PENNINE ecological

PRELIMINARY ECOLOGICAL APPRAISAL SURVEY REPORT

LAND AT RAKEBTOOM ROAD
READ
BB12 7RB

AUGUST 2024

Chartered Institute of Ecology and Environmental Management
CIEEM

25 YEARS

Arboricultural ASSOCIATION
Professional Member

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LAND AT RAKEBOTTOM ROAD
READ
BB12 7RB

A report for

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A report by

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1. INTRODUCTION

1.1 Reason for Survey

PENNINE Ecological were commissioned in July 2024 by Mark Doney to undertake a Preliminary Ecological Appraisal (PEA) of land off Rakebottom Road, Read, BB12 7RB central grid reference SD 76321 34952 (hereafter referred to as 'the site') (refer to Figure 1 for the red line boundary)

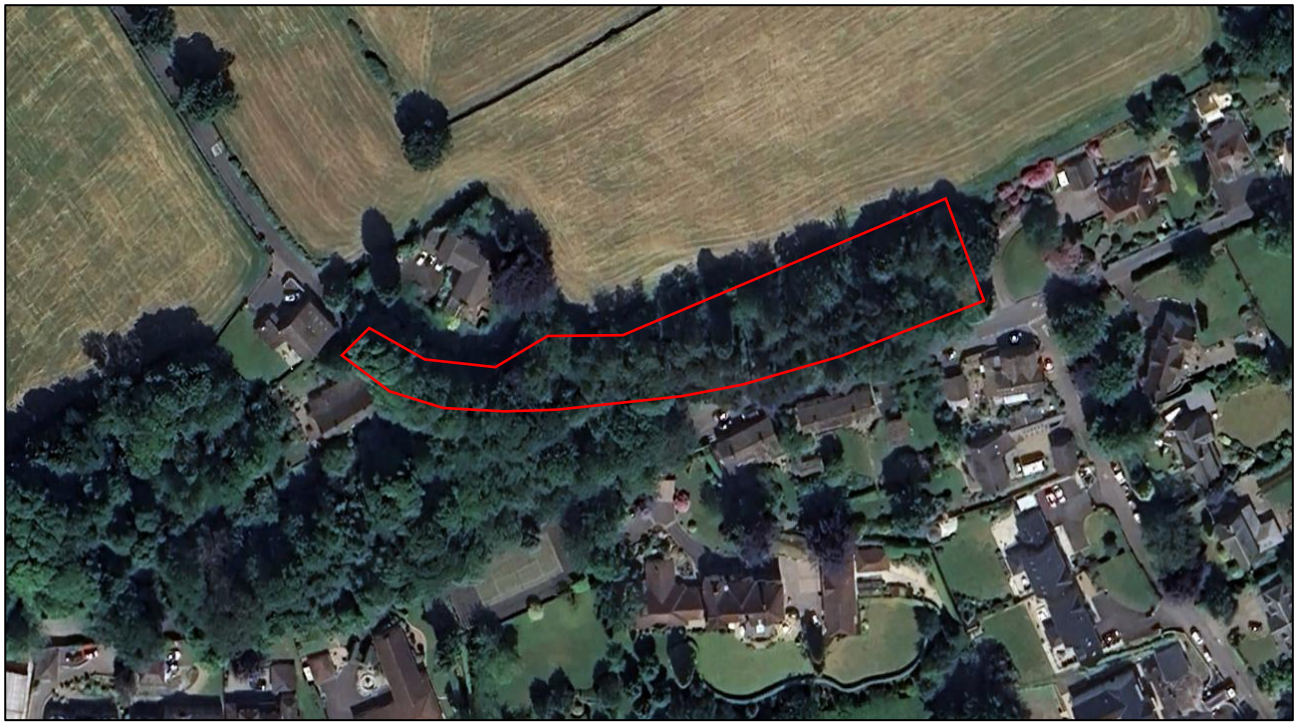

Figure 1 - Site location plan and approximate red line boundary.

The field survey, desk-based searches and subsequent report i.e., the study are required to support the submission of a planning application to construct a residential dwelling.

