FIELDOLOGY WORKS
RURAL GRANTS AND ECOLOGY EXPERTS


December 2024

# Preliminary Ecological Appraisal

**Land at**
**Burn House, Clitheroe,**
**BB7 3EE**

**Report Ref. F122 / Final**

FIELDOLOGY WORKS
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# PRELIMINARY ECOLOGICAL APPRAISAL

Land at
Burn House, Clitheroe,
BB7 3EE

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| Client: | Stuart Hartley |
| Report status: | Final |
| Issue Date: | 14.01.2025 |
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## NON-TECHNICAL EXECUTIVE SUMMARY

Fieldology Works Ltd were appointed to complete Preliminary Ecological Appraisal of land located at Burn House, Clitheroe, BB7 3EE, “the site”. The objectives of the assessment were to identify habitats on site and determine the suitability for any ‘protected and/or notable’ species that may occur on site. Ecological mitigation recommendations have been provided to aim to minimise potential impacts on ecology, due to the proposed development. Following the survey work, the key recommendations are summarised in the following table.

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| **Proposed Development** | A holiday accommodation development scheme comprising an access road, 4 camping pod units and a foul water treatment area is proposed at the site as per “Site Layout” dated 12th December 2024. |
| **Current Site Use and Adjacent Site Use.** | The site mainly comprises ‘Other Woodland mixed, bramble scrub’ and acid grassland with a drainage ditch running through the site. The surrounding area comprises agricultural land and holiday accommodation, with ‘Other Woodland’ and species rich grassland habitats. |
| **Potential Impacts on Designated Sites** | 60 statutory sites/habitats are located within 2km of the site and there are a further 6 non statutory locally designated sites. The ‘site’ is surrounded by agricultural fields and the designated sites are not adjacent to the site. It is anticipated that the designated sites are a sufficient distance away from the site, such that no impacts as a result of development are expected. |
| **Habitats** | The site comprises predominantly Other Woodland, acidic and modified grassland and bramble scrub. There are areas of young planting, two drainage ditches run through the site and one small ‘utility’ building in the north western corner. |
| **Ecological Constraints** | The following potential ecological constraints were identified during the assessment:<br>● The site contains open glades of acidic grassland, providing the woodland habitat with regenerative areas. These habitats could be enhanced/protected. The ditch habitat may provide an ecological niche.<br>● The site may provide migratory pathways for amphibians and reptiles.<br>● All of the trees and the building are assessed as having low bat roosting and hibernation potential.<br>● The site borders a deciduous woodland, this is classed as a Priority Habitat Inventory (National Forestry Inventory 2020). |

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| **Recommended Ecological Mitigation** | The following mitigation measures are recommended to minimise potential impacts due to the proposed development:<br>● Commence work in the winter.<br>● If trees require removal and/or works to be completed near trees, it is recommended that consultation is sought with an appropriate arborist.<br>● Tree protection measures during construction. All bramble cuttings to be removed off site and disposed of properly.<br>● Reasonable Avoidance Measures are to be followed during site clearance.<br>● Precautionary Working Methods during the construction phase for Flora and Fauna in Ecological Constraints.<br>● If any vegetation requires removal, it should be completed outside of the breeding bird season (March to September, inclusive). If this is not feasible, a Nesting Bird check is to be completed by a qualified ecologist within 48 hours before removal is completed.<br>● Lighting considerations during the construction and operational phases to minimise impacts to commuting and foraging bats, and other nocturnal species.<br>● Deadwood to be retained on site, if it should be moved create 'wildlife areas.'<br>● Careful removal of roof sheeting and boards over buildings. |
| **Recommended Further Surveys and Reports** | ● No further surveys for Bats, Water Vole or Great Crested Newt. |
| **Recommended Ecological Enhancements** | ● The project should aim to retain and if possible, enhance the areas of woodland currently on site.<br>● Any tree replacement planting at a ratio of 1: 3 to compensate for any loss.<br>● Planting to comprise of native species to attract wildlife, with consideration of local soil types and habitats.<br>● Bird nest boxes targeted for local bird species.<br>● Woodland glade areas are retained to provide commuting opportunities and connectivity to other habitats.<br>● Consider tree planting along western and eastern boundaries to improve foraging, navigation and commuting routes.<br><br>The National Planning Policy Framework (NPPF) (2021) highlights the requirement for planning policies and decisions to conserve and enhance the natural environment. The proposed development provides the opportunity to enhance the site and ecological enhancements have been recommended. South Ribble Council has a formal policy on Biodiversity Net Gain (BNG) and has recognised the future requirement of a minimum of 10% in biodiversity from developments. The proposed development should aim for a 10% gain in biodiversity and therefore a BNG assessment is recommended. |

# 1.0 INTRODUCTION

## 1.1 BACKGROUND TO THE SCHEME

Fieldology Works Ltd was commissioned by Stuart Hartley to undertake a Preliminary Ecological Appraisal (PEA) at land located at Burn House, Clitheroe, BB7 3EE (hereafter referred to as 'the site'). The proposed development is understood to include the construction of camping pods, an access track and a foul water treatment area. .

The authors of the report are Julie Wickington a Qualifying Member of CIEEM, BSc (Hons) Human Ecology and MSc Countryside Management and Gemma Coar, BSc (Hons) Geography and MSc Conservation Management, both have several years' experience in project development and ecological consulting for a range of schemes including residential, environmental enhancements and agriculture.

Mike Fisher has supported the surveying of the site in respect of bats (Bat Survey Licence Level 2 Class Survey Licence WML CL18 and Bat Roost Level 1 Class Survey Licence WML CL15).

## 1.2 SITE CONTEXT

The site is located off Back Lane, Clitheroe, (representative), approximately centred on National Grid Reference SD 6808 5274 and comprises a total area of approximately 0.438 Ha, It is within the rural area of Clitheroe, Lancashire, approximately 10.9 km north-west from the centre of Clitheroe.

Back Lane is located approximately 0.669km south-east of the site, with Woodhouse Lane located approximately 2.291km to the north-east of the site. Bowland Fell SSSI (Site of Special Scientific Interest) is located approximately 1.04km north-west of the site. Traditional farm buildings occupy the southern boundary adjacent to the site and there is a small wooden shed present in the National Forestry Inventory woodland adjacent to the north of the site.

Agricultural land is present to the north, east, south and west of the site, with an area of species rich grassland present on the south west of the site.

