

LAND AT INCLINE TOP, MERTHYR TYDFIL

PRELIMINARY ECOLOGICAL APPRAISAL (PEA)

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Preliminary Ecological Appraisal (PEA)

	NAME	POSITION	DATE
AUTHOR	Trevor Fletcher	Senior Ecologist	21/09/2023
CHECKER	Janine Burnham	Principal Ecologist	23/09/2023
APPROVER	Geraint Pitman	Associate Director	02/10/2023

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Appendix B – Summary of Ecological Desk Data

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Non-Technical Summary

Site Location	Land at Incline Top, Merthyr Tydfil. Approximate Central Grid Reference: SO 05960 06906
Proposed Development	Proposed consent for outline planning permission for two residential dwelling.
Purpose of survey/s	To provide ecological input to the planning application; identifying possible ecological constraints to the proposed development.
Dates of survey and names of surveyors	Preliminary Ecological Appraisal (PEA) survey – Trevor Fletcher (Senior Ecologist), Megan Watts (Ecologist)-18 September 2023.
Overview of Results	- No nationally important statutory designated sites are within 1km of the Site. - No non-statutory designated sites lie within 1km of the Site. - No Ancient Woodland lies within 1km of the Site. - There are no TPOs or Conservation Areas within 0.6km of the Site. - Phase 1 habitats within the Survey Area included: semi-natural broadleaved woodland, coniferous parkland/ scattered trees and poor semi-improved grassland. - Trees within the Survey Area offered no bat roosting potential. Habitat has low suitability for use by bats to forage and commute. - Habitat on Site offers some potential for commuting and foraging badger but not for establishing setts, other mammals such as West European hedgehog may be present. - Habitat suitable for breeding birds was present within the Survey area, including within trees and understory scrub. - There is suitable habitat present for common reptiles and amphibians. - Common terrestrial invertebrates are likely to be present. - There were no Schedule 9 invasive species recorded within the Survey Area.
Recommendations	Further Survey - Breeding bird check to search for active nest sites no more than 48 hours prior to commencement of clearance works. - Invasive plant check prior to commencement of Site clearance. Mitigation Measures & Design Considerations (applicable to the Scheme) - An ecological method statement detailing best practice to avoid/ minimise impact on protected habitats and species will be required. - Measures to ensure no loss of biodiversity value, may include additional native species planting and ongoing habitat management plan. - General bat and badger mitigation measures e.g., avoidance of night working. - Vegetation clearance to be carried out outside the main bird breeding season and in a sensitive manner to avoid impact on breeding birds. - Site personnel should receive a toolbox talk from an experienced ecologist.
Enhancement Opportunities	Scheme - Bat boxes installed on new dwellings. - Bird boxes-Swift boxes to be installed on / in new dwellings. - Planting/seeding of pollinator friendly wildflower plant mixes within Site or in Survey Area. Ongoing management to ensure habitat quality is sustained. - Landscape planting of shrubs and trees of native provenance such as hazel, hawthorn and rowan to benefit wildlife, including invertebrates.

1. Introduction

Redstart (WSP) was commissioned by Merthyr Tydfil County Borough Council (MTCBC) to carry out a Preliminary Ecological Appraisal (PEA), including a desktop study and an Extended Phase 1 habitat survey and Daytime Bat Walkover (DBW), as part of an outline planning application for consent for two residential dwellings on a plot of land at Incline Top, Merthyr Tydfil (approximate Central Grid Reference SO 0596006906).

The brief for was to:

- Provide a baseline of the ecological conditions on the Site, with reference to whether legally protected and/or notable sites, species or habitats are present or likely to be present.
- Provide recommendations to enable compliance with relevant nature conservation legislation and planning policy.
- To identify, if necessary, the need for avoidance, mitigation, compensation or enhancement measures and/or further ecological surveys.
- This report includes details of the survey methodologies, results and discussion and contains recommendations for further survey/ mitigation where appropriate.
- The plot of land proposed for development is hereafter referred to as the 'Site'. The Site and wider area surveyed is referred to as the 'Survey Area'.

1.1 Site Description

The 0.13ha Site lies approximately 1km northeast of Merthyr Tydfil town centre and sits within an existing suburban development on the outskirts of the town. The Site is surrounded by residential housing and commercial properties and separated from a large opencast mining operation to the east by the A4060 road.

A location plan of the Site is provided in Figure 1.

Figure 1: Approximate location of the Site (red outline). Adapted from Google Earth (2023).



1.2 Proposed Development

The Site, approximately 0.13ha, is proposed for sale with outline planning permission for two residential dwellings by MTCBC.

1.3 Planning Policy and Legislation

The report has been compiled with reference to the relevant nature conservation legislation, planning policy and the UK Biodiversity Framework from which the protection of sites, habitats and species is derived in Wales. The context and applicability of each is outlined, where appropriate, in the relevant sections of the report and additional details are presented in Appendix A.

2. Methodology

2.1 Overview

This report has been prepared in accordance with best practice guidance as outlined in the Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Preliminary Ecological Appraisal (CIEEM, 2017).

Survey to inform the report included:

- An ecological desk study;
- An extended Phase 1 habitat survey; and
- A protected and/or notable species assessment, including a Preliminary Roost Assessment (PRA) of trees and buildings to assess their suitability to support bats.

2.2 Desk Study

A desk study was undertaken to identify existing ecological information for the Survey Area and surrounding landscape. The following organisations were consulted for ecological information in relation to the development in August 2023.

Information on any ecologically designated sites, habitats and protected species or species of conservation concern within a 1km (5km for bats) study area around the Site was requested from South East Wales Biological Records Centre (SEWBRc). This included a request for data for Priority habitats and species listed under Section 7 of the Environment (Wales) Act 2016. The results of this search are summarised in Appendix B.

The Multi-Agency Geographic Information for the Countryside (MAGIC) website (MAGIC, 2023) was accessed to search for additional statutory designated sites i.e., Special Areas of Conservation (SAC) specifically designated for bats.

The MTCBC online interactive map (MTCBC, 2023) was consulted regarding Tree Preservation Orders (TPOs) and Conservation Areas within and adjacent to the Survey Area.

2.3 Field Survey

2.3.1 *Extended Phase 1 Habitat Survey*

Redstart (WSP) surveyors conducted the survey based on Extended Phase 1 habitat survey techniques (JNCC, 2010) on 18 September 2023, mapping the habitat types and listing floral species within each habitat. Invasive plant species were also surveyed for. Botanical lists compiled are provided in Appendix C and species nomenclature follows Stace (2010). The relative abundance of each plant species was recorded using the **A**bundant, **C**ommon, **F**requent, **O**ccasional, **R**are (ACFOR) scale. Sufficient plant species were recorded to ensure accurate determination of Phase 1 habitat types and any uncommon species noted, but exhaustive species lists were not compiled.

Habitats were assessed for potential to support protected/notable species of plants and/or animals and observations were made of any incidental signs of protected/notable species. The outputs of the survey include a Phase 1 habitat map (Drawing 70115504-RED-XX-M2-L-3001) and a Target Note (TN) (detailed in Appendix D).

2.3.2 Daytime Bat Walkover (DBW)

Redstart (WSP) ecologists carried out a DBW to observe, assess and record any habitats suitable for bats to roost, commute and forage both on the Site and in the surrounding area to determine the suitability of the Site for bats and assess whether further survey is required.