Figure 1 illustrates the approximate red line boundary of the site that was subject to a UK Habitat Classification survey (UKHabs, 2022) on the 24th July 2024. An accompanying habitat map is provided in Map 1, Appendix A and photographs of the site are included within Appendix B.

The study includes the following elements:

- A desk-based search of freely available online ecological information (e.g., Defra's MAGIC mapping tool, Google Earth, Ordnance Survey mapping etc.).
- A review of a previously commissioned ecology report by Bowland Ecology in 2020.
- A UK Habitat Classification field survey.

- Survey and evaluation of the site to support protected and/or notable species including but not limited to:
    - Badger.
    - Birds, including Schedule 1 listed species of the Wildlife and Countryside Act 1981 (as amended) (e.g., barn owl, hobby, kingfisher, etc.).
    - European Protected Species (e.g., all bat species (bats were excluded due to Gritstone Ecology completing a survey for the site prior to PENNINE ecological attending site – see later in the report for further details), great crested newt, otter, dormice etc.).
    - Where relevant, other protected species (e.g., water vole, common toad, brown hare, hedgehog, reptiles, etc.) listed in the Wildlife and Countryside Act 1981 (as amended), Section 41 of the Natural Environment and Rural Communities Act (NERC) 2006 (DEFRA, 2006), Birds of Conservation Concern 5 etc. (Stanbury *et al.,* 2021*)*.

The report provides a full evaluation of the ecological significance of the desk based and field survey results and includes recommendations for further survey if required and/or precautions when and where appropriate.

1.2 Site Location

The site is located approximately 500m and 650m to the north and north west of the villages of Read and Simonstone respectively. To the south of the site are Whins Lane, Hammon Drive and George Lane adjacent to which are numerous residential properties. To the immediate north of the site is an improved, pastoral grassland field. In the wider landscape grassland fields, again presumed to be pastoral, dominate the landscape. Hedgerows and tree lines border these fields with the occasional stretch of broadleaved woodland and areas of scattered trees identified throughout the landscape using aerial imagery.

The central Ordnance Survey National Grid Reference[1] for the site is SD 76321 34952.

[1] Ordnance Survey National Grid reference used throughout the report.

2. METHODOLOGY

The methodologies relating to desk-based searches and field surveys undertaken in July and August 2024 are outlined below.

2.1 Desk-Based Study

2.1.1 Defra's MAGIC Mapping Tool

The Multi Agency Geographical Information Centre (MAGIC) (www.magic.gov.uk) created by Defra was used to identify the following features of ecological interest (MAGIC was last accessed on the August 2024).

- Statutory designated sites (e.g., Local Nature Reserves (LNR), Special Protection Areas (SPA), Sites of Special Scientific Interest (SSSI)), Special Areas of Conservation (SAC) etc. within 2km of the site (includes associated SSSI Impact Risk Zones).
- Granted European Protected Species Licence Applications within 1km.
- Great Crested Newt (GCN) Class Survey Licence Returns within 500m.

2.1.2 Review of Historical Ecology Reports for the Site

A survey of the same site was conducted by Bowland Ecology in 2020. A 'Preliminary Ecological Impact Assessment' was made of the site, with a site survey being conducted on the 11th February 2020. Where relevant information pertaining to the site is included, this will be referred to as and when required within this report. The survey and report by Bowland Ecology can be obtained from Mr. Doney upon request.

2.2 UK Habitat Classification System survey

A UK Habitat Classification survey (UKHabs, 2022) of the site was undertaken on the 24th July 2024. The survey was undertaken by Stuart Macpherson, an experienced ecologist of 14 years with experience of undertaking Extended Phase 1 Habitat surveys and UKHabs surveys on both smaller planning applications and large Nationally Significant Infrastructure Projects. He also holds survey licences for great crested newts, bats and barn owl and is a NPTC qualified tree climber.

Weather conditions during the survey were 21°C, clear skies, calm with no precipitation.

The site's habitats were fully mapped and where required was done so with reference to Stace (1997). Higher vascular plant species (where present) were recorded and given abundance values according to the standard DAFOR scale where: D is dominant, A is abundant, F is frequent, O is

occasional, and R is rare. Where appropriate the abundance values can be prefixed by the letter L (locally) or V (very), to provide more subtle biogeographical data.