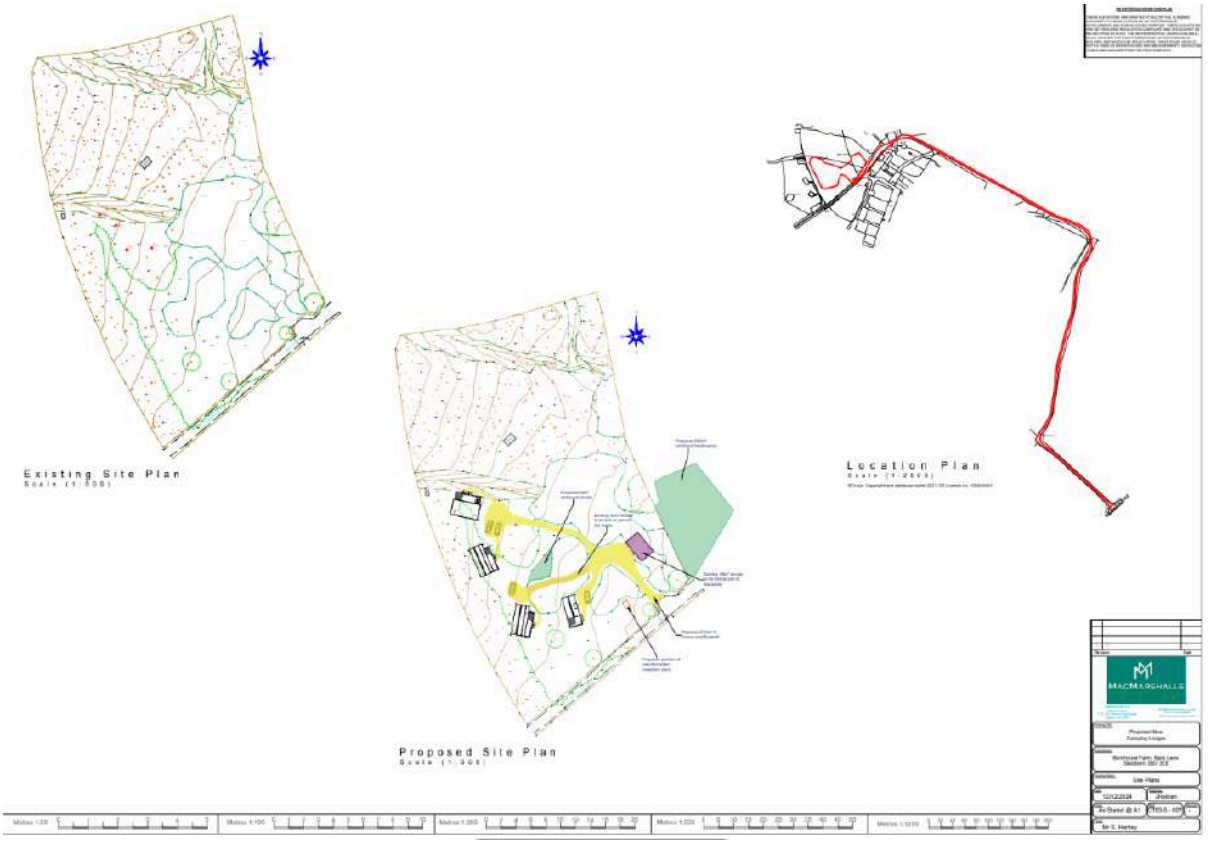



**Figure 1 Site Extent**

## 2.0 METHODS

The PEA assessment and report follows the good practice methodology as detailed within the guidelines for Preliminary Ecological Appraisal (CIEEM, 2019).

### 2.1 DESK STUDY

#### 2.1.1 Online resources and Local Records Centre

Due to the size and low impact of the proposed development and being located within a rural area of Clitheroe, a 2km Local Data Search was conducted as it is deemed an appropriate distance for the Zone of Influence. Sources of information used in the desk study are presented in Table 1.

Table 1: Desk study Sources of Information

| Source | Date Consulted | Information Sought |
|---|---|---|
| **Magic website** (www.magic.gov.uk) | 12/12/2024 | Locations of statutory designated sites within 2km of the site boundary.<br><br>Locations of the designated sites with the National SIte Network (Ramsar, Special Areas of Conservation (SAC) and Special Protection Areas (SPA)) within 5km of the site boundary.<br><br>Locations of European Protected Species Licences (EPSL) and Class Licences within 2 km. |
| **Natural England** (https://designatedsites/.naturalengland.org.uk/) | 12/12/2024 | Relevant statutory designated site citations. |
| **JNCC** (https://jncc.defra.gov.uk/) | 12/12/2024 | Information on European wildlife sites. Details of relevant Section 41 species and habitats. |

| | | |
|---|---|---|
| **Lancashire Environmental Records Centre** | 12/12/2024 | Locally designated wildlife sites within 2 km of the site boundary.<br><br>Records of protected and notable species within 2km of the site boundary. |
| **Central Lancashire Biodiversity and Nature Conservation Supplementary Planning Document** | 12/12/2024 | Species and habitats which are given special conservation status at the local level. |
| **NBN Atlas** **https://nbnatlas.org** | 12/12/2024 | Species biodiversity records. |

## 2.2 FIELD SURVEY

### 2.2.1 Vegetation

The site was subject to a field survey on 18th December 2024 and on the 22nd January 2025 by Ecologists Julie Wickington, Qualifying member of CIEEM, BSc (Hons), MSc, Gemma Coar BSc (Hons) and Mike Fisher (Bat licence Level 2 & Bat Roose Visitor Level 1). The weather conditions were 5.5 Degrees, overcast, light/heavy rain and gusty (38mph, winds Beaufort Scale 7) during the survey.

The methods were based on the standard methodology as detailed by JNCC Handbook for Phase 1 Habitat Survey (JNCC, 2010). A Phase 1 Habitat Plan has been produced to demonstrate habitats within the proposed development and the surrounding area. The mapping techniques are based on the Phase 1 Habitat Survey (JNCC, 2010) guidance. Habitat Condition Assessments were also carried out using the standard methodology as detailed by UK HAB Methodology to assess the condition of the habitats present.

Flora species listed as protected in the Wildlife and Countryside Act 1981 (as amended) and species which are indicators of important and/or uncommon habitats, were searched for during the survey. Species abundance is described using the DAFOR scale as shown in Table 2. Percentages are an approximate indication rather than a quantitative measure.

**Table 2: Key to Species Abundance**

| | | Description | Indicative Percentage Ranges |
|---|---|---|---|
| D | Dominant | Covers most of the area | 90% or greater |
| A | Abundant | Very common throughout the area | 50 - 90% |
| F | Frequent | Common or with many individuals | 20 - 50% |
| O | Occasional | Occurs in several places but not throughout. Populations are not large | 5 - 20% |
| R | Rare | Occurs in low numbers in relation to size of the area | Less than 5% |
| "L" is used to indicate abundance in a localised area e.g. LA = Locally abundant | | | |

### 2.2.2 Fauna

A site search for field signs of protected and notable fauna was undertaken, and incidental sightings are detailed. Searches completed were as follows:

- Suitability of any ponds to support notable and protected amphibians, and the suitability of site's terrestrial habitats to support amphibians.
- Suitability of the site to support reptiles by way of habitat structure and refuge piles, as well as links to the wider landscape.
- Search of any watercourses for signs or suitability for white clawed-crayfish (*Austropotamobius pallipes*), water vole (*Arvicola amphibious*) and otter (*Lutra lutra*) by way of burrows, resting places, holts and foraging signs.
- Suitability of the site to support notable bird species. Bird nests and droppings of notable and protected bird species.
- Suitability of the site to support notable invertebrates.
- Search of the site for any invasive species.
- Suitability of the sites terrestrial habitats to support protected mammals.
- Suitability of the site to support notable terrestrial mammals including harvest mouse (*Micromys minutus*) and brown hare (*Lepus europaeus*).
- Suitability of the site to support bats.

## 2.3 BAT ASSESSMENT

### 2.3.1 Preliminary Evidence and Opportunity Assessment

A number of factors are used for the survey methodology, which include:

- Knowledge of bat species relevant to the site location, and geographical range.
- Nature of the immediate and surrounding habitat, in relation to foraging opportunity.
- Presence/absence of roost potential.
- Value of roost potential - if present.
- Condition of nearby trees, shrubs and water bodies.

This current survey was undertaken in accordance with the standard methods described in the 'Bat Worker's Manual' (JNCC 2004) and Bat Surveys - Good Practice Guidelines' (BCT 2023). In order to assess the sire to determine its suitability for bats.

It comprised a Daytime Bat Walkover (BDW), including a daylight evidence and opportunity survey and assessment on the trees and targeted building, and these were searched for evidence of bat occupation (including recent and historic use), looking for either bats themselves, bat droppings, urine stains, remains of any invertebrate prey, or any grease marks from repeated contact, or passage by bats through narrow roose accesses, or any signs of bat occupation.

Areas of the target building searched were:

- Outside, the hut for signs of potential bat access holes, also upon the ground, doorway and any other nearby surfaces such as step or similar, which occurred underneath the eaves, or around the perimeter of the buildings, all of which may catch bat droppings.
- Inside all parts of the building, within any roof voids, upon roof trusses, on the floors, door lintels, or on furniture, pieces of equipment and other stored materials, also looking in spiders' webs and other places where droppings or prey remains may collect. Noting any noises such as scratching and squeaking, which may be made by roosting bats.

The optimum time to investigate buildings for evidence of a bat roost,is between May and September, however, this can be earlier or later in the year, and is weather and temperature dependent. However, preliminary evidence and opportunity assessment may be conducted outside of this time and can often provide conclusive results, which can save expense and time for Planning Applicants.

The habitats and any buildings, trees or shrubs surrounding the site, were assessed for their suitability for use by foraging and commuting bats.

The PRA methodology is based on information contained within the Bat Conservation Trust (BCT) guidelines, 3rd edition (Collins, 2016). The categorisation within this report is based on that set out in Table 3, which is used as a basis for determining the requirement for further surveys.

**Table 3: Suitability of Buildings and Trees for roosting Bats (Adapted from Collins, 2016).**

| Category of Suitability | Typical Characteristics | Further Survey Requirements |
|---|---|---|
| High Roost Suitability | A structure/tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat. | Three separate survey visits. At least one dusk emergence and a separate down re-entry survey.<br><br>Surveys can be undertaken between May and September, with at least two surveys between May and August. |
| Moderate Roost Suitability | A structure/tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but are unlikely to support a roost of high conservation status. | Two separate survey visits. One dusk emergence and a separate dawn re-entry survey.<br><br>Surveys can be undertaken between May and September with at least one survey between May and August. |
| Low Roost Suitability | A structure/tree with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate condition and/or suitable surrounding habitat to be used on a regular basis by larger numbers of bats. | Structures - one emergence/re-entry survey between May and August.<br><br>Trees: No further survey required but precautionary methods of felling recommended. |
| Negligible Suitability | Negligible habitat features on site likely to be used by roosting bats. | No further work required. |

### 2.3.2 Commuting and Foraging Bats

The site was assessed for its suitability for use by commuting and foraging bats. The commuting and foraging assessment methodology is based on information contained within the Bat Conservation Trust guidelines 4th edition (Collins, 2023). The categorisation within this report is based on that set out in Table 4, which is used as a basis for determining the requirement for further surveys.