Buildings (residential properties) in the Survey Area were observed remotely, no close inspection was made to avoid invasion of privacy. The buildings and potential flight paths and foraging habitats were assigned a level of negligible, low, moderate or high suitability, in accordance with current Good Practice Guidelines (Collins, 2023).

Ecologists inspected trees, using binoculars and high-powered torches, where appropriate, for, potential roost features (PRFs). In accordance with current Good Practice Guidelines (Collins, 2023), trees were categorised by their suitability to support bat roosts (see Table 1).

Table 1: Guidelines for the categorisation of the suitability of trees to support bat roosts (adapted from Collins, 2023)

Suitability	Description
NONE	Either no PRF in the tree or highly unlikely to be any
FAR	Further assessment required to establish if PRFs are present in the tree
PRF	A tree with at least one PRF present

2.4 Survey Limitations

Where third party data is referred to, for example from data searches and biological record centres, Redstart (WSP) cannot be held responsible for the accuracy of the information. Records held by local biological record centres and local recording groups are generally obtained from voluntary sources; therefore, the absence of records does not necessarily demonstrate the absence of species but may reflect a gap in recording coverage.

It was not considered appropriate to make close observation of private residential dwellings using, for example, binoculars, to determine bat roost potential. This is not considered to be a significant limitation to the survey as observation and a general assessment of likely bat roost potential could be made without close inspection and no buildings were in a location likely to be directly adversely impacted by the development, should bats be present.

A large proportion of the Survey Area comprised private land associated with residential dwellings. These areas were not directly accessed during the Phase 1 habitat survey; however, surveyors were able to ascertain that those visible mainly comprised managed lawns and flowerbeds. The lack of access to these areas is not considered to be a significant constraint to the survey as the nature of the proposed development is unlikely to have an impact beyond the immediate Site.

Any ecological survey can only identify what was present on site at the time it was conducted, and habitat use by species can change over time. The length of time survey data remains valid will depend on a case-by-case basis, but typically if a development or proposed works do not commence within 2 years of the date of the survey, an update may be required.

3. Desk Study Results

3.1 Designated Sites

3.1.1 Statutory Designated Sites

No statutory designated sites lie within 1km of the Site.

3.1.1 Non-statutory designated sites

No non-statutory designated sites lie within 1km of the Site.

3.2 Ancient Woodland (AW) and Tree Preservation Orders (TPOs)

3.2.1 Ancient Woodland

There is no Ancient Woodland within 1km of the Site.

3.2.2 Tree Preservation Orders (TPOs)

The closest TPO area to the Site lies 0.6km to the west.

3.3 B-Lines

The whole of the Survey Area lies within a B-line (Buglife, 2023).

B-Lines are a series of 'insect pathways' running through countryside and towns, along which a series of wildflower-rich habitat stepping-stones which are being restored and created. They link existing wildlife areas together, creating a network, like a railway, that will weave across the British landscape (Buglife, 2022).

Figure 3 shows the location of the Site in relation to the B-line.

Figure 3: B-line (red shaded area) in relation to the Site (yellow star). Adapted from the Buglife interactive online map at www.buglife.com



4. Phase 1 Habitat Survey Results

The following Phase 1 habitats were identified in the Survey Area.

- Semi-natural broadleaved woodland;
- Coniferous parkland/ scattered trees;
- Poor semi-improved grassland;
- Wall; and
- Buildings.

The additional category of 'hardstanding' was included to map areas of tarmac surfaced road and pavement.

These habitats are described in Table 1, and their distribution provided on Drawing 70115504-RED-XX-M2-L-3001. Where access was not possible due to habitat being on private land (residential gardens) this is indicated on the Drawing by an 'N/A' symbol.

A Target Note (TN) illustrated on the drawing is detailed in Appendix D and referenced in-text where appropriate. The botanical species list can be found in Appendix C.

4.1.1 Priority Habitat

Priority habitats in Wales are of principal importance for the purpose of maintaining and enhancing biodiversity in Wales as listed under Section 7 of the Environment (Wales) Act 2016. This places a duty on Welsh Ministers to "take all reasonable steps to maintain and enhance the types of habitat included in any list published under this section and, encourage others to take such steps".

There were no priority habitats within the Survey area, as such Priority habitat will not be discussed further in this report.

Table 1: Phase 1 habitat descriptions

Habitat	Description	Photographs
Semi-natural broadleaved woodland	The whole Site comprised semi-natural broadleaved woodland (see Photograph 1). Tree species included abundant grey willow (<i>Salix cineria</i>), commonly occurring hawthorn (<i>Crataegus monogyna</i>), apple species (<i>Malus</i> sp.), wild privet (<i>Ligustrum vulgare</i>), occasional holly (<i>Ilex aquifolium</i>) and saplings of ash (<i>Fraxinus excelsior</i>) and oak species (<i>Quercus</i> sp.) A row of immature Leyland cypress (<i>Cupressus x leylandii</i>) formed part of an extension to a fence line, possibly delineating the Site boundary. The willow trees ranged from semi-mature to mature and were often multi stemmed, with a maximum height of 10m. Other trees were semi-mature or recently established saplings. There was no evidence of recent management of the woodland other than minor removal of branches that were likely to have been extending over the pavement adjacent to the Site. The predominantly heavily shaded understory (see Photograph 2) comprised abundant bramble (<i>Rubus fruticosus</i> agg.) and common ivy (<i>Hedera helix</i>), other species included frequent hedge bindweed (<i>Calystegia sepium</i>), upright hedge-parsley (<i>Torilis japonica</i>) and occasional rosebay willowherb (<i>Chamaenerion angustifolium</i>) and wood dock (<i>Rumex sanguineus</i>).	Photograph 1 

Habitat	Description	Photographs
	Some areas of understory received more light through gaps in the tree canopy and as a consequence bramble scrub had developed in dense stands within the woodland. Species at the woodland margin included creeping thistle (<i>Cirsium arvense</i>), broad-leaved dock (<i>Rumex obtusifolius</i>), common nettle (<i>Urtica dioica</i>) and broad-leaved willowherb (<i>Epilobium montanum</i>).	Photograph 2 
Coniferous parkland/ scattered trees	A line of mature Leyland cypress (<i>Cupressus x Leylandii</i>) was present to the south of the Site, located on private land.	
Poor semi-improved grassland	Poor semi-improved grassland formed verges adjacent to the Site and along all roadside verges in the wider Survey area (see Photograph). Grass species included abundant Yorkshire-fog (<i>Holcus lanatus</i>), cock's-foot (<i>Dactylis glomerata</i>) and common bent <i>Agrostis capillaris</i>. Floral species included occasional dandelion species (<i>Taraxacum</i> sp.) and creeping buttercup (<i>Ranunculus repens</i>).	
Wall	A low stone wall was present within the Site. A concrete-built wall south of the Site separated coniferous parkland/ scattered trees within private gardens from an area of poor semi-improved grassland in the public realm. Plant species on both walls were sparse and comprised common ivy.	No photograph

5. Daytime Bat Walkover (DBW) Results

5.1 Trees

No trees within the Survey Area had PRFs or suitably dense ivy cover to support roosting bats and therefore all were assigned the category 'NONE'.