2.3 Badger Survey

A badger survey was undertaken to identify evidence of badger utilising the site. Surveys were undertaken in accordance with Surveying Badgers (Harris *et al*., 1989) and Badger (Roper, 2010). The badger survey used standard techniques for establishing the use of the site by badger, and includes searches for evidence of badgers including:

- Setts.
- Pathways.
- Footprints.
- Latrines.
- Foraging areas.
- Scratching posts.
- Boundary searches for runs, pathways, and latrines.

2.4 Preliminary Roost Assessment for Bats

A preliminary bat roost assessment survey was undertaken in accordance with the Bat Conservation Trust's Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edn) Collins (2023). The survey was undertaken by Stuart Macpherson who is a Class 2 bat licensed ecologist (licence number 2021-10079-CL18-BAT). The survey included a survey for potential roost features (PRFs) within buildings, trees or any other structures which may support a bat roost (e.g., culverts, bridges, walls etc.) within the site boundary and which may be directly (or if relevant, indirectly) impacted on by the proposals. The site was also assessed for its suitability to support foraging and commuting bats.

2.4 Breeding Bird Habitat Assessment

Breeding birds were evaluated by an assessment of the sites habitats to support such activity and any evidence of current (e.g., singing, territorial displays etc.) or historic nesting (e.g., old nests) within hedgerows, trees, buildings etc. Habitats suitable for breeding birds could include but are not limited to buildings, scrub, hedgerows, woodland and individual trees. The assessment includes those species listed in Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) e.g., barn owl, hobby, kingfisher, red kite etc.

2.5 Survey Constraints

The building on site was not inspected internally as it is used as an electric substation and access was not permitted. There were no further constraints to the survey.

3. RESULTS

The results of the desk-based searches, the UKHabs survey and the species-specific surveys are outlined below.

3.1 Desk-Based Searches

3.1.1 Statutory Designated Sites

There are statutory protected sites within 2km of the site, these are listed below with their respective distances (approx.) and directions from the site.

- Forest of Bowland Area of Outstanding Natural Beauty; 350m north of the site.
- Cock Wood Gorge SSSI; 1.6km southwest of the site.

The proposals lie within the SSSI Impact Risk Zone for the Cock Wood Gorge and Light Clough SSSI (2.7km north of the site), however, there is no ecological connectivity between the sites and the proposal do not meet any of the IRZ requirements, therefore, it is the opinion of PENNINE Ecological that further consultation with Natural England is not required.

3.1.2 Protected and/or Notable Habitats

Using the Magic database, there are numerous woodland blocks that have been categorised as Priority Habitats. The nearest is immediately to the south west of the site surveyed for this report.

It should be noted the woodland habitat recorded within the site boundary has not been categorised as Priority Habitat within the Magic database.

3.1.3 Protected and/or Notable Species

(a) Granted European Protected Species Licence Applications

There is one granted EPS licences within 1km of the site. The licence is immediately south of the site boundary and is presumed to be within one of the residential properties to the south of Whins Lane.. The licence reference number is 2015-10582-EPS-MIT and it was for the destruction of a common pipistrelle and whiskered bat resting place(s) respectively. The Licence Start Date was 20/08/2015 and the Licence End Date 30/04/2016. There was an amendment to this licence; reference number 2015-10582-EPS-MIT-1 with the start and end dates being revised to 16/12/2015 and 30/04/2016. No other details or reason was provided for the amendment.

(b) Great Crested Newt Class Survey Licence Returns

There are no GCN licence returns within 500m of the site.

3.1.4 Review of Historical Ecology Reports for the Site

(a) Bowland Ecology (2020)

Biological Heritage Sites

The desk study data obtained by Bowland Ecology identified three BHS within the search area of 1km, these are listed below with reasons for designation.

- Read Heights Pasture BHS; situated 0.5km north east of the application boundary, the site consists of a large area of species-rich, semi-natural, neutral grassland field.
- Bridge Hey Wood BHS; a woodland which is semi-natural in character located 0.6km to the south west of the site.
- Brocklehurst Wood BHS; a small, semi-natural clough situated alongside Sabden Brook, 0.9km west of the site.