**Table 4: Suitability of Site for Foraging and Commuting Bats (adapted from Collins J. (ed 2023)**

**Table 4.1. Guidelines for assessing the potential suitability of proposed development sites for bats, based on the presence of habitat features within the landscape, to be applied using professional judgement.**

| Potential suitability | Description | |
|---|---|---|
| | **Roosting habitats in structures** | **Potential flight-paths and foraging habitats** |
| None | No habitat features on site likely to be used by any roosting bats at any time of the year (i.e. a complete absence of crevices/suitable shelter at all ground/underground levels). | No habitat features on site likely to be used by any commuting or foraging bats at any time of the year (i.e. no habitats that provide continuous lines of shade/protection for flight-lines, or generate/shelter insect populations available to foraging bats). |
| Negligible[a] | No obvious habitat features on site likely to be used by roosting bats; however, a small element of uncertainty remains as bats can use small and apparently unsuitable features on occasion. | No obvious habitat features on site likely to be used as flight-paths or by foraging bats; however, a small element of uncertainty remains in order to account for non-standard bat behaviour. |
| Low | A structure with one or more potential roost sites that could be used by individual bats opportunistically at any time of the year. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions[b] and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity and not a classic cool/stable hibernation site, but could be used by individual hibernating bats[c]). | Habitat that could be used by small numbers of bats as flight-paths such as a gappy hedgerow or unvegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat.<br>Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub. |
| Moderate | A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions[b] and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only, such as maternity and hibernation – the categorisation described in this table is made irrespective of species conservation status, which is established after presence is confirmed). | Continuous habitat connected to the wider landscape that could be used by bats for flight-paths such as lines of trees and scrub or linked back gardens.<br>Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water. |
| High | A structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions[b] and surrounding habitat. These structures have the potential to support high conservation status roosts, e.g. maternity or classic cool/stable hibernation site. | Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by bats for flight-paths such as river valleys, streams, hedgerows, lines of trees and woodland edge.<br>High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland.<br>Site is close to and connected to known roosts. |

**a** Negligible is defined as 'so small or unimportant as to be not worth considering, insignificant'. This category may be used where there are places that a bat could roost or forage (due to one attribute) but it is unlikely that they actually would (due to another attribute).

**b** For example, in terms of temperature, humidity, height above ground level, light levels or levels of disturbance.

**c** Evidence from the Netherlands shows mass swarming events of common pipistrelle bats in the autumn followed by mass hibernation in a diverse range of building types in urban environments (Korsten *et al.*, 2016 and Jansen *et al.*, 2022). Common pipistrelle swarming has been observed in the UK (Bell, 2022 and Tomlinson, 2020) and winter hibernation of numbers of this species has been detected at Seaton Delaval Hall in Northumberland (National Trust, 2018). This phenomenon requires some research in the UK, but ecologists should be aware of the potential for larger numbers of this species to be present during the autumn and winter in prominent buildings in the landscape, urban or otherwise.

### 2.3.3 Trees and Shrubs - roosting potential

To assess a woodland's tree's value for roosting bats, Table 5 below was used to assess the trees.

**Criteria for Assessment of Trees in accordance with Category 1 - 3 as defined in Table 8.4 of 'Bat Surveys: Good Practice GUidelines 2nd Edition (Hundt, L. 2012).**

| CATEGORY | DESCRIPTION | CRITERIA |
|---|---|---|
| **Known or Confirmed** | Confirmed roost | Confirmed roost<br>Evidence found that indicates tree/tree features are being used by bats.<br>Droppings found at the base of the tree, below a cavity.<br>Bats heard 'chattering' inside a feature on a warm day or at dusk<br>Bat(s) observed flying from or to a feature. |
| **1*** | Very high value | Trees with multiple, highly suitable features capable of supporting larger roosts.<br>Features of particular significance, suitable for high priority roosts such as maternity roosts, used by large numbers of bats, offering conditions that are uncommon or rare in the local area.<br>Features such as large cavities, extensive branch or trunk splits, also including multiple features in the same tree that offer a diversity of opportunities.<br>Features may also include dense ivy. |
| **1** | High value | Trees with definite bat potential supporting fewer suitable features than category 1* trees or with potential for use by single bats.<br>Features which provide a more secure form of roost for small groups of bats and individuals, but may still be quite common types of feature, such as small cavities, minor splits or sparse ivy cover. |
| **2** | Moderate value | Trees with no obvious potential, although the tree is of a size and age that elevated surveys may result in cracks or crevices being found; or the tree supports some features which may have limited potential to support bats.<br>A tree which on close inspection the potential roost positions are in some way not ideal. They could be upward facing or holes very low down or cluttered by adjacent branches. |
| **3** | Low/Negligible value | Trees that have no features which could be used by bats for roosting (Usually young trees). |

### 2.3.2 Equipment

Equipment used consisted of close-focus binoculars, camera, powerful handheld torches and a separate Darkbeam LED ultraviolet flashlight.

## 2.4 Amphibians - Great Crested Newts

Following current best practice considering the partial roll out of District Level Licencing (DLL) across England and based on likely effects, a proportionate assessment of the water bodies (range within 250m from site) has been applied. Where a development is anticipated to affect GCN the search can be extended up to 500m or more. As the development is not anticipated to affect GCN the assessment area is 250m.

The GCN Habitat Suitability Index (HSI) is a quantitative measure of habitat quality evaluating the suitability of habitat for GCN. The HSI outputs a result of between 0 and 1, derived from an assessment of ten habitat variables known to influence the presence of newts, with a result of 1 being optimal habitat (high probability of occurrence), while an HSI of 0 is very poor habitat (minimal probability of occurrence). The HSI is calculated on a single pond basis but takes into account surrounding terrestrial habitat and local pond density. The tool is particularly useful in survey and mitigation; one benefit is that it can be undertaken in a single field visit (with supporting desk work) and at any time of the year (though some variables are more easily measured in spring and summer).

Its main uses are:

- In surveys, to assess habitat quality in a repeatable, objective manner. In particular, the HSI allows individual factors that influence newt presence to be easily identified. These factors could help explain a very high or very low count. A high HSI can justify employing additional survey effort or methods if no newts are found initially.

- In impact assessments, to allow a measure of how damaging a development could be. HSI might also be used as a screening tool to select no impact or minimal impact options.

- In risk assessments, helping to decide whether an offence might be committed, and therefore whether a licence should be applied for. If a pond has a very low HSI score (say <0.5) then there would typically be a minimal chance of GCN presence. Hence, with due care and in limited circumstances the HSI might be used in the absence of newt surveys to help conclude that an offence is highly unlikely and therefore work could proceed in that area without a licence. This application of the HSI should only be used where the predicted impacts - were newts to be present - would be low (e.g. development at least 100m from pond, permanent habitat loss <0.5ha or temporary habitat loss <5ha).

- The developer should be aware that there would still be a risk of committing

an offence, but it would typically be so low as to be negligible. Obviously, note that if HSI >0.5, this is not confirmation of newt presence; a newt presence/absence survey would be required to confirm this.

- In habitat enhancement, HSI could be used to identify the low-scoring factors in an existing pond that need addressing to improve its quality for newts.

- In post-development monitoring, to allow an assessment of habitat condition.

GCN HSI Limitations:

The GCN HSI is not a substitute for undertaking newt surveys; it indicates but cannot confirm presence or absence of GCN. A licence application that infers GCN presence solely from HSI data (i.e. no newt survey data presented) will be rejected.

Very low HSI scores may be used along with scheme details to infer a minimal chance of committing an offence in low impact situations. This is on a risk assessment basis and developers should be aware of the potential hazards of this approach. Care should be taken when interpreting low HSI scores; for example, a low scoring pond close to an occupied newt pond may still support newts.

The site and surrounding habitats were also assessed relative to their potential to offer suitability for wider, generalist amphibians, in addition to GCN, for example common toad (Bufo bufo) and common frog (Rana temporaria).

