water voles.

Non-Native Floral Species

It is an offence under schedule 9 of the Wildlife and Countryside Act 1981 (as amended) to plant or otherwise cause non-native flora to grow in the wild. This includes the transportation of earth that has previously had non-native species growing and includes the spread of the species.

All stands of non-native floral species need to be disposed of safely at a licenced landfill site according to the Environmental Protection Act (Duty of Care) Regulations 1991.

APPENDIX B3: Where to Expect Protected Species

UK Government. Protected species and development: advice for local planning authorities

Accessed on 27/11/2021.

Available at: <https://www.gov.uk/guidance/protected-species-how-to-review-planning-applications>

Where to expect protected species

Use Table 1 to see where protected species are likely to be present to assess the chance of a development proposal affecting them.

Table 1. Likely habitat for protected species.

Habitat, building or land	Species to look for
Ancient or veteran trees or those with significant decay features	Bats, breeding birds, dormice
Cellars, ice houses, old mines and caves	Bats
Buildings with features suitable for bats , or large gardens in suburban and rural areas	Bats, breeding birds, badgers, reptiles and great crested newts
Traditional timber-framed building (such as a barn or oast house)	Bats, breeding birds including barn owls
Lakes, rivers and streams (on the land or nearby)	Breeding birds, fish, otters, water voles and white-clawed crayfish
Heathland on, nearby or linked to the site (by similar habitat)	Breeding birds, badgers, dormice, reptiles, invertebrates, natterjack toads and protected plants
Meadows, grassland, parkland and pasture on the land or linked to the site (by similar habitat)	Bats, badgers, breeding birds, great crested newts, invertebrates, reptiles and protected plants
Ponds or slow-flowing water bodies (like ditches) on the site, or within 500m and linked by semi-natural habitat such as parks or heaths	Breeding birds, fish, great crested newts, water voles, invertebrates and white-clawed crayfish
Rough grassland and previously developed land (brownfield sites), on or next to the site	Breeding bird, reptiles, invertebrate and protected plants

Woodland, scrub and hedgerows on, or next to the site

Bats, breeding birds, badgers, dormice, invertebrates, great crested newts, reptiles and protected plants

Coastal habitats

Breeding birds, fish, natterjack toads, otters and invertebrates

APPENDIX B4: When to Survey

UK Government. Protected species and development: advice for local planning authorities

Accessed on 27/11/2020.

Available at: <https://www.gov.uk/guidance/protected-species-how-to-review-planning-applications>

When to survey

Use Table 2 to check that surveys submitted with planning proposals are carried out at the most appropriate time to survey for the presence of protected species and the purpose of the survey.

Table 2. Survey timetable

Species	When to survey (dependent on weather conditions)
Badgers	Any time of year February to April or October to November for bait marking surveys to establish territories
Bats (preliminary roost assessment)	Any time of year (trees are best surveyed without foliage)
Bats (hibernation roosts)	November to mid-March
Bats (summer roosts)	May to August
Bats (foraging or commuting)	April to October for spring, summer and autumn behaviour
Bats (swarming)	August to October
Birds (breeding)	March to August (species dependent)
Birds (winter behaviour)	October to March
Birds (migration)	March to May, August to November (dependent on species)
Dormice	April to November
Great crested newts	Mid-March to mid-June (Mid-April to end of June for eDNA)

Invertebrates**April to September****Natterjack toads****April to May (aquatic survey)
July to September (terrestrial survey)****Otters****Any time of year****Reptiles****April to mid-October****Water voles****Mid-April to September****White-clawed crayfish****July to September**

This image shows a blank white page. There are some very faint, thin horizontal lines visible near the bottom edge, which appear to be scanning artifacts or the edges of the paper. The rest of the page is completely empty and white.

Available from: The NestBox Company*
Accessed on 22/02/2022.
Available at: <https://www.nestbox.co.uk/>

APPENDIX C2: Enhancement Features for Birds

Mitigation for nesting birds on site will be provided by the planting of native shrubs along the south-west boundary. This narrow area will be sheltered from human disturbance by a 4ft wire fence.