3.2 UK Habitat Classification Survey

3.2.1 General Description

The site measured approximately 0.28 hectares. It was dominated by mixed woodland on ground that was sloping on average approximately 40 to 45 degrees from north to south towards Whins Lane. There was a dense understory to the woodland in places, conversely small clearing were also present.

An electric substation building was recorded on the far eastern boundary of the site. This building was assessed externally for it suitability to support roosting bats. However, due to it use, internal access was not possible.

The site boundaries comprised a dry stone wall along the southern boundary and post and wire fence along the northern boundary.

The habitats recorded within the red line boundary of the site are listed below (UKHabs codes are used where relevant).

- w1h Other woodland – mixed.
- u1b Developed land; sealed surface.
- u1b5 Buildings

- u1e Built linear features (secondary code; 114 Dry stone wall).

3.2.2 Target Notes

The following is a description of the two Target Notes which are pertinent to the proposals.

- Target Note 1 – Woodland.
- Target Note 2 – Electric substation building.
- Target Note 3 – Rabbit warrens.
- Target Note 4 – Invasive Species.

Target Note 1 - Woodland.

Woodland dominated the entirety of the site. The woodland canopy species recorded included horse chestnut (O), sycamore (F), oak (O), silver birch (O), ash (O), beech (F), copper beech (R), larch (LA), leylandii (O), Western hemlock (O). The understory comprised holly (F), laurel (LA), elder (R), elm (O), yew (R), rowan (R), and hawthorn (R). The ground layer species recorded included nettle (LA), wood avens (A), herb Robert (F), honeysuckle (LA), cleaver sp. (F), broad-leaved dock (O), hawksbeard (O), bluebell (LA), hart's tongue fern (O), male fern (O), willowherb sp (LA), Enchanter's nightshade (LA), rose (R), hogweed sp. (LA), bramble (LA), cow parsley (LA).

Other species recorded, particularly along the southern boundary of the site were likely garden escapes from nearby residential properties. The species recorded included Siberian dogwood (R), barberry (R), periwinkle (R) and privet (R).

Target Note 2 – Electric substation building.

An electric substation building was assessed for its suitability to support roosting bats. The building was located at grid reference SD 76373 34962. The substation building was of stone construction and measured approximately 9m x 6m and 7m tall. The roof was single pitched and comprised what appeared to be Welsh slate tiles. The roof was densely covered with moss that had presumably formed over many years.

The building is not to be impacted on by the proposals, however, for completeness an assessment of the building's suitability to support a bat roost was undertaken. Potential ingress/egress locations recorded throughout the building included the following;

- Gaps between the stonework and wooden fascia on the building's western elevation.
- Gaps surrounding the two wooden doorways on the building's western elevation.
- Gaps directly beneath the ridge tiles on the building's western elevation.

- Gap between the large wooden door lintel and stone work.
- Missing stone work and mortar on the building's northern elevation.

The southern and eastern elevations were covered in dense vegetation as such it made it difficult to assess the building for any ingress/egress locations. Even if present, the dense vegetation would likely be unfavourable for bats as their flightpaths would be severely restricted.

The building is to be considered to be of least moderate suitability to support roosting bats. If the building is to be adversely impacted on by the proposals then an internal survey is required to assess features which may support bats. Should this occur, this may potentially lead to the building's suitability being increased to high.

Target Note 3 – Rabbit warrens.

A small rabbit warren was recorded at grid reference SD7628734946. It didn't appear to be in use and was not consistent with badger.

Target Note 4 – Invasive Species

Four non-native invasive species listed in Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) were recorded within the woodland. The species along with their locations are listed below.

- Cotoneaster; SD7626934948.
- Rhododendron; SD7628834946, SD7632434955 and SD7636234971.
- Yellow archangel; SD7633734957.
- Himalayan balsam; SD7630634957

3.3 Protected Species Survey Results

3.2.3 Badger Survey

No setts, paths, footprints and/or guard hairs etc. from badger were recorded within the red line boundary albeit the slope of the site and woodland habitat is synonymous with badger inhabitation. As is described in Target Note 3, an inactive rabbit warren was recorded within the woodland. This was not at all consistent with use by badger being very narrow and maximum of 10-15cm in height.