During the desk study (Section 3.3.4) Magic Maps identifies 6 ponds in a 250m radius, 9 ponds within a 500m radius of the Site, and an additional 4 ponds when extended to a 1000m radius. No ponds exist within the redline boundary. The ditch watercourse is not a statutory river.

## 2.5 Constraints to the Survey

Whilst every effort has been made to provide a comprehensive description of the site, no investigation could ensure the complete characterization or prediction of the natural environment.

This PEA does not constitute a full botanical survey. The protected species assessment provides a view of the likelihood of protected species occurring on the site based on the known distribution of species in the local area and the suitability of the habitat.

December is a suboptimal time for carrying out a Phase 1 Habitat Survey due to being outside of the optimal plant growing season. Therefore it is likely that some plants are present on the site but were not evident at the time of the survey and were not recorded. This is not considered to be a significant constraint with regards to the general Phase 1 Habitat Survey results as the habitats remained consistent with previous surveys, and due to the size and location of the site, and limited extent of the habitats, it is considered very unlikely that any rare or priority plant species were missed. It should not, however, be taken as providing a full and definitive survey of any protected species group.

Where a lack of records is found during the desk search for a defined geographical area, it does not necessarily mean that there is a lack of ecological interest; the area may be simply under-recorded.

The conclusions and recommendations detailed in this report are based upon the site redline boundary and the development proposals as outlined by the client at the time of writing. Should there be any changes to the site redline boundary or development proposals at a later stage, this assessment should be reviewed to determine whether any amendments or additional survey work is required.

The findings of this report represent the professional opinion of qualified ecologists and to not constitute professional legal advice. The client may wish to seek professional legal interpretation of the relevant wildlife legislation cited within this document.

Sample grid references provided by the record centre (detailed in Section 3.1.3) in some circumstances returned a wide area in which the record was located (such as grid reference SD6808. With these records, an accurate distance of the species cannot be fully ascertained, and records have been labelled 'within 2km' where appropriate.

## 2.5 Lifespan of Report

In accordance with CIEEM's Advice Note on the Lifespan of Ecological Reports and Surveys (CIEEM, 2019), the details of this report will remain valid for a period of 18 months from the date of the survey (i.e. until 21.07.26). After this date, this assessment should be reviewed to determine whether any updated surveys are required.

## 2.6 Definitions

For the purposes of this report, the term 'protected and notable species' relates to:

- Species included on Schedules 2 and 4 of The Conservation of Habitats and Species Regulations 2017;
- Species included on Schedules 1,5 and 8 of The Wildlife and Countryside Act 1981 (as amended), excluding species that are only protected in relation to their sale (see section 9(5) and 13 (2);
- Invasive non-native species included on Schedule 9 of The Wildlife and Countryside Act 1981 (as amended).
- Species of principal important for the conservation of/maintaining and enhancing biodiversity as required under: Section 41 of the Natural Environment and Rural Communities Act 2006 (England), Section 7 of the Environment (Wales) Act 2016, Section 2 [4] of The Nature COnservation (Scotland) Act 2004;
- Local species of importance as identified within various local biodiversity action plans; and,
- Badgers, which are protected under the Protection of Badgers Act 1992.

# 3.0 BASELINE ECOLOGICAL CONDITIONS

## 3.1 DESK SURVEY

### 3.1.1 Site Location

The site is located in a rural area  of Back Lane, approximately 10.9km south-east from the centre of Clitheroe. Agricultural land is present to the north, west, south and east of the site, with a species rich grassland present to the west and farm buildings in the south. Further, north of the site is Bowland Fell (Beatrix Fell) SSSI with acidic grassland and dry heath habitats.

Burn House Clough is present approximately 0.599km west of the site, along with Eller Beck to the west (0.598km). It is anticipated that Eller Beck will provide suitable foraging, resting and commuting resources within the local area for a variety of wildlife, such as birds, bats,fish and other aquatic and terrestrial mammals.

### 3.1.2 Designated and Non Designated Sites

There are 6 statutory sites located within 2km of the site. The development site is situated within The Forest of Bowland AONB (area of outstanding natural beauty). AONBs are designated areas under the Countryside and Rights of Way Act 2000.

There are 2 Natura 2000 sites within the 2 Km boundary.  Bowland Fells the nearest is located North West (1.02km) away from the site and North Pennine Dales Meadows is located North East (1.95 km).

A Special Area of Conservation (SAC) - The North Pennine Dales Meadows - is located 1.9km east of the Site. This SAC spans 4.92ha and comprises a series of isolated fields with Molinia meadows (mountain hay meadows) on calcareous, peaty or clay-silt fields. A wide range of rare and local meadow species can be found including Globe flower, Lady's mantle and Spignel. A Special Area of Conservation (SAC) is land designated under Directive 92/43/EEC on the conservation of natural habitats and of wild flora and fauna.

Bowland Fell (Beatrix Fell, Area 44) SSSI is positioned 1.3km northwest of the Site, spanning 202ha in size. The condition of this SSSI is unfavourable, recovering. It consists of acid grasslands, dry heath, areas of mature heather (which could provide habitat for raptor species), blanket bog, eroded peat areas, flushes and scattered Coniferous trees. Stocking levels are appropriate for the habitat. Bowland Fell (Croasdale Fell, Area 21) SSSI is positioned 1.8km northwest of the Site, spanning 774ha in size. The main habitat of this SSSI is dwarf shrub heath. Both SSSI areas are designated as Special Protection Areas (SPAs), forming land classified under Directive 79/409 for the conservation of wild birds. The development Site is positioned within several SSSI impact risk zones.

There are 6 non statutory BHS (Biological Heritage Sites) located within 2 km of the development site. The development Site is positioned adjacent to Dunsop Fell and

Low Fell BHS, the closest being Dunsop Fell, located 0.229km northwest of the red-line boundary. Collectively this BHS spans 279.16ha and comprises a mosaic of upland, moorland habitats, including blanket bog, heathland and acid grassland. This BHS is common land and is grazed by sheep. Much of the vegetation is dominated by Common and Hare's tail cotton grass, with Heather, Billberry and Crowberry. At the western zone, there is a good coverage of peat that supports characteristic bog flora species. Areas of acid grassland are dominated by Mat grass, with frequent Wavy hair grass, Sheep's fescue and Heath rush. The guidelines for BHS selection are Bog (Bo3a), Heathland (He1), plus Flowering Plants and Ferns (Ff4a). Upland Heathland and Blanket Bog are UK BAP priority habitats. LERN data search also identifies the presence of Soft-shield fern within Dunsop Fell BHS.

Back Lane Roadside Verges BHS is positioned 0.75km southeast of the Site. This BHS is 0.1ha in size and comprising artificial habitats (Ar2).

Davidson's Pasture BHS is positioned 1.2km, northeast of the Site. This BHS spans 5.35ha in size and comprises a large field of damp, species rich grassland. The sward is uniformly rich and diverse, supporting frequent rushes, with sharp flowered rush being abundant. Sedges occur frequently and a variety of grasses are established, including Sweet vernal, Yorkshire fog and Purple moor grass. Herbs recorded included Devil's bit scabious and Great burnet. Guidelines for selection are Swamp and Fen (Fe1). Purple moor grass and Rush pasture is a UK BAP priority habitat.

Oxenhurst Clough Wood BHS is positioned 1.38km southwest of the Site. This BHS is 2.12ha in size, comprising a small remnant of semi-natural clough woodland. It is listed in the Lancashire inventory as ancient woodland (English Nature 1994). The canopy is dominated by Ash and Oak, with smaller trees and scrub. However, the woodland has been unfenced, thus grazed by livestock for many years. As a result, the canopy is open and there is no understorey, with the ground flora being dominated by grassland species. This habitat is described as woodland scrub (WD1).

Proctor's Cow Pasture BHS is positioned 1.8km northeast of the Site. This BHS spans 2.13ha in size and comprises damp, species rich, neutral grassland, with base rich flushes. The grassland is managed as pasture and forms part of an agricultural setting. The sward supports a rich assemblage of plants, including grasses, sedges and rushes. Alder occurs occasionally beside the brook. Guidelines for this BHS selection are Grassland (Gr3) and Swamp and Fen (Fe2). Lowland Fens and Lowland Meadows are UK BAP priority habitats.

Burn End Pasture BHS is positioned 1.87km northeast of the Site. This BHS spans 2.2ha in size and comprises an area of wet flushed pasture, adjoining Dunsop Brook. It supports a mosaic of base-rich springs and flushes, amongst acidic and marshy grassland, to include ground flora species such as: Bog bean, Greater bird's-foot trefoil, Ragged-robin and Cuckoo flower. The acidic and marshy grassland comprise species such as Sweet vernal grass, Crested dog's tail, Common bent, Wavy hair grass and Tufted hair grass. Guidelines for this BHS selection are swamp and fen (Fe2), Flowering Plants and Ferns (Ff4b).