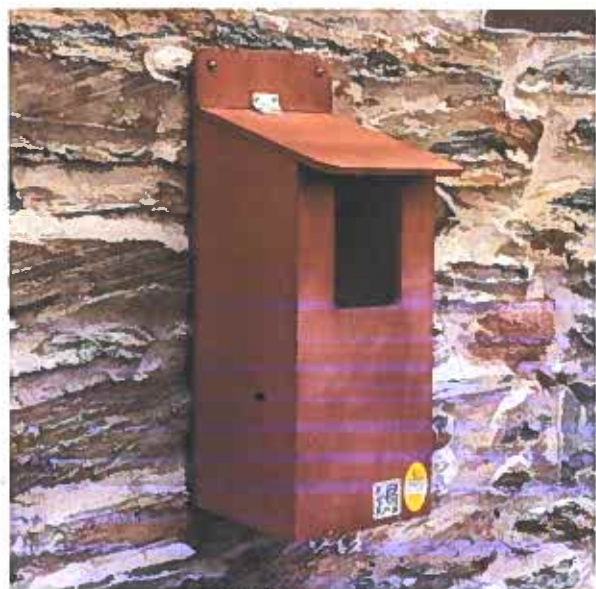
The proposed elevations are very low and not ideal for the addition of nesting boxes as the north-east elevation is very exposed to human disturbance.

Therefore, the addition of nesting boxes is not recommended but they are available as an optional extra.

N.B. Bird boxes should be fitted between 2m-4m high, on a north or east facing elevation to avoid direct sunlight.



Apex Bird Box



Large Bird Nest Box

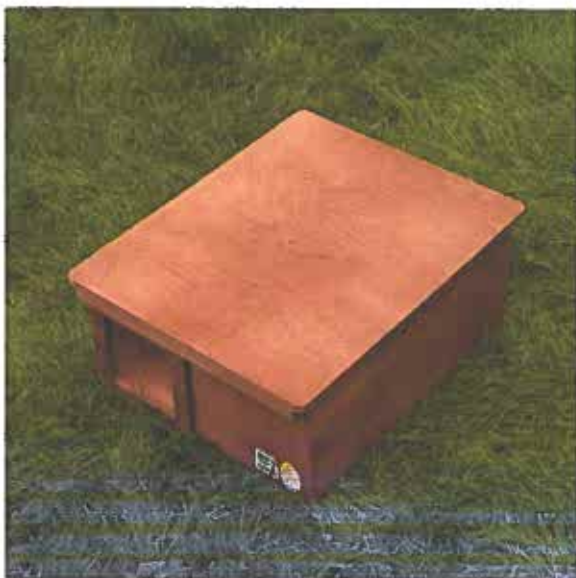
Available from: The NestBox Company*

Accessed on 27/11/2021.

Available at: <https://www.nestbox.co.uk/>

*Many other makes and designs are available across the country.

APPENDIX C3: Enhancement Features for Hedgehogs



Hedgehog Nest Box



Eco Hedgehog Hole Plate

Available from: The NestBox Company*

Accessed on 27/11/2021.

Available at: <https://www.nestbox.co.uk/>

*Many other makes and designs are available across the country.

APPENDIX C4: Habitat Enhancement Features: Hedges/Native Woodland

The UK Biodiversity Action Plan identifies 130 priority BAP species including 104 in Wales (following the 2007 revised list) known to be significantly associated with hedgerows, including their trees, banks, basal flora and immediate margins. While few of these species are dependent on hedgerows alone, the loss of hedgerows, or a decline in their quality, would be likely to have an adverse effect on their populations.

Hedgerows are of particular importance to the conservation of threatened lichens (10 species), invertebrates (72), reptiles and amphibians (5), birds (20) and mammals (11).

Hedgerows are of particular importance to the conservation of threatened lichens (10 species), invertebrates (72), reptiles and amphibians (5), birds (20) and mammals (11).

Re-development of the site provides an opportunity to enhance boundary habitat features of tree lines and hedgerows. These features provide screening as well as important connective corridors for a wide variety of species. A planting regime for hedgerow habitats as part of the redevelopment landscaping is recommended using native species as indicated below

Traditional Hedgerow Mix

Common Name	Scientific Name	Percentage (%)
Blackthorn	<i>Prunus spinosa</i>	25%
Buckthorn	<i>Rhamnus cathartica</i>	2%
Dogrose	<i>Rosa canina</i>	2%
Field maple	<i>Acer campestre</i>	15%
Hawthorn	<i>Crataegus monogyna</i>	50%
Holly	<i>Ilex aquifolium</i>	2%
Wild Privet	<i>Ligustrum vulgare</i>	2%