5.2 Buildings

There were no buildings within the Site. Residential properties were present within the Survey Area, and it is possible that there is potential for bat suitable bat roost features in domestic dwellings in the Survey Area and wider environment. An assessment of the level of suitability for roosting bats was not possible.

Flight lines and foraging habitat

As there was no roosting potential within the site and the site is only 0.13ha and lacked structural diversity the site was classified as having low suitability for bats.

6. Species Results

Results from the field survey observations are presented as follows and where relevant, reference is made to desk study findings.

Records referred to are from within 1km of the Site for Priority and protected species (5km for bats) and 1km for species of conservation concern, all from within the last 10 years.

6.1 European Protected Species

6.1.1 Bats

A total of 1910 records for bats were returned from the data search, comprising nine distinct species, four categories for bats identified to genus level and one category for unidentified bats. The most recorded species was common pipistrelle (*Pipistrellus pipistrellus*), for which 727 records were returned.

The closest record was for a pipistrelle bat species (*Pipistrellus* sp.), located approximately 150m north-west of the Scheme. The closest roost record was for a common pipistrelle day roost located approximately 1km to the west.

The Site was assessed as having low suitability for bats with no potential roost features present (see Section 5).

6.1.2 Otter

No SEWBRc records for European otter (*Lutra lutra*) were returned from the data search.

There was no suitable aquatic/riparian habitat for otter within or near the Survey Area and the suburban nature of the area is unlikely to attract otter, particularly as there are no apparent feeding opportunities present.

Otter is unlikely to be present and will therefore not be considered further in this report.

6.1.3 Hazel Dormouse

There were no records for hazel dormouse (*Muscardinus avellanarius*) returned from the SEWBRc data search.

Habitat potentially suitable to support dormouse was limited to small areas of woodland understory scrub and trees within the Site. Although this habitat had some suitability for dormouse in terms of potential to provide nesting sites, shelter and limited food resources, the Site and wider Survey Area are considered sub-optimal for the species. The Site is effectively an isolated area of woodland within a network of roads and residential properties and lacked habitat connectivity to the wider landscape. The habitats beyond the Site are also generally unsuitable for the species.

As there are no records for dormouse, suitable habitats are limited and fragmented, with poor connectivity beyond the Site, it is considered that dormouse is unlikely to be present and as such will not be considered further in this report.

6.1.4 Great crested newt (GCN)

There were no records for GCN (*Triturus cristatus*) returned from the SEWBrEC data search.

There were no suitable aquatic habitats to support breeding GCN within the Survey Area. The woodland and grassland habitat offer suitable habitat for the species in the terrestrial phase, however, it is highly unlikely that GCN will be present as the habitat is very restricted in scale and surrounded by sub-optimal habitat such as well-maintained domestic gardens and significant barriers to dispersal, such as roads. Additionally, there were no waterbodies identified within 500m of the Site, making it highly unlikely that GCN would be present to potentially disperse into the Site.

As GCN is unlikely to be present within the Survey Area the species will not be considered further in this report.

6.2 UK Protected/Priority Species

6.2.1 Badger

One SEWBrEC record for Eurasian badger (*Meles meles*) was returned within the last 10 years. The record was a road casualty located approximately 430 m east of the Site.

Habitats such as woodland on the Site and poor semi-improved verge grassland within the Survey Area offer some potential for badger to commute and forage. No signs of badger presence such as runs, latrines or setts were noted during the survey.

6.2.2 Other mammals

There were six records for West European hedgehog (*Erinaceus europaeus*), the closest record was for a road casualty approximately 700m northwest of the Site. No additional records for protected and priority mammal species were returned.

Grassland, woodland and understory scrub offered suitable habitat for foraging, commuting and sheltering small mammals. It is likely that small mammals will be present within the Scheme and hedgehog could be present, particularly within the Site.

6.2.3 Birds

A total of 34 records for 14 species of protected and priority birds were returned from the SEWBrEC data search, including two Wildlife and Countryside Act (1981) Schedule 1 (WCA1) species and 12 Environment (Wales) Act 2016 Section 7 (S7) priority species.

WCA1 species included peregrine (*Falco peregrinus*) and red kite (*Milvus milvus*). The closest WCA1 record was for a red kite, recorded approximately 300m southeast of the Site.

Habitat within the Site, including woodland and scrubby understory, were suitable for birds to nest, shelter and feed.

There was no habitat in the Survey Area that was suitable for the Schedule 1 species returned from the desk study to establish nest sites.

Species recorded on the Site during the PEA included robin (*Erithacus rubecula*), blue tit (*Cyanistes caeruleus*), wren (*Troglodytes troglodytes*), blackbird (*Turdus merula*), and collared dove (*Streptopelia decaocto*).

6.2.4 Reptiles

There were no records for reptile species returned from the desk study.

No reptiles were observed during the survey. Grassland verges had some suitability to support reptiles for shelter, basking and foraging purposes, particularly those areas adjoining woodland. A small pile of brash (see Target Note 1, Appendix D)) within the Site had potential to support both reptiles and amphibians in terms of shelter, breeding and overwintering.

6.2.5 Amphibians (other than GCN)

Fourteen records for three species of amphibians were returned from the data search. Species included common frog (*Rana temporaria*), common toad (*Bufo bufo*) and palmate newt (*Lissotriton helveticus*). The closest record was for common toad located 270 m east of the Site.

No amphibians were observed during the survey. There was no breeding habitat recorded for amphibians within the Survey Area (i.e., standing water). There was some potential for common amphibians to be present in terrestrial habitat such as scrub in woodland understory and gaps in the stone wall located within the Site.

6.2.6 Invertebrates

A total of 13 records for four species of protected and priority invertebrates were returned from the data searches. The closest of these was for small heath butterfly (*Coenonympha pamphilus*) recorded approximately 180m east of the Site.

Habitats within the survey area such as woodland, grassland, understory scrub and scattered trees were suitable to support commonly occurring terrestrial invertebrates.

6.2.7 Notable flora

No protected or priority plant species were recorded either from the desk study or during the survey, and as such will not be discussed further in this report.

6.2.8 Invasive non-native plant species

Invasive non-native plants recorded within 1 km of the Scheme included Wildlife and Countryside Act (1981) Schedule 9 (WCA9) species Japanese knotweed (*Fallopia japonica*), montbretia (*Crocasmia pottsii* x *aurea* = *C. x crocosmiiflora*) and rhododendron (*Rhododendron ponticum*). All three species were recorded at the same location approximately 860m southwest of the Site.

There were no Schedule 9 plant species recorded during the survey and, as the Site was thoroughly surveyed during the period when species are detectable, it is considered unlikely that they are present.

7. Discussion and Recommendations

This section considers the potential for effects on designated sites, legally protected species, notable species and notable habitats as a consequence of the proposed development. Where further surveys or detailed assessment of potential effects are required to design suitable mitigation, this is identified.

7.1 Statutory and non-statutory sites

As there were no designated sites within 1km of the Site, due to the small scale of the Site and the nature of the proposed development, no impact on any designated sites is anticipated.

7.2 Ancient Woodland, TPOs & Conservation Areas

As there is no Ancient Woodland within 1km of the Site, and the closest TPO area was 0.6km away, no direct or indirect impact due to the development is anticipated.