There are 10 statutory parcels of woodland habitats listed under the National Forestry Inventory (2014), within a 2km radius of the Site. These include broadleaved, coniferous and mixed woodlands.

The closest of these National Forestry Inventory woodland parcels, is adjacent to the northern boundary of the development Site (spanning 0.56ha) - categorized as broadleaved woodland. 211m to the southwest of the Site is a Coniferous woodland, spanning 2.96ha in size. 274m to the northeast of the Site is an additional Coniferous woodland, spanning 10.33ha.On the southwestern boundary of the Development Site is a species rich grassland.

The Priority Habitat Inventory (designated under the 'Natural Environment and Rural Communities Act 2006; Section 41, Habitats of Principal Importance') demonstrates 3 good quality, semi-improved grassland habitats (none-priority) within 2km of the development Site. The closest is positioned 0.45km south of the Site. An additional grassland, designated for Purple moor grass and rush composition, is located 1.16km northeast of the Site. An upland hay meadow is also located 1.9km northeast of the Site.

There are an additional 5 species rich grasslands, which have a history of management under Higher Level Stewardship. The closest of these habitats is positioned 59m southeast of the Site. A further 7 nearby grasslands have a history of management under Higher Level Stewardship, as lowland meadows and pastures. Collectively, notable grasslands are largely clustered to the south/south-east of the Site.

The Priority Habitat Inventory (designated under the 'Natural Environment and Rural Communities Act 2006; Section 41, Habitats of Principal Importance') demonstrates:

- 8 'upland heathland habitats' within a 2km range of the Site. The closest of these habitats is positioned 1.4km north of the Site – this upland habitat is described within Dunsop Fell BHS, within an area of deciduous woodland.
- 8 'lowland fens' within a 2km range of the Site. These habitats are characterised by flushes. 7 are located within BHS zones.
- demonstrates 24 'blanket bog' habitats within a 2km range of the Site. The closest of these habitats is positioned within 0.9km southwest of the Site, all within Dunsop Fell BHS. Additional, notable habitats within a 2km radius of the Site, include 6 'upland flushes, fens and swamps.' The closest being west of the Site, 0.6km in distance and,
- demonstrates no priority 'ponds and lakes' within a 2km range of the Site.

Magic Maps identifies 6 ponds in a 250m radius, 9 ponds within a 500m radius of the Site, and an additional 13 ponds when extended to a 1000m radius. No ponds exist within the redline boundary. The ditch watercourses are not a statutory river - the habitat condition assessment defines this as a ditch.

### 3.1.3 Flora and Fauna

The following section summarised protected and/or notable species records that have been recorded within 2km of the site.

**Invertebrates**

Two notable invertebrate species have been recorded within 2km, attributed to Small Heath (Coenonympha pamphilus) and Wall (Lasiommata megera). Within 2 km there are 47 species of invertebrates recorded (NBN Atlas, 2025). There are records of 4 species of butterflies in the 2 km area (LERN 2024).

Ringlet (Aphantopus hyperantus), on the LBAP, has been recorded twice, between 2017 - 2019. The nearest record in 2017, is 0.976 km, south - east. Green Hairstreak (Callophrys rubi), is a Lancashire BHS Key Species. This has been recorded 6 times between 1999 - 2013. The nearest record in 2012, is 1.474 km north - east.

Small Heath (Coenonympha pamphilus), in the LBAP and is Sect 41 and Red list (RLGB. LR(NT) protected, has been recorded 6 times (NBN Atlas 2025, LERN 2024) between 1995 and 2019. The nearest record being 0.056Km, North of the site). Wall (Lasiommata megera), in the LBAP and is Sect 41 and Red list (RLGB. LR(NT) protected, has been recorded once in 1996 in the south-east 1.19km from the site. Both species records returned are listed on Section 41 of the NERC Act 2006.

**Vascular Plant**

The data search (NBN Atlas, 2024), returned 407 vascular plant species within the 2km site search area, with three records of the notable vascular plant species. Three 3 records of Frog Orchid, the nearest 2km, south of the site. This species is S41 protected and is also listed Red on (xxx), as is Pale St John's-wort (1 record) in Oxenhurst Clough Wood and on/adjacent to the site are records of Greater Butterfly-orchid (all above also on Lancashire BAP).

NBN Atlas (2024) data search also identifies 14 records of 5 vascular plant species that are Lancashire BAP priority species; Hairy violet, Bog-Rosemary, Few flowered Spike Rush, Marsh Hellobrine and Herb Paris, found 1.9km away from the development Site.

LERN (2024) data returns, 27 records of 17 vascular plant species:

- Bluebell (Hyacinthoides non-scripta) 3 records, protected by the Wildlife and Countryside Act 1981 (as amended), the nearest 0.779km east of the site.
- BHS listed species: Bogbean, 4 records (Menyanthes trifoliata) a , the nearest south-east (0.188km). Dioecious Sedge (Carex dioica), 1 record, uncommon, on wet slopes,mostly in the fells (0.11km north-west). Early Dog-violet (Viola reichenbachiana) 1 record, south - east (0.198km). Long Stalked Yellow Sedge (Carex viridula subsp. brachyrrhyncha), 1 record (0.956km, north-east). Melancholy Thistle (3 records), 0.1968km south-east.
- BHS listed species and Lancashire BAP Priority Species: Bog Rosemary (Andromeda polifolia) 7 records, the nearest Bog-Rosemary (Dunsop Fell

BHS). Few flowered Spike Rush (1 record) south-east (0.196km).
- Other species recorded include Common Spotted Orchid (Dactylorhiza fuchsii).

## Amphibians

No records of great crested newt (*Triturus cristatus*) were identified, note this species is listed on Section 41 of the NERC Act (2006), UK BAP and Lancashire BAP.

A MAGIC Map search returned no European Protected Species licences were granted; Great Crested Newt Class Survey Licence Returns or Great Crested Newt Pond Surveys.

LERN data search identifies 1 record of Common toad, located 1.9km away from the development Site. Common toad is listed as Section 41 importance, under the NERC Act 2006, and additionally listed as a Lancashire BAP priority species. NBN Atlas (2025), identifies 1 record of the Common Frog (in the LBAP and is Sect 41 and Red list (RLGB. LR(NT) protected.

## Reptiles

NBN Atlas (2025) reports 2 records of Slow Worm (Anguis Fragilis), between 2008 - 2017. The nearest location is 0.0225 km north - east of the site. There is 1 record of Adder (Vipera berus) in 2017, also 0.0225km north-east of the site.Th ey are Sect 81 protected.

## Fish

LERN data search identifies 7 records of Bony fish: 1 is a Bullhead fish, a Lancashire BAP priority species, found in the River Hodder 1.5km away from the development Site. 6 are Brown/Sea trout found in the Beck behind Hill Barn, 1.5km away from the development Site. This species is listed on Section 41 of the NERC Act 2006 and recorded as a Lancashire BAP priority species.

## Birds

A total of 27 bird species of protected or notable birds were recorded within 2km of the site as detailed in Table 5.