3.2.4 Preliminary Roost Assessment (PRA) for Bats

The building on site had at least moderate suitability to support roosting bats, refer to Target Note 2 for further details.

No trees on site were recorded as comprising features to support a bat roost.

Additionally, the woodland habitat is excellent bat foraging habitat comprising a vegetation structure that is likely to support a good invertebrate population. Furthermore, the woodland is connected to other woodland blocks that have been categorised as Priority Habitat in the Magic database meaning the expanse of good quality bat foraging habitat e.g., tree lines, woodland edge etc. can be found throughout the surrounding landscape.

3.2.5 Breeding Bird Habitat Assessment

The woodland is optimal bird nesting habitat with a rookery being recorded at grid reference SD7629434956. No other evidence of breeding bird was recorded however, it is highly likely that birds will use the woodland for breeding. Species recorded using the woodland during the survey included bullfinch, greenfinch, nuthatch, wren, blue tit and blackbird although there is certainly more species that would use the woodland throughout the bird nesting season.

3.4 Other Protected Species

Issues in relation to other potential protected species where no specific survey was undertaken are assessed in the following section.

4. ECOLOGICAL EVALUATION & RECOMMENDATIONS

Where relevant, this section evaluates the site in relation to statutory sites, and protected habitats/species listed in national and local legislation and policy.

4.1 Statutory Designated Sites

(i) Evaluation

There are two statutory protected sites is one statutory protected site within 2km of the site; the Forest of Bowland Area of Outstanding Natural Beauty; 350m north of the site and Cock Wood Gorge SSSI which is 1.6km southwest of the site. Due to the proposals being very localised and no ecological connectivity to either statutory protected site there will be no adverse impacts on either.

The proposals lie within the SSSI Impact Risk Zone for the Cock Wood Gorge and Light Clough SSSI (2.7km north of the site), however, there is no ecological connectivity between the sites and the proposal do not meet any of the IRZ requirements, therefore, it is the opinion of PENNINE Ecological that further consultation with Natural England is not required.

(ii) Recommendations

No further recommendations.

4.2 Habitats and Higher Plant Species

(i) Evaluation

The site is dominated by mixed woodland habitat comprising mature trees and varied structure beneath. The proposals for a new dwelling will inevitably lead to a loss of woodland habitat which is likely to be an important resource for numerous other species including bats, birds and invertebrates.

Low distinctiveness habitats and above, in this case mixed woodland (medium distinctiveness) according to the Biodiversity Net Gain Defra Metric Calculator Version 4.0 need to be sufficiently compensated for. Therefore, it is recommended a formal Biodiversity Net Gain assessment is undertaken using Defra's Metric Calculator Version 4.0. There is potentially for the woodland to be significantly enhanced and planted with native tree species following the removal of non-native invasive species such as rhododendron which was recorded throughout the woodland. A run of the metric calculator would have to be undertaken before any specific recommendations can be made.

Himalayan balsam, rhododendron, yellow archangel and cotoneaster were recorded within the site, recommendations for their control are detailed below as each is listed in Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) which makes it illegal to intentionally cause the spread of the plants into the wild.

(ii) Recommendations

The deciduous woodland immediately to the south east of the site is a Habitat of Principal Importance. Appropriate pollution prevention measures will be adhered to throughout site clearance to ensure this habitat is not negatively affected by the proposed application. Currently there is no published guidance available in England, however the Scottish Environmental Protection Agency (SEPA), Natural Resources Wales (NRW) and Northern Ireland Environment Agency (NIEA) have recently published updated guidance (NetRegs, 2018). In the absence of any guidance in England it is advised that the information published on the NetRegs website is adhered to during the works. The information provided is considered recognised good practice and the most up to date guidance currently available. Examples of suitable mitigation that can be adopted during site clearance and construction includes;

- Maintaining high standards of housekeeping;
- Dampening down working areas in dry periods;
- Using covered wagons and skips; and
- Keeping roads clean with the use of road sweepers

The key recommendation with regards non-native invasive species is that spoil/soil or material that comprises each of the species listed above must not be removed from the site (and in doing so potentially spreading the plant in areas not yet colonised by the species), including any parts of the plant. The owner/occupier of the site should aim to control and manage the species as best they can following the guidance below in the website link. If spoil is to be removed from the site, this will need to be sent to an Environment Agency approved site.