7.3 Bats

Although there is no suitability for roosting bats in the Site, the habitats have a low level of suitability for use by foraging and commuting bats.

Bats are protected under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, and it is an offence to deliberately disturb and damage or destroy a breeding or resting site of any European protected species.

Detrimental impact on bats from the development may be caused by temporary lighting for health and safety/ security during construction, and by permanent external property lighting (e.g., security lighting), affecting commuting pathways for species that prefer dark commuting corridors. Properties that may be occupied by roosting bats are sufficient distance from the Site for noise and vibration from construction activity not to cause disturbance and there is no potential for direct damage or destruction of a bat roost during development of the Site.

7.4 Badger

As habitat with some suitability for badger to use the Site was present, there is potential for badger to be inadvertently harmed during construction through entrapment in works compounds / open excavations.

Under the Protection of Badgers Act 1992 it is illegal to kill or injure a badger, destroy a badger sett, obstruct access to/entrance of a sett, or to disturb a badger while occupying a sett.

Although there is potential for badger to be present in the Survey Area it is unlikely that the species will be any more than an occasional visitor. Foraging opportunities are limited within the Site and its relatively exposed character, being a small plot of woodland in a suburban setting near a well-lit road, makes it an unlikely location for a sett to be established.

General badger mitigation measures, provided in Section 9, Table 4, will be sufficient to prevent negative impact on badger.

7.5 Other mammals

Habitat suitable to support protected/priority species hedgehog was present within the Survey Area and desk study data indicates that there is a likelihood the species is present locally. West European hedgehog is listed under Section 7 (S7) of the Environment (Wales) Act 2016 as a species of “principal importance for the purpose of maintaining and enhancing biodiversity in relation to Wales”.

Adverse effects on mammals such as injury or killing could occur during habitat clearance to facilitate the development.

The Wild Mammals (Protection) Act 1996 makes it an offence to crush or asphyxiate any wild mammal with intent to inflict unnecessary suffering, which may apply if excavation works are undertaken in areas containing burrowing mammals.

The recommendations for vegetation clearance and ground excavation made in Section 9 should be followed to ensure that no small mammals are killed or injured during works.

7.6 Breeding Birds

Habitats across the Survey Area offer potential to support nesting birds, and a variety of species were recorded from the data searches and PEA survey.

All naturally occurring British bird species are protected under the Wildlife and Countryside Act 1981 (as amended). The legislation protects all birds, their nests and eggs. Schedule 1 birds are afforded additional protection. It is an offence to intentionally or recklessly disturb a Schedule 1 bird while nest building or while at (or near) a nest with eggs or young or disturb the dependent young of such a bird.

The development may result in loss or destruction of nesting sites during vegetation clearance works.

Due to the anticipated limited extent of habitat loss due to the development (maximum 0.13ha) it is unlikely that there will be significant long-term adverse effect on breeding birds as suitable nesting habitat is plentiful in the surrounding area.

Adopting the recommendations in Section 9 for timing of works and / or ecological supervision during clearance works will minimise the potential for adverse impact on breeding birds.

7.7 Reptiles

The Survey Area had some habitat with potential for reptiles to be present, including grassland and woodland edge.

Common reptiles are protected against intentional killing and injury under the Wildlife and Countryside Act 1981 (as amended).

Reptiles may be accidentally injured or killed during vegetation clearance or excavations. Long-term impacts, however, are considered low as loss is likely to be relatively minor and existing habitats are unlikely to support significant populations of any reptile species.

Adopting the pre-construction vegetation clearance measures outlined in Section 9 will minimise the potential for adverse impacts on reptiles.

7.8 Amphibians

Common amphibians may be injured or killed during vegetation clearance works or excavations. Amphibians are unlikely to be present in high numbers and the potential for adverse impact at a local level is low.

Adopting the pre-construction vegetation clearance measures outlined in Section 9 will minimise the potential for adverse impacts on amphibians.

7.9 Invertebrates

Habitats within the Scheme are likely to support a diversity of common terrestrial invertebrate species.

Due to the small footprint of the works and lack of habitat diversity within the Site, no long-term adverse impacts on invertebrates are anticipated, provided the planting recommendations made in Section 9 are adopted.

7.10 Non-Native Invasive Plant Species

Although no presence of invasive plant species was recorded within the Survey Area it is advised that, prior to any Site clearance works, a check is carried out to ensure that no Schedule 9 species have subsequently established.

8. Conclusion

The Site is classified as being of low ecological value, as;

- There are no Priority habitats within the Site and the presence of European Protected species is likely to be restricted to bat species using the existing habitat to forage and commute.
- The Site is likely to support low numbers of commonly occurring and widespread bird species, low numbers of common amphibians and reptiles and, possibly small mammals such as West European hedgehog.
- Protected species badger could be present occasionally but is unlikely to establish setts.

If the recommendations for further survey and mitigation made in Section 9 are fully adopted, and enhancement opportunities suggested in Section 9.5 are taken forward to the final development design, the development will be compliant with wildlife law and meet the biodiversity enhancement requirements of planning legislation.

9. Recommendations

9.1 Further Survey

The following surveys will be required prior to Site clearance operations.

9.2 Pre-construction Non- Native Invasive Plant Species Check

An invasive plant species check is recommended for the Scheme. This should ideally be undertaken during the peak growing season i.e., during the summer months, to maximise potential to detect emergent growth.

9.3 Pre-construction Breeding Bird Check

A pre-construction check for breeding birds will be required prior to works commencing where works are undertaken during breeding bird season (i.e., between February and August inclusive). Ideally works should be undertaken outside this time period. If this is not possible, a check for bird nests immediately prior to and during clearance works by a suitably experienced ecologist should be undertaken. If an active nest is discovered, all works in the immediate area (exclusion zone to be determined by the supervising ecologist) should cease and the nest protected until the young have fledged and/or the nest is no longer active.

9.4 Mitigation

9.4.1 *Pollution Prevention Measures*

Standard best practice and pollution control measures should be implemented at the construction phase in accordance with relevant guidance (e.g., CIRIA (2001) and Environment Agency (2018) Guidelines for Pollution Prevention (GPP).

A pollution prevention management plan should be produced and include the following measures;

- All static machinery should be placed on drip-trays or oil absorbent nappies. Trays should be emptied regularly to ensure that they contain any spills.
- Refuelling of machinery should not be carried out where accidental spill could impact habitats adjacent to the Site (i.e., residential gardens).
- Location of site compounds (if not on existing hardstanding) should be discussed with an ecologist prior to commencement of the works.

9.4.2 *Bats*

General bat mitigation measures during site clearance and construction should be followed as outlined in Table 2.

The specification and layout of any new lighting (particularly external lighting) included within the housing specification should be agreed with an experienced ecologist at the design stage to ensure there is no adverse impact on foraging and commuting bats.

9.4.3 *General Bat and Badger Mitigation*

The measures in Table 2 should be employed to all works to reduce disturbance to bats and badgers using suitable habitat within the Survey Area.

Table 2: General bat and badger mitigation measures.