| Scientific Name | Common Name | Protected | Closest Record to Site | |
|---|---|---|---|---|
| | | | Approx. Min Distance (m) | Date |
| Acanthis cabaret | Lesser Redpoll | BoCCA*, S41**** | Within 2km | 2007 |
| Accipiter gentilis | Goshawk | BoCCA* | Within 2km | 1999 |
| Accipiter nisus | Sparrowhawk | | Within 2km | 2007 |
| Actitis hypoleucos | Common Sandpiper | | Within 2km | 2007 |
| Aix galericulata | Mandarin Duck | | Within 2km | 2007 |
| Alauda arvensis | Skylark | BoCCA*, S41**** | Within 2km | 2007 |
| Alcedo atthis | Kingfisher | BoCCA* | Within 2km | 2007 |
| Alectoris rufa | Red-legged Partridge | | Within 2km | 2007 |
| Anas crecca | Teal | | Within 2km | 2007 |
| Anas platyrhynchos | Mallard | | Within 2km | 2019 |
| Anser anser | Greylag Goose | BoCCA* | Within 2km | 2007 |
| Anthus pratensis | Meadow Pipit | | Within 2km | 2009 |
| Apus apus | Swift | | Within 2km | 2007 |
| Ardea cinerea | Grey Heron | | Within 2km | 2007 |
| Asio flammeus | Short-eared Owl | | Within 2km | 2007 |
| Athene noctua | Little Owl | | Within 2km | 2011 |
| Aythya fuligula | Tufted Duck | | Within 2km | 2007 |
| Bombycilla garrulus | Waxwing | | Within 2km | 2007 |
| Branta canadensis | Canada Goose | | Within 2km | 2007 |
| Bubo bubo | Eurasian Eagle Owl | | Within 2km | 2007 |
| Buteo buteo | Buzzard | | Within 2km | 2007 |
| Carduelis carduelis | Goldfinch | | Within 2km | 2007 |
| Chloris chloris | Greenfinch | | Within 2km | 2007 |
| Chroicocephalus ridibundus | Black-headed Gull | | Within 2km | 2007 |
| Cinclus cinclus | Dipper | | Within 2km | 2007 |
| Circus cyaneus | Hen Harrier | Sch 1***, BoCCA*, S41**** | Within 2km | 2007 |
| Columba livia | Rock Dove | | Within 2km | 2007 |
| Corvus corax | Raven | | Within 2km | 2007 |
| Cuculus canorus | Cuckoo | BoCCA*, S41**** | Within 2km | 2007 |
| Cyanistes caeruleus | Blue Tit | | Within 2km | 2007 |
| Delichon urbicum | House Martin | | Within 2km | 2007 |
| Dendrocopos major | Great Spotted Woodpecker | | Within 2km | 2007 |
| Emberiza schoeniclus | Reed Bunting | S41**** | Within 2km | 2007 |
| Erithacus rubecula | Robin | | Within 2km | 2007 |
| Falco peregrinus | Peregrine | Sch 1*** | Within 2km | 2007 |
| Falco tinnunculus | Kestrel | | Within 2km | 2007 |
| Ficedula hypoleuca | Pied Flycatcher | BoCCA* | Within 2km | 2004 |
| Fulica atra | Coot | | Within 2km | 2007 |
| Gallinula chloropus | Moorhen | | Within 2km | 2007 |
| Haematopus ostralegus | Oystercatcher | | Within 2km | 2019 |
| Hirundo rustica | Swallow | | Within 2km | 2007 |
| Larus argentatus | Herring Gull | BoCCA* | Within 2km | 2007 |
| Larus canus | Common Gull | | Within 2km | 2007 |
| Larus fuscus | Lesser Black-backed Gull | | Within 2km | 2007 |
| Linaria cannabina | Linnet | BoCCA* | Within 2km | 2007 |
| Loxia curvirostra | Common Crossbill | Sch 1*** | Within 2km | 2007 |
| Mergus merganser | Goosander | | Within 2km | 2007 |
| Motacilla alba subsp. yarrellii | Pied Wagtail | | Within 2km | 2007 |
| Motacilla cinerea | Grey Wagtail | BoCCA* | Within 2km | 2007 |
| Muscicapa striata | Spotted Flycatcher | BoCCA*, S41**** | Within 2km | 2007 |

| | | | | |
|---|---|---|---|---|
| Numenius arquata | Curlew | BoCCA*, S41**** | Within 2km | 2019 |
| Oenanthe oenanthe | Wheatear | | Within 2km | 2007 |
| Parus major | Great Tit | | Within 2km | 2007 |
| Passer domesticus | House Sparrow | BoCCA*, S41**** | Within 2km | 2007 |
| Periparus ater | Coal Tit | | Within 2km | 2007 |
| Phasianus colchicus | Pheasant | | Within 2km | 2019 |
| Phoenicurus phoenicurus | Redstart | | Within 2km | 2007 |
| Phylloscopus trochilus | Willow Warbler | | Within 2km | 2007 |
| Picus viridis | Green Woodpecker | | Within 2km | 2007 |
| Poecile palustris | Marsh Tit | BoCCA* | Within 2km | 2007 |
| Pyrrhula pyrrhula | Bullfinch | | Within 2km | 2007 |
| Regulus regulus | Goldcrest | | Within 2km | 2007 |
| Riparia riparia | Sand Martin | | Within 2km | 2007 |
| Saxicola rubetra | Whinchat | BoCCA* | Within 2km | 2000 |
| Saxicola rubicola | Stonechat | | Within 2km | 2007 |
| Scolopax rusticola | Woodcock | BoCCA* | Within 2km | 2007 |
| Spinus spinus | Siskin | | Within 2km | 2007 |
| Strix aluco | Tawny Owl | | Within 2km | 2007 |
| Sturnus vulgaris | Starling | BoCCA* | Within 2km | 1999 |
| Troglodytes troglodytes | Wren | | Within 2km | 2007 |
| Turdus iliacus | Redwing | Sch 1***, BoCCA* | Within 2km | 2007 |
| Turdus philomelos | Song Thrush | BoCCA* | Within 2km | 2007 |
| Turdus pilaris | Fieldfare | Sch 1***, BoCCA* | Within 2km | 2007 |
| Turdus viscivorus | Mistle Thrush | BoCCA* | Within 2km | 2007 |
| Tyto alba | Barn Owl | Sch 1*** | Within 2km | 2011 |
| Vanellus vanellus | Lapwing | BoCCA*, S41**** | Within 2km | 2007 |

* Listed Red on the Bird of Conservation Concern 4 (2015)
*** Wildlife & Countryside Act (Sch 1,5 & 8)
**** Listed on Section 41 (NERC Act, 2006)

## Bats

In the desktop survey, Magic Maps indicated no records of European Protected Species applications. No records of bats on LERN. Looking at the NBN Atlas there are field recordings of 3 species of bats. Natterer's Bat (Myotis nattereri), 6 records and Daubenton's Bat (Myotis daubentonii) 2 records in 1991 are located adjacent to woodland in the south of the zone between 1990 - 1991). The nearest being Oxenhurst Clough (1.3km south west from the site).

Soprano Pipistrelle (Pipistrellus pygmaeus), 1 record in 2015, located south-east, 1.59 km from the site. This species is Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006: habitats and species of principal importance in England.

## Badger

No field records of badger (*Meles meles*) were return during the data search. Badgers are protected by law by the Protection of Badgers Act (1992).

## Otter

The data search returned no records of European Otter (*Lutra lutra*) within 2km of the site. Otters are listed on Section 41 of the NERC Act (2006), are a Priority Species on the Lancs BAP and are categorised as a European Protected Species under the Conservation of Habitat and Species Regulations 2017.

## Hedgehog

No records of hedgehog were returned within 2km of the site. Hedgehogs are listed on Section 41 of the NERC Act (2006) and are a Priority Species on the Lancshire BAP.

## Invasive Non-native Species

### Flora

One record of invasive non-native plant species was returned within 2km of the site, comprising Japanese Rose (xxx). LERN data search identifies 1 record of INNS flora species, Japanese Rose (as listed on Schedule 9 of WCA 1981) within 0.5km of the Site, to the east on Back Lane, Slaidburn. For INNS in the Lancashire BAP, there are 10 reports of INNS Key Species. The nearest being Bramble (Rubus armeniacus), located in the west (0.510 km) from the site. However, note that these records are attributed to broad grid reference, which may result in a closer or further record than 0.510km..

### Fauna

Three records of invasive non-native animal species were returned within 2km of the site. LERN data search identifies:

- 2 records of INNS fauna species, Common pheasant (as listed on Schedule 9 of WCA 1981) within 0.5km of the Site, to the east on Back Lane, Slaidburn.
- 1 record of INNS fauna species, Signal crayfish (Pacifastacus leniusculus) (as listed on Schedule 9 of WCA 1981), 1.4km east of the Site, at Lathom's Fish Farm.
- 1 record of INNS fauna species, Eastern grey squirrel (Sciurus carolinensis) (as listed on Schedule 9 of WCA 1981), 1km south of the Site in Slaidburn.

Note however, these records are attributed to broad grid reference, which may result in a closer or further record than 0.5km.

### Fauna - No records Returned

The data search returned no records for:

- Harvest Mouse (*Micromys minutus*)
- Hazel Dormice (*Muscardinus avellanarius*)
- Red squirrel (*Sciurus vulgaris*)
- Water Vole *(Arvicola*)
- White-clawed crayfish (*Austropotamobius pallipes*)

## 3.2 Field Survey

The site habitats and accompanying Target Notes are presented in the Phase 1 Habitat Map in Appendix 3. Full species lists (with accompanying DAFOR) are also presented in Appendix 3. Notably, no non-native invasive plant species (INNS) were recorded in any habitat type/parcel at the time of survey.