Further, more detailed information on Himalayan balsam is provided on the following government website; https://www.gov.uk/guidance/prevent-the-spread-of-harmful-invasive-and-non-native-plants.

4.3 Badger

(i) Evaluation

Badgers are protected under Schedule 6 of the Wildlife and Countryside Act 1981, and under the Protection of Badgers Act 1992, which prohibits deliberate interference with the animal or its sett.

Further information is available at https://www.gov.uk/guidance/badgers-protection-surveys-and-licences.

No evidence of badger was recorded during the surveys.

(ii) Recommendations

No further recommendations required.

4.4 Bats

(i) Evaluation

In England, the main pieces of legislation pertaining to the protection of bats in the UK are The Conservation of Habitats and Species Regulations 2017 (as amended); the Wildlife and Countryside Act 1981 (as amended) and The Environmental Damage (Prevention and Remediation) (England) Regulations 2015. For further information and direction to further legislation relevant to bats please refer to Collins, J. (ed.) (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edn) Bat Conservation Trust.
There substation within the site was deemed to be of moderate suitability to support roosting bats. However, the building is not to be affected by the proposals, so no further surveys are required.

No other structures or trees on site were found t comprise features that would support a bat roost so no further surveys required.

(ii) Recommendations

Whilst a bat roost hasn't been confirmed within the site, the mixed woodland is optimal bat forging habitat. Therefore the proposals should consider the following.

External lighting

In all cases illumination of the site should be avoided/kept to a minimum. Where lighting is required, this must be low level, low intensity and directed downwards away from boundaries. The following principles will apply.

- Where and if lighting is required, this will be directed internally within the site avoiding any light spillage and only implemented where required.
- Lights must be fitted with cowls / covers that will direct the light downwards and only illuminate the areas required e.g., around entrances of the house.

- If required, lights will be fitted with timer controls that minimise the duration of lighting. Recommended timings are 30 minutes after sunrise and at sunset.

Lighting requirements will follow guidance provided by the Bat Conservation Trust; links are provided below.

- Bat Conservation Trust's Acritical Lighting Guidance. Webpage link https://www.bats.org.uk/our-work/buildings-planning-and-development/lighting
- Bat Conservation Trust and Institute of Lighting Professionals Guidance Note 08/23: Bats and Artificial Lighting in the UK. Webpage link https://theilp.org.uk/publication/guidance-note-8-bats-and-artificial-lighting/

Integrated bat box

The Habibat Bat Box (Figure 2) is a solid box made of insulating concrete with internal roosting space. The box blends seamlessly into brick-built properties and may be incorporated into the fabric of buildings, being best placed on gable elevations.

Figure 2 – Habibat bat box

Ridge access

Where appropriate, ridge tile access should be made with the incorporation of traditional Bitumen 1F underfelt immediately beneath ridge tiles (Figures 3 and 4). Breathable BRM membrane can cause significant problems where bats are in contact with it, whereby their fine claws become entangled within the fibres of the membrane, entrapping, and killing bats.

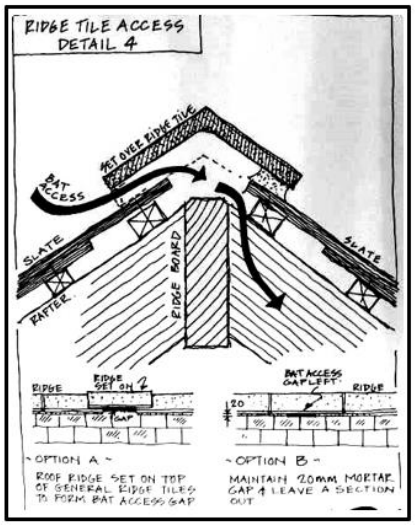

Figure 3 – Ridge access

Figure 4 – Breathable membrane

Soffit access

Where soffits are instated at gable elevations, roost provision may be instated in the form of a soffit bat box with internal roosting space.