Mitigation Measure	Description
Avoidance of night working	If the proposed works are carried out during the time of year when bats are active (i.e., April to September inclusive), works should be carried out during daylight hours; commencing at least 1 hour following sunrise and finishing at least 1 hour before sunset, to avoid unnecessary disturbance to bats. If night-time working is unavoidable, advice on how to reduce potential disturbance to bats should be sought from a suitably qualified ecologist.
Construction lighting	If construction lighting is required for safety, any light sources used should be directional and positioned to prevent excessive light spill from the immediate works area. The layout and specification should be discussed with and agreed by an experienced ecologist – directional lighting and screening may be required.
Compound siting	The site compound (and all machines and materials) should be located on hard-standing areas. A suitable location for the compound should be agreed with an ecologist to ensure that this doesn't conflict with other ecological considerations.
Materials & Machinery	Materials and machinery should be locked away in the site compound when not in use, day, night or weekend. Where this is not possible, they will need to be fenced off.
Excavations	Any excavations should be securely fenced off and covered over at the end of the working period, at weekends or when not in use. If it is not possible to cover excavations an escape ramp should be installed to limit the possibility of animals such as badger becoming trapped.
If a bats or badger and/or their places of shelter (roost/ sett) are discovered at any time during works, then all works within 30m must cease until advice is sought from an Ecologist/ NRW species team.	

9.4.4 Ecological Method Statement

An appropriate ecological method statement will be required for any clearance and excavation on the Site to avoid accidental injury or killing of reptiles, amphibians and small mammals, including Western Hedgehog.

9.4.5 Invasive Species Method Statement

If invasive plant species listed on Schedule 9 of the Wildlife and Countryside Act 1981 are recorded on Site, the appointed contractor will be required to provide an appropriate Invasive Species Method Statement for the proposed development. This should be in place and followed for the duration of any construction works to minimise the risk of spreading Schedule 9 plant species.

9.4.6 Toolbox Talk

An experienced ecologist should provide a toolbox talk to all contractors/site staff and advise them of all the ecological constraints on site and mitigation required before any works begin.

9.5 Enhancement Opportunities

Planning Policy (Wales) 11 places a duty on planning authorities to maintain and enhance biodiversity in the exercise of their functions. As it is likely that the Site will be cleared of vegetation to facilitate construction, measures should be included to ensure that biodiversity of the Site is enhanced, this may be achieved through a combination of appropriate planting and provision for shelter/ breeding sites for species likely to be present in the wider area.

Specific measures will need to be determined once the design of the development is finalised. The following measures could be adopted to meet the biodiversity duty;

- Inclusion of bat boxes on newly constructed housing. Details of siting and appropriate boxes should be determined following final development design.
- The development would be highly suitable for installation of swift (*Apus apus*) nest sites which provide nesting opportunities for this Red- listed species of high conservation concern in the UK. These are known

to be effective (Newell and Willis, 2023) and can be installed at low cost during new build construction to provide integral or internal nesting sites (swift bricks) or sited externally as boxes. Desk data indicates that swift (a summer breeding visitor) has been present within 450m of the Site and may well breed locally in existing housing. Further details of nest site design, including swift bricks, can be found at www.swift-conservation.org.

- Plan soft landscaping to maximise benefit to pollenating invertebrates as the Site sits within a B-line. This can be achieved by ensuring native and locally provenanced trees and shrubs which produce fruits and berries; and wildflower seed mixes are planted and appropriately managed ensure maximum benefit to wildlife.
- It may be appropriate to extend biodiversity enhancement to areas outside the Site boundary to ensure biodiversity duty is met, for example wildflower planting of nearby grass verges.

Should enhancement opportunities be taken forward into the development design, advice should be sought from a suitably qualified ecologist regarding specification of boxes and their appropriate siting and a landscape architect regarding suitable tree/shrub species and appropriate locally sourced and native wildflower seed mixes.

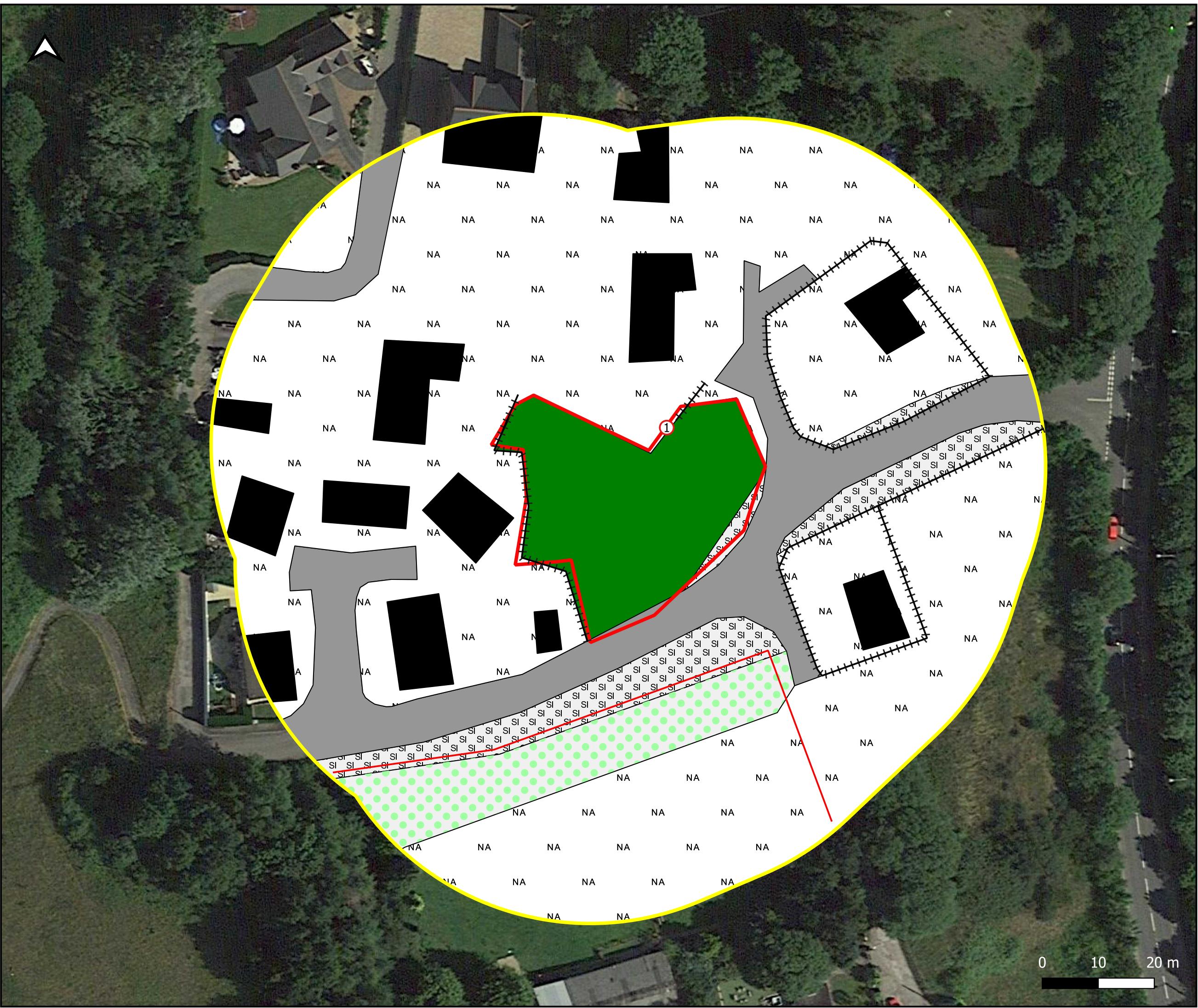
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Drawings