### 3.2.1 Mixed Woodland - w16h

The Mixed Woodland habitat is classified as w1h6, 503 - Other woodland; mainly Conifer (Pinophyta sp.) and wet. The woodland is an artificial plantation, likely standing for several decades. Throughout the woodland plot ground condition is wet and tree specimens are subject to squirrel damage. Overall habitat condition is assessed as poor and there are no veteran trees within the woodland plot.

The woodland plot is separated into three Habitat Parcels for accuracy of field survey results and documentation:

Habitat Parcel 1 is present to the east of the Site, colonised by a group of mature, dominant Conifer sp. (Pinophyta sp.); there is limited light penetration and a resultant lack of ground flora understorey.

As illustrated in Photograph 1 below, Habitat Parcel 2 is the central woodland zone, colonised by mature specimens including dominant Sitka spruce (Picea sitchensis), abundant Conifer sp. (Pinophyta sp.), frequent Oak (Quercus robur), Hazel (Corylus avellana) and Hawthorn (Crataegus monogyna), occasional Scots pine (Pinus sylvestris), Birch sp. (Betula sp.) and Sycamore (Acer pseudoplatanus), plus rare Aspen (Populus tremula), Willow sp. (Salix sp.), Rowan (Sorbus aucuparia) and Elderberry (Sambucus nigra).

As illustrated in Photograph 2 below, Habitat Parcel 3 is present to the western Site boundary, standing as a shelterbelt of mature, dominant Pine spp. (Pinus spp.), alongside occasional Sycamore (Acer pseudoplatanus) and rare Beech (Fagus sylvatica).

Occasional young self-set trees occur within the woodland plot, predominantly to the southern boundary; specimens include Alder (Alnus glutinosa), Birch sp. (Betula sp.), Hazel (Corylus avellana), Hawthorn (Crataegus monogyna), Elderberry (Sambucus nigra), Willow sp. (Salix sp.) and Oak (Quercus robur). Additionally, as shown in Photograph 3, an area of young planted trees are present to the south-western zone of the woodland plot.

Photographs 4 and 5 show woodland understorey and open/clearing areas to be colonised by dominant Bramble (Rubus fruticosus agg.) scrub and Bracken (Pteridium aquilinum), alongside scattered rushes (Juncus spp.). A lack of light penetration limits growth and diversity of woodland ground flora, to include additional specimens of abundant Bryophyte spp. and Fern sp. (Polypodiopsida), plus occasional Common nettle (Urtica dioica), Common sorrel (Rumex acetosa) and Tufted hair grass (Deschampsia cespitosa). Rare Chickweed (Stellaria media), Foxglove (Digitalis purpurea) and Thistle sp. (Cirsium sp.) have also colonised.

Dominant leaf litter and abundant pine needle litter are present at ground level.

Standing dead wood Hawthorn (Crataegus monogyna) is present centrally within an open/clearing area of the woodland plot, as shown in Photograph 6. Such open/clearing areas of woodland have promoted development of Acid grassland.

Two ditches are present to the northern and southern boundaries of the plot; Ditch habitats are detailed in Section 3.2.3 below.

The Site has been subject to recent anthropogenic disturbance with trees felled and creation of a woodland track: The woodland track habitat is detailed in Section 3.2.4 below.

Photograph 1 - Habitat Parcel 2: Central woodland zone

Photograph 2 - Habitat Parcel 3: Shelterbelt of trees to the Western Site boundary

Photograph 3 - Young planted trees to the south-western zone of the woodland plot

Photograph 4 - Ground flora of woodland understorey and open clearings (with proposed pod siting shown by white markers)

Photograph 5 - Dominant Bramble (Rubus fruticosus agg.) with Bracken (Pteridium aquilinum) and scattered Rushes (Juncus spp.)

Photograph 6 - Standing dead wood Hawthorn (Crataegus monogyna) present centrally within a clearing area of the woodland plot

### 3.2.2 Acid Grassland - g1

Acid grassland has colonised in open clearings of the woodland, and exists as grazed pasture land immediately east of the woodland, still within the red-line boundary.

Areas of Acid grassland have been separated into three Habitat Parcels for accuracy of field survey results and documentation:

Habitat Parcel 1 (as shown in Photograph 7 below) is classified as g1, 14 - Acid grassland with scattered rushes (Juncus spp.) and a colonised understorey of existing shelterbelt Pine spp. (Pinus spp.), Sycamore (Acer pseudoplatanus) and Beech (Fagus sylvatica), at the western zone of the Site. It is assessed as moderate quality.

Habitat Parcel 2 (as shown in Photograph 8 below) is classified as g1, 14 - Acid grassland with scattered rushes (Juncus spp.) and a colonised clearing area, where trees have recently been felled. It is assessed as poor quality principally due to recent anthropogenic disturbance in the felling of trees.

Habitat Parcels 1 and 2 are colonised by abundant Tufted-hair grass (Deschampsia cespitosa) and Yorkshire-fog (Holcus lanatus), with frequent Red fescue (Festuca rubra). Occasional Soft-rush (Juncus effusus) and Hard rush (Juncus inflexus) are scattered throughout. Due to the density and spread of Gramineae, there are limited herbacous species, with only occasional Fern sp. (Polypodiopsida sp.) recorded. Occasional Bryophyte spp. and some Fungi spp. are also colonised.

Habitat Parcel 3 (as shown in Photographs 9 and 10 below) is classified as g1, 14, 100, 503 - Acid grassland with scattered rushes (Juncus spp.), grazed and wet. This habitat parcel is positioned directly east of the woodland plot and supports a ditch through its centre. Habitat Parcel 3 comprises dominant Common couch grass (Elymus repens), plus abundant Tufted hair-grass (Deschampsia cespitosa), Yorkshire fog (Holcus lanatus), Soft-rush (Juncus effusus) and Hard rush (Juncus inflexus). Additional specimens include occasional Red fescue (Festuca rubra), Buttercup sp. (Ranunculus) and Bryophyte spp., plus rare Thistle sp. (Cirsium sp.) and Common nettle (Urtica dioica). Self-seeded Beech (Fagus sylvatica) saplings are also colonised to the south eastern boundary of Habitat Parcel 3. It is assessed as moderate quality.

Photograph 7 - Acid grassland Habitat Parcel 1

Photograph 8 - Acid Grassland Habitat Parcel 2

Photograph 9 - Acid grassland Habitat Parcel 3

Photograph 10 - Acid grassland Habitat Parcel 3.

### 3.2.3 Ditches - w50

Two ditches are present within the red-line boundary – classified as w50 habitat, ditches have been separated into two Habitat Parcels for accuracy of field survey results and documentation.

Habitat Parcel 1 is a ditch positioned to the northern boundary of the Site; it supports steeply sloping banks (as shown in Photograph 11 below), with bank gradients becoming more gradual towards the eastern extent (as shown in Photograph 12 below). Banks are lined with old and intermediate trees. At ground level Gramineae spp. are dominant, with occasional Bryophyte spp. and Fern sp. (Polypodiopsida sp.). Within the eastern zone of Habitat Parcel 1 anthropogenic disturbance is noted as waste tyres are present within the Ditch habitat. As shown in Photograph 13 below, as Habitat Parcel 1 reaches the plot of Acid grassland (g1 Habitat Parcel 3) to the east, its banks become dominated by Rush spp. (Juncus spp.).

Habitat Parcel 2 is a ditch positioned to the southern boundary of the Site; as shown in Photograph 14 below, it supports shallow sloping banks along its entire length. It is flanked by young trees (self-set and planted) Alder (Alnus glutinosa), Hawthorn (Crataegus monogyna), Hazel (Corylus avellana) and Oak (Quercus robur) to the north-western periphery, and by stock fencing to the south-eastern periphery. Banks are colonised with dominant Hard rush (Juncus inflexus) and Soft-rush (Juncus effusus), plus Gramineae spp. Bryophyte spp., Creeping buttercup (Ranunculus repens) and Sorrel sp. (Rumex sp.) are occasional along the length.

Collectively, there is a dense coverage of leaf litter upon the banks and within the water of Habitat Parcels 1 and 2, though water is clear and there is no sign of pollution in either Habitat Parcel. Both ditches become culverted as they reach the farm access track.

Overall habitat condition for both Ditch Habitat Parcels is assessed as poor.

Photograph 11 - Ditch Habitat Parcel 1; steeply sloping banks at western extent

Photograph 12 - Ditch Habitat Parcel 1; bank gradient more gradual at eastern extent

Photograph 13 - Ditch Habitat Parcel 1; within acid grassland and banks dominated by Rush

Photograph 14 - Ditch Habitat Parcel 2

species (Juncus spp.)