Additional Species That Support Wildlife

Common Name	Scientific Name
Dogwood	<i>Cornus sanguinea</i>
Elder	<i>Sambucus nigra</i>
Hazel	<i>Corylus avellana</i>
Honeysuckle	<i>Lonicera sp.</i>

More information: Hedge link <https://hedgelink.org.uk/hedgerows/hedgerow-biodiversity/>

APPENDIX C5: Enhancement Features: Invertebrates



Bug Hotel



Bug House

Available from: The NestBox Company*

Accessed on 27/11/2021.

Available at: <https://www.nestbox.co.uk/>



Bee Brick

Available from: nhbs*

Accessed on 21/01/2022.

Available at: <https://www.nhbs.com/>

*Many other makes and designs are available across the country.

APPENDIX C6: Providing Suitable External Lighting (Bats).

As a European Protected Species, disturbance of bats during foraging/commuting, even if accidental, is to be avoided. Artificial lighting is known to cause disturbance to bats and can discourage them from using a previously utilised site – it has been shown to be particularly harmful if used along river corridors, near woodland edges and near hedgerows. With this in mind, it is recommended that any additional lighting forming part of the development be kept to a minimum. Lighting must be directed away from linear features (e.g. waterways, hedgerows) and adjacent trees/woodland edges should not be illuminated. Furthermore, downlighting should be the preferred choice of any external lights to minimise glare or additional light pollution.

If additional external lighting is to be installed, this must be limited and its use restricted to the safe access to and from the dwelling. Light fixtures will be directed downwards with additional canopy protection and must be on a passive infrared (PIR) sensor to restrict light usage to the minimum required.

A sensitive lighting scheme is recommended and must be created using the advice given by an ecologist specialising in bat ecology. The sensitive lighting scheme must follow advice details in 'Bats and Artificial Lighting in the UK: Technical Guidance Note 08/18' (2018) and comprise of;

light fixtures, filaments, light spill and artificial light must be directed away from bat roost entrances, both existing and those to be created as part of the mitigation;

Luminaries are to be LED only, due to their sharp cut-off, lower intensity, good colour rendition and dimming capability. Luminaires should have a warm white spectrum (ideally <2700 Kelvins), reducing the blue light component and increasing the red light component;

luminaries should feature peak wavelengths high the 550nm to avoid the component of light most disturbing to bats;

heights of fixtures should be carefully considered to minimise light spill

only luminaries with an upward light ratio of 0% and with good optical control should be used;

luminaries must always be mounted on the horizontal, i.e. no upward tilt;

any external security lighting should be set on motion sensors and short (1 min) timers, and;

as a last resort, accessories such as baffles, hoods or louvres must also be used, and directed away from any natural features and must not encroach outside the site boundaries, particularly the surrounding trees, hedgerows and other vegetation in the landscape.



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About Us

Little Wing Ecology is a not-for-profit ecological consultancy based in the South Wales Valleys. Specialising in bat surveys for housing developments, but providing a wide range of ecological services, it provides appropriate expertise on behalf of a range of clients.

We are a small ecological consultancy dedicated to providing an easy-to-use and jargon-free service. We produce the following products:

- Preliminary Ecological Appraisal
- Preliminary Roost Assessment
- Bat Surveys
- Mitigation Planning
- European Protected Species Licence Applications
- On-site Services to Support Planning Applications and Development

As a Consultancy, we use our experience, expertise, and love of wildlife to provide an easy to access and pragmatic service, that upholds the highest standards of conservation.

As a Not-for-Profit Social Enterprise, we reinvest our profits. We work with valleys communities, conservation groups, local authorities, and other groups to support these three key areas;

A. Helping Nature

Developing and supporting habitat gain in the valleys through:

- ➔ habitat improvement;
- developing the built environment for the benefit of wildlife, and;
- long-term monitoring projects for wildlife populations in the valleys.

B. Working with People

Providing employment and voluntary opportunities for

- the local community and young people to help them build their skills, develop a stronger relationship with nature and build confidence in themselves.

C. Supporting Communities

- Reinvesting in nature and people, locally;
- Supporting education within communities to promote a positive relationship between people and wildlife, and;
- Providing pro-bono surveys for worthwhile causes.

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