70115504-RED-74-XX-M2-L-3001 – Phase 1 Habitat Map



- Key:**
- 50m Survey Boundary
 - Fence
 - Wall
 - Broadleaved woodland - semi-natural
 - Coniferous Parkland/scattered trees
 - Poor semi-improved grassland
 - Buildings
 - Hardstanding
 - Not Accessed
 - Target Notes

P01	NP	TF	GP	First Issue.	03/10/2023
Purpose of issue					
S2 - Issued for Information					
Classification					
Confidential					
Client					
Merthyr Tydfil County Borough Council					
Project					
Land at Incline Top, Merthyr Tydfil					
Drawing Title					
Phase 1 Habitat Map					
Drawn NP Checked MW Approved GP					
Project No	Date		Scale		Size
70115504	September 2023		1:1,000		A3
Drawing identifier			Revision: P01		
70115504-RED-74-XX-M2-L-3001					
 REDSTART. Quest House, St Mellons Business Park, Fortran Rd, St. Mellons, Cardiff, CF3 0EY www.redstartwales.com					

Appendix A – Legislation and Conservation Designations

European Protected Species

European Protected Species are those species listed on Schedule 2 of the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019. The list includes all species of bats, dormouse, great crested newt and otter. The species listed on Schedule 2 are afforded protection against:

- deliberate capture, injury or killing;
- deliberate disturbance;
- deliberate taking or destruction of the eggs;
- damage or destruction of a breeding site or resting place of such an animal.

Where a European protected species is present, a development may only proceed, under a licence issued by the relevant governing body i.e. Natural Resources Wales.

Birds Directive Annex 1

Annex 1 of the Birds Directive lists species and sub-species which are:

- in danger of extinction;
- vulnerable to specific changes in their habitat;
- considered rare because of small populations or restricted local distribution;
- requiring particular attention for reasons of the specific nature of habitat.

For these species Member States must conserve their most suitable territories in number and size as Special Protection Areas (SPAs). Species listed on Annex 1 of the Birds Directive include kingfisher and red kite.

Wildlife and Countryside Act 1981 (as amended)

Schedule 1

All naturally occurring British bird species are protected under the Wildlife and Countryside Act 1981 (as amended). The legislation protects all birds, their nests and eggs and it is an offence to:

- intentionally kill, injure and take any wild bird;
- intentionally take, damage or destroy the nest of any wild bird while it is in use or being built; or
- intentionally take or destroy the egg of any wild bird.

Birds listed on Schedule 1 of the above legislation (e.g. kingfisher and red kite) are afforded further protection and it is an offence to:

- intentionally or recklessly disturb the bird while nest building or while at (or near) a nest with eggs or young; or
- disturb the dependent young of such a bird.

Schedule 5

Section 9 of the Wildlife and Countryside Act 1981 (as amended) offers varying degrees of protection to species including otter, bats, dormice, amphibians and reptiles. Animals listed on Schedule 5 of the Act are protected against one or more of the following:

- intentional killing, injuring or taking (not applicable to bats);
- intentional or reckless damage or destruction, or obstruction of access to any structure or place which any wild animal included in Schedule 5 uses for shelter or protection;
- disturbance of any such animal while it is occupying a structure or place which it uses for that purpose;
- sell, offer or exposes for sale, or has in his possession or transports for the purpose of sale, any live or dead wild animal included in schedule 5, or any part of, or anything derived from such an animal.

Schedule 8

Plant species listed on Schedule 8 are protected under Section 13 of the Wildlife and Countryside Act 1981 (as amended). Section 13 protects plants from:

- intentional picking, uprooting or destruction;
- selling, offering for sale, possessing or transporting for the purpose of sale (live or dead, part or derivative);
- advertising (any of these) for buying or selling.

Schedule 9

Section 14 of the Wildlife and Countryside Act 1981 (as amended) makes it an offence to “plant or otherwise cause to grow in the wild any plant which is included in Part II of Schedule 9”.

Protection of Badgers Act 1992

Badgers and their setts are protected under the Protection of Badgers Act 1992; the Act makes it an offence to:

- Kill, injure, take or attempt to kill, injure or take a badger; or
- Intentionally or recklessly damage, destroy or obstruct access to a badger sett, or disturb a Badger whilst it is occupying a sett.

Any works within 30m of badger setts can only be carried out under a licence issued by Natural England or Natural Resources Wales.

Environment (Wales) Act 2016

Section 7 of the Environment (Wales) Act has replaced the Section 42 of the NERC Act 2006 in Wales. Section 7 lists the living organisms and types of habitat in Wales which are considered to be of key significance to sustain and improve biodiversity in relation to Wales.

The Act states that Welsh Ministers must take all reasonable steps to maintain and enhance the living organisms and types of habitat included in any list published under this section and encourage others to take such steps.

UK BAP

UK BAP priority species are those that have been identified as being the most threatened and requiring conservation action. This includes (but is not limited to) species such as common toad, otter, great crested newt, slow worm, common lizard, brown long-eared bat, noctule and soprano pipistrelle.

Red and Amber Lists

Red-listed bird species are those which:

- Are globally threatened;
- Have suffered a historical population decline in the UK during 1800–1995;
- Have suffered a severe (at least 50%) decline in the UK breeding population over the last 25 years, or longer-term period (the entire period used for assessments since the first review, starting in 1969);
- Have suffered a severe (at least 50%) contraction of the UK breeding range over the last 25 years, or the longer-term period;

Amber-listed bird species are those which:

- Have unfavourable conservation status in Europe (SPEC = Species of European Conservation Concern)
- Have suffered a historical population decline during 1800–1995, but recovering; population size has more than doubled over last 25 years

- Have suffered a moderate (25-49%) decline in the UK breeding population over the last 25 years, or the longer-term period
- Have suffered a moderate (25-49%) contraction of the UK breeding range over last 25 years, or the longer-term period
- Have suffered a moderate (25-49%) decline in the UK non-breeding population over last 25 years, or the longer-term period
- Are rare breeders; 1–300 breeding pairs in UK
- Are rare non-breeders; less than 900 individuals
- Are localised; at least 50% of the UK breeding or non-breeding population in 10 or fewer sites, but not applied to rare breeders or non-breeders
- Are internationally important; at least 20% of European breeding or non-breeding population in UK (NW European and East Atlantic Flyway populations used for non-breeding wildfowl and waders respectively)

Invasive Non-Native Species

Any non-native animal or plant that has the ability to spread causing damage to the environment, the economy, our health and the way we live.

Appendix B – Summary of Ecological Desk Data

Protected/priority/invasive non-native species records returned from SEWBRc within the last 10 years and within 1 km of the Scheme (5km for bats) are provided as follows.

Legislation abbreviations are detailed at the end of Appendix B.

Bat species records within 5 km of the Site.