Externally fitted boxes

A large number of externally fitted box models for bats exist for buildings. Suitable models for both buildings and trees may include the Eco Kent Bat Box (Figure 5) or a soffit bat box (Figure 6).

Figure 5 – Eco Kent Bat Box

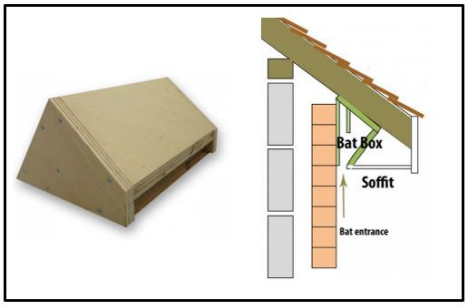

Figure 6 – Soffit bat box

4.6 Birds

(i) Evaluation

All birds are offered various levels of protection under the Wildlife and Countryside Act (1981) as amended (e.g., barn owl) and Section 41 of Natural Environment and Rural Communities Act 2006.

The grassland is highly unlikely to support ground nesting breeding birds particularly due to the daily disturbance from grazing livestock. The willow trees recorded on site may provide suitable nesting habitat for commonly occurring birds, however, given the survey was undertaken during the peak breeding bird season and no evidence was found, it is unlikely birds have or will in the near future use the trees for breeding when there is more suitable habitat i.e., dense woodland in close proximity to the site.

(ii) Recommendations

No strategic bird surveys are required.

Any removal of vegetation should take place outside of the breeding season, i.e., between September 1st and February 28th. Following the removal, any piles of brash should be removed from the site, failure to do so could provide potential nest sites if left in situ until the following breeding season.

If vegetation removal is envisaged during the breeding season, prior to removal checks should be made immediately prior to any clearance by a suitably experienced ecologist to establish any nesting or breeding activity. Should it be identified that birds are nesting or breeding then works should be paused until the young have naturally fledged the nest.

The proposals may consider improving nesting opportunities for birds on site by erecting nesting boxes on proposed buildings. Numerous boxes are widely available for a variety of species, examples of boxes include the following:

- 1B Schwegler nest box; likely to be used by a range of species and are durable, long-lasting boxes.
- Vivara Pro Seville 32mm WoodStone Nest Box – The material used is long lasting and is unlikely to rot like wood constructed equivalents and are available for numerous species such as tit species, house and tree sparrow, nuthatches, pied and grey wagtail, song thrush and blackbirds

4.6 Other Protected Species

To avoid impacts to hedgehog Species of Principal Importance and other small mammals the following will be undertaken throughout the duration of the construction period:

- Excavations that need to be left overnight will be covered or fitted with mammal ramps to ensure that any animals that enter can safely escape;
- Excavations will be backfilled as soon as possible to minimise the potential for animals to become trapped. Any debris from works should not be left on site; and

- Any small mammals found within the works area during construction will be carefully relocated to a sheltered location with plenty of vegetation cover, in an area off site which will remain undisturbed.

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Appendix A: Figure 1 - UK Habitat Classification Survey Plan

Appendix B: Site Photographs 24th July 2024

Photograph 1: Typical example of the woodland.

Photograph 2: Example of woodland floor.

Photograph 3: Example of mixed woodland canopy.

Photograph 4: Rhododendron smothering the woodland floor.

Photograph 5: Rookery.

Photograph 6: Yellow archangel, one of four non-native invasive species recorded in the woodland.

Photograph 7: Substation in the eastern section of the site – not to be affected by the proposals.

Photograph 8: Northern aspect of the substation, missing stonework/mortar provide numerous locations for roosting bats.

Photograph 9: Gap between fascia and stonework on substation which could be used by bats to access the building.

Photograph 10: Gap above doorway on substation which could be used by bats to access the building.

Photograph 11: Site enrance.

Photograph 12: Whins Lane