Bats Within 5 km				
Common Name	Scientific Name	Legislation / Conservation Status	No. of Records	Most Recent Record
Bat (species unknown)	<i>Chiroptera</i>	EPS, WCA5	11	March 2022
Brown long-eared Bat	<i>Plecotus auritus</i>	EPS, HDir, WCA5, S7, Bern, RDB2 (UK)	139	December 2022
Common pipistrelle	<i>Pipistrellus pipistrellus</i>	EPS, HDir, WCA5, S7, Bern, RDB2 (UK)	727	August 2022
Daubenton's bat	<i>Myotis daubentonii</i>	EPS, HDir, WCA5, Bern, RDB2 (UK)	3	August 2021
Greater horseshoe bat	<i>Rhinolophus ferrumequinum</i>	EPS, HDir, WCA5, S7, Bern, RDB2 (UK)	14	July 2022
Lesser horseshoe bat	<i>Rhinolophus hipposideros</i>	EPS, HDir, WCA5, S7, Bern, RDB2 (UK)	123	December 2022
Long-eared bat species	<i>Plecotus</i> sp.	EPS, HDir, WCA5, Bern	3	January 2019
Myotis bat species	<i>Myotis</i> sp.	EPS, HDir, WCA5, Bern	331	October 2021
Natterer's bat	<i>Myotis nattereri</i>	EPS, HDir, WCA5, Bern, RDB2 (UK)	1	July 2018
Noctule bat	<i>Nyctalus noctula</i>	EPS, HDir, WCA5, S7, Bern, RDB2 (UK)	85	October 2021
Nyctalus bat species	<i>Nyctalus</i> sp.	EPS, HDir, WCA5, Bern	43	October 2021
Pipistrelle bat species	<i>Pipistrellus</i> sp.	EPS, WCA5	318	October 2021
Serotine	<i>Eptesicus serotinus</i>	EPS, HDir, WCA5, Bern, RDB2 (UK)	5	July 2021
Soprano pipistrelle	<i>Pipistrellus pygmaeus</i>	EPS, HDir, WCA5, S7, Bern, RDB2 (UK)	108	August 2022

Protected and priority species records within 1 km of the Site

Protected and Priority Species within 1 km (excluding bats)				
Common Name	Scientific Name	Legislation / Conservation Status	No. of Records	Most Recent Record
Amphibians				
Common frog	<i>Rana temporaria</i>	HDir, WCA5, Bern	4	2019
Common toad	<i>Bufo bufo</i>	WCA5, S7, Bern	7	June 2020
Palmate newt	<i>Lissotriton helveticus</i>	WCA5, Bern	3	May 2020
Birds				
Black-headed Gull	<i>Chroicocephalus ridibundus</i>	BDir22, S7, WBR(RSPB), LBAP, UKBAm(RSPB)	1	November 2021
Bullfinch	<i>Pyrrhula pyrrhula</i>	S7, WBR(RSPB), UKBAm(RSPB)	2	2021
Cuckoo	<i>Cuculus canorus</i>	S7, WBR(RSPB), UKBR(RSPB)	1	May 2019
Dunnoek	<i>Prunella modularis</i>	S7, Bern, UKBAm(RSPB)	4	2021
Herring gull	<i>Larus argentatus</i>	BDir22, S7, WBR(RSPB), UKBR(RSPB)	1	2021
House sparrow	<i>Passer domesticus</i>	S7, WBAm(RSPB), UKBR(RSPB)	5	2021
Kestrel	<i>Falco tinnunculus</i>	S7, Bern, CITES, WBR(RSPB), UKBAm(RSPB)	1	September 2019
Linnet	<i>Linaria cannabina</i>	S7, Bern, WBR(RSPB), UKBR(RSPB)	1	2019
Peregrine	<i>Falco peregrinus</i>	BDir1, WCA1.1, Bern, CITES	4	June 2017
Red kite	<i>Milvus milvus</i>	BDir1, WCA1.1, WCA9, CITES, WBAm(RSPB)	4	February 2020
Skylark	<i>Alauda arvensis</i>	BDir22, S7, WBAm(RSPB), UKBR(RSPB)	3	February 2020
Song thrush	<i>Turdus philomelos</i>	BDir22, S7, Bern, WBAm(RSPB), UKBR(RSPB)	3	2021
Starling	<i>Sturnus vulgaris</i>	BDir22, S7, Bern, WBR(RSPB), UKBR(RSPB)	3	2021
Wood warbler	<i>Phylloscopus sibilatrix</i>	S7, WBR(RSPB), UKBR(RSPB)	1	May 2018

Common Name	Scientific Name	Legislation / Conservation Status	No. of Records	Most Recent Record
Cinnabar	<i>Tyria jacobaeae</i>	S7	1	2021
Dingy skipper	<i>Erynnis tages</i>	S7, RDB1 (UK) - VU, LI(SEWBRcC)	2	May 2021
Graying	<i>Hipparchia semele</i>	S7, RDB1 (UK) - VU, LI(SEWBRcC), LI(VC43)	2	July 2018
Small heath	<i>Coenonympha pamphilus</i>	S7, RDB1 (UK) - NT	8	July 2023
Mammals				
Eurasian badger	<i>Meles meles</i>	BA, Bern	1	October 2020
West European hedgehog	<i>Erinaceus europaeus</i>	S7, Bern	6	December 2022

Species of Conservation Concern within 1km of the Site

Species of Conservation Concern within 1 km				
Common Name	Scientific Name	Legislation / Conservation Status	No. of Records	Most Recent Record
Birds				
Cormorant	<i>Phalacrocorax carbo</i>	WBAm(RSPB)	1	March 2021
Goldcrest	<i>Regulus regulus</i>	Bern, WBAm(RSPB)	4	2019
Great black-backed gull	<i>Larus marinus</i>	BDir22, WBR(RSPB), UKBAm(RSPB)	1	June 2016
Green woodpecker	<i>Picus viridis</i>	Bern, WBAm(RSPB)	1	May 2019
Greenfinch	<i>Chloris chloris</i>	Bern, WBAm(RSPB)	2	2021
Grey heron	<i>Ardea cinerea</i>	WBAm(RSPB)	2	April 2016
Grey wagtail	<i>Motacilla cinerea</i>	Bern, WBAm(RSPB), UKBR(RSPB)	2	2019
Lesser black-backed gull	<i>Larus fuscus</i>	BDir22, WBAm(RSPB), UKBAm(RSPB)	4	2021
Long-tailed tit	<i>Aegithalos caudatus</i>	WBAm(RSPB)	3	2019
Mallard	<i>Anas platyrhynchos</i>	BDir21, WBAm(RSPB), UKBAm(RSPB)	1	2021
Meadow pipit	<i>Anthus pratensis</i>	Bern, WBAm(RSPB), UKBAm(RSPB)	1	2019
Mistle thrush	<i>Turdus viscivorus</i>	BDir22, Bern, WBAm(RSPB), UKBR(RSPB)	3	2018
Southern cormorant	<i>Phalacrocorax carbo sinensis</i>	WBAm(RSPB)	1	2019
Swallow	<i>Hirundo rustica</i>	Bern, WBAm(RSPB)	1	May 2016
Swift	<i>Apus apus</i>	WBAm(RSPB), UKBAm(RSPB)	9	2020
Wheatear	<i>Oenanthe oenanthe</i>	Bern, WBAm(RSPB)	2	June 2021
Willow warbler	<i>Phylloscopus trochilus</i>	WBR(RSPB), UKBAm(RSPB)	2	May 2018

Invasive non-native species within 1 km of the Scheme

Invasive species within 1 km				
Common Name	Scientific Name	Legislation / Conservation Status	No. of Records	Most Recent Record
Birds				
Canada goose	<i>Branta canadensis</i>	BDir21, WCA9, INNS	2	2021
Invertebrates				
Harlequin ladybird	<i>Harmonia axyridis</i>	INNS	1	2015
Plants				
Bluebell	<i>Hyacinthoides non-scripta x hispanica</i> = <i>H. x massartiana</i>	INNS	1	June 2019
Butterfly-bush	<i>Buddleja davidii</i>	INNS	3	2019
Himalayan honeysuckle	<i>Leycesteria formosa</i>	INNS	1	June 2019
Japanese knotweed	<i>Fallopia japonica</i>	WCA9, INNS	2	June 2019
Montbretia	<i>Crocsmia pottsii x aurea</i> = <i>C. x crocosmiiflora</i>	WCA9, INNS	1	June 2019
Pampas-grass	<i>Cortaderia selloana</i>	INNS	1	June 2019
Rhododendron ponticum	<i>Rhododendron ponticum</i>	WCA9, INNS	1	March 2014
Snowberry	<i>Symphoricarpos albus</i>	INNS	1	2019

Legislation abbreviations

Legislation: Abbreviations			
BAP	UK Biodiversity Action Plan	UKBA	RSPB UK Birds Amber List (not based on IUCN criteria)
BDir1	EU Birds Directive Annexe 1	UKBR	RSPB UK Birds Red List (not based on IUCN criteria)
BDir2.1	EU Birds Directive Annexe 2.1	WBA	RSPB Welsh Birds Amber List (not based on IUCN criteria)
BDir2.2	EU Birds Directive Annexe 2.2	WBR	RSPB Welsh Birds Red List (not based on IUCN criteria)
Bern	Bern Convention on the Conservation of European Wildlife and Natural Habitats	WCA1.1	Wildlife & Countryside Act 1981 Schedule 1.1 (Birds which are protected at all times)
Bonn	Bonn Convention on the Conservation of Migratory Species of Wild Animals	WCA1.2	Wildlife & Countryside Act 1981 Schedule 1.2 (Birds which are protected at certain times)
BRG	Bridgend County Borough Council Local Biodiversity Action Plan	WCA5	Wildlife & Countryside Act 1981 Schedule 5 (Animals which are protected from killing and taking, possession, disturbance and sale)
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora	WCA8	Wildlife & Countryside Act 1981 Schedule 8 (Plants which are protected)
EPS	European Protected Species	WCA9	Wildlife & Countryside Act 1981 Schedule 9 (Non-native animals and plants which are established in the wild)
HDir	EU Habitats Directive	WVP	IUCN Threat Listing of Welsh Vascular Plants
INNS	Invasive Non-native Species	LBAP (xxx)	Local Biodiversity Action Plan Species (see key below)
LBAP	Local Biodiversity Action Plan species for the listed area	LI(SEWBRcC)	Locally Important Species (as identified by local specialists) in SEWBRcC area.
LI	Locally Important within the listed area	LI (VC##)	Locally Important Species (as identified by local specialists) in Vice County ##
NRW	Natural Resources Wales Priority Species	LI (VC##, LS)	Locally Scarce in Vice County ##
PBA	Protection of Badgers Act 1992	LI (VC##, LR)	Locally Rare in Vice County ##
RD1(UK)	Red Data Book listing for the UK based on IUCN guidelines	LI (VC##, EX)	Extinct in Vice County ##
RD1(Wales)	Red Data Book listing for Wales based on IUCN guidelines	LI (VC##, UR)	Under Recorded in Vice County ##
RD2(UK)	Red Data Book listing for the UK not based on IUCN guidelines	##	Vice County number. For more information on Vice Counties please visit the BBS website. https://websites.rbge.org.uk/bbs/recording/vcmapping.htm
S7	Environment (Wales) Act 2016 (Section 7)		

Appendix C – Botanical Species List

A=Abundant C=Common F=Frequent O=Occasional R=Rare

Common name	Scientific name	ACFOR (L=Locally)
Semi-natural broadleaved woodland		
Grey willow	<i>Salix cineria</i>	A
Ash	<i>Fraxinus excelsior</i>	F
Hawthorn	<i>Crataegus monogyna</i>	F
Ash	<i>Fraxinus excelsior</i>	F
Apple species	<i>Malus</i> sp.	F
Holly	<i>Ilex aquifolium</i>	O
Wild privet	<i>Ligustrum vulgare</i>	O
Rowan	<i>Sorbus aucuparia</i>	O
Oak species	<i>Quercus</i> sp.	R
Understory		
Bramble	<i>Rubus fruticosus</i> agg.	A
Common ivy	<i>Hedera helix</i>	A
Hedge bindweed	<i>Calystegia sepium</i>	C
Rosebay	<i>Chamaenerion angustifolium</i>	O
Soft shield fern	<i>Polystichum setiferum</i>	O
Lady fern	<i>Athyrium filix-femina</i>	O
Ash (Saplings)	<i>Fraxinus excelsior</i>	O
Common ragwort	<i>Senecio jacobaea</i>	O
Selfheal	<i>Prunella vulgaris</i>	O
Wood dock	<i>Rumex sanguineus</i>	O
False brome	<i>Brachypodium sylvaticum</i>	O
Creeping thistle	<i>Cirsium</i>	O
Yorkshire-fog	<i>Holcus lanatus</i>	O
Bramble	<i>Rubus fruticosus</i> agg.	O
Herb-Robert	<i>Geranium robertianum</i>	O
Common vetch	<i>Vicia sativa</i> subsp. <i>segetalis</i>	R
Coniferous parkland/ scattered trees		
Leyland cypress	<i>Cupressus x leylandii</i>	F
Weeping willow	<i>Salix alba x babylonica</i>	R
Poor semi-improved grassland		
Yorkshire-fog	<i>Holcus lanatus</i>	F
Cock's-foot	<i>Dactylis glomerata</i>	F
Creeping bent	<i>Agrostis stolonifera</i>	F
Common bent	<i>Agrostis capillaris</i>	F
False oat-grass	<i>Arrhenatherum elatius</i>	O
Meadow foxtail	<i>Alopecurus pratensis</i>	R
Dandelion species	<i>Taraxacum</i> sp.	O
Creeping buttercup	<i>Ranunculus repens</i>	O
Ribwort plantain	<i>Plantago lanceolata</i>	O
Common nettle	<i>Urtica dioica</i>	O
Red clover	<i>Trifolium pratense</i>	O
Creeping buttercup	<i>Ranunculus repens</i>	O
Common ragwort	<i>Senecio jacobaea</i>	O
Daisy	<i>Bellis perennis</i>	O
Broad-leaved dock	<i>Rumex obtusifolius</i>	O
Wall		
Common ivy	<i>Hedera helix</i>	A
Hart's-tongue fern	<i>Asplenium scolopendrium</i>	O

Appendix D – Phase 1 Habitat Map Target Note (TN)

To be read in conjunction with Drawing 70115504-RED-74-XX-M2-L-3001.

TN No.	Description	Photograph
1	Brash pile within woodland with potential to support hibernating breeding and sheltering amphibians/ reptiles.	

REDSTART

Quest House,
St Mellons Business Park,
Fortran Rd,
St. Mellons,
Cardiff,
CF3 0EY

www.redstartwales.com