### 3.2.4 Fence (i.e. all boundaries) and proposed access track

As aforementioned in Section 3.2.1, the woodland plot (w1h6) has been subject to recent anthropogenic disturbance with trees felled and creation of a woodland track: As shown in Photograph 14 below, use of heavy machinery to create the woodland track has caused damage to the soil in some areas, creating deep ruts and ground/soil compaction. Ground condition was wet at the time of survey and water has accumulated within ruts/compacted soil.

The woodland track habitat largely supports bare ground with vast coverage of leaf and pine needle litter, though ruderal ephemeral vegetation is colonised, to include frequent Chickweed (Stellaria media), Creeping buttercup (Ranunculus repens) and Gramineae spp, plus occasional Broad-leaved dock (Rumex obtusifolius), Sorrel sp. (Rumex sp.) and rare Rosebay willowherb (Chamaenerion angustifolium).

Boundary stock fencing is present to western, southern and eastern boundaries of the woodland plot (w1h6). Such stock fencing comprises wooden posts and metal wire to prevent access/escape of livestock. The southern boundary of the acid grassland pasture (g1 Habitat Parcel 3), supports boundary, wooden post and rail fencing (as shown in Photograph 16 below).

Photograph 14 - Woodland access track with compacted soil and accumulated water

Photograph 15 - Woodland boundary stock fencing

Photograph 16 - Acid grassland (g1 Habitat Parcel 3) southern boundary stock fencing

## 3.3 Site Suitability for Protected and Notable Species

### 3.3.1 Species Discounted from Assessment

During the survey, no sign of badger or hedgehog was found anywhere within the site and, it was concluded that these protected/notable species do not use the site for foraging or any other use.

Otter, notable or protected fish species and white-clawed crayfish have been discounted from assessment as no suitable aquatic habitats are located on site or within proximity. The closest aquatic habitat is located approximately 0.0125m north-east of the site boundary, relating to an unnamed watercourse, which appears to be hydrologically isolated from other watercourses present within the wider area such as Eller Beck present approximately 0.580 km east of the site. Red squirrel has been discounted from the assessment. Red squirrel (*Sciurus vulgaris*) populations are limited to small areas of northern England and are not known to be present in the area; with no previous records returned in the data search.

### 3.3.2 Hazel Dormouse

The Hazel dormouse (Muscardinus avellanarius) range has shrunk significantly and they're now confined predominantly to southern England and Wales with a few scattered populations in the Midlands, Wales and Lake District (Woodland Trust, accessed 2024). However, the habitats on site are of limited value due to limited areas of extensive coppiced woodland, scrub and old hedgerows. In addition, no records of the species were returned within 2km of the site boundary and the relatively small size of the site limits the suitable habitat for hazel dormouse. As such, the species are reasonably discounted from site and are likely to utilise more suitable habitat within the wider environment.

### 3.3.3 Water Vole

The sides of the ditch to the north of the site,were clayey, roots exposed and covered in little vegetation and whilst the ditch in the south has ruderal vegetation on its banks, this offers very little potential for water voles to either feed from, or for the excavation of their burrows. However, a careful search during the survey, found no tract of water vole droppings or latrines or their burrows, nor any evidence of chewed vegetation, and from this it was concluded that water voles do not live within the site, or use the drainage ditches.

### 3.3.4 Vascular plants

Referring to the desk-survey and field survey there are no notable species found on the site. In Oxenhurst Clough Wood and on/adjacent to the site are records of Greater Butterfly-orchid a priority species on the Lancashire BAP (NBN Atlas, 2024).

In the surrounding area there are four records of the notable vascular plant species. Bluebell (Hyacinthoides non-scripta) 3 records, protected by the Wildlife and Countryside Act 1981 (as amended), the nearest 0.779km east of the site.Three 3 records of Frog Orchid, the nearest 2km, south of the site. This species is S41 protected and is also listed Red on (xxx), as is Pale St John's-wort (1 record) in Oxenhurst Clough Wood. NBN Atlas (2024) data search also identifies 14 records of 5 vascular plant species that are Lancashire BAP priority species; Hairy violet, Bog-Rosemary, Few flowered Spike Rush, Marsh Hellobrine and Herb Paris, found 1.9km away from the development Site. LERN (2024) data returns, records a further 6 vascular plant species listed as imported BHS plants.

The field survey was conducted outside the optimal flowering season (see Section 2.4), with the other woodland - mainly conifer, likely to contain bluebell during its optimal flowering season (mid-April to late May). However, the presence of bluebell is limited within the wider site due to the high level of dense bramble scrub present, which would prevent the colonisation or establishment of notable plant species on site. As such, bluebell are potentially present within the site but are limited within the mixed woodland habitat.

### 3.3.4 Invertebrates

Observation of wood and log piles and fallen trees (W214) were noted within the site. Deadwood can support a high diversity of invertebrates (Fowles et al., 1999).

Common grasses were noted in the site. Cock’s foot, an important plant for S.41 Wall (Lasiommata megera) was noted within the ground flora throughout the acidic grassland. The Ringlet is a medium-sized, sooty-brown butterfly. It is commonly found along woodland rides, edges and hedgerows, and on damp grassland from June to August. The adults prefer bramble and wild privet flowers as nectar sources and can be seen flying with a characteristic bobbing movement even on dull days. The caterpillars feed on a variety of grasses including cock's-foot and false broom (The Wildlife Trust, accessed 2025).

The Green Hairstreak (Callophrys rubi) butterfly can be found in a wide variety of

habitats, including hillsides, moorland, chalk downland, heathland, railway embankments and valley bottoms. A common feature of all these habitats is the presence of scrubby plants and hedgerows. This species has the widest range of foodplants of any British species, which includes Bilberry, Bird's-foot Trefoil, Broom, Common Rock-rose, Dogwood, Bramble and Gorse.

The Small Heath (Coenonympha pamphilus) butterfly occurs on grassland where there are fine grasses, especially in dry, well-drained situations where the sward is short and sparse. Typical habitats include; heathland, downland and coastal dunes, but it is also found on road verges, moorland and in woodland rides.

Overall, the presence of notable invertebrates cannot be discounted with wood and log piles and fallen trees present on site. However, it is anticipated that notable invertebrates are unlikely to be present in significant numbers due to limited floral diversity present on the site and management observed. The surrounding habitats are likely to be of higher value.

### 3.3.5 Amphibians

No ponds were present on site and there are ditches running along the northern and southern boundaries. The ephemeral drainage ditches that run along the north and south boundaries of the site, contained some vegetation and shallow intermittent water. However, the banks were clayey with very little vegetation other than grasses and bryophytes growing along the banks.It was judged that the ditch sides offered negligible potential for newts and other amphibians to either enter, or exit the water (refer to photos 11 - 14).

During the survey no over-wintering newts, or tadpoles were found. As most amphibians of any species, including great crested newts, prefer to breed in pools, ponds or other areas of clean standing water, none of which are present anywhere within the site, and the conclusion is that the ditches offered negligible potential for either breeding great crested newts, or other amphibian species. The ponds in the 250m area are examined below.

However, 4 ponds (P1 - P6) were identified within 250m of the site boundary (see Figure 3). Note a further 2 were surveyed (ponds 5 and 6).


**Figure 3: Ponds within 250m of the site.**

Important elements to consider when assessing likely impacts against GCN includes:

- The scale, nature and magnitude of proposals,
- Site proximity to a potential breeding pond and to any additional ponds,
- Habitat linkage / barriers between potential breeding ponds and the site,
- Nature and extent of available terrestrial habitat around the pond,
- Area of site habitat loss,
- Nature of habitat to be lost and potential value to GCN,
- Most up to date Government guidance considering EPS.

As derived from the desktop assessment, evidence of GCN is present within a 2.0km buffer in the form of one EPSML and two 'GCN Class Survey Licence Returns', although these are distanced from the site by at least 0.7km. This is notable given the cluster of ponds >500m from the site situated in the East.

Based on the desktop study, six ponds are present within 250m of the site, none in the development site. The GCN HSI was applied for each pond within the 250m buffer. See Table 6.6.1 – 6.6.6 for ponds description and Tables 6.6.7 for detailed HSI results in line with current guidance.

**Table 6.6.1 – Pond 1 : description within 250m radial buffer, with included HSI score**

| **Pond P 1** | |
|---|---|
| P1 is located within the field adjacent to the existing camping pods, to the west of the site, has an estimated area of 37m2 , likely dries annually, is not shaded 1m from shore, minor waterfowl impacts evident, has fish potentially present, approximately 28 ponds per km2 , is surrounded by good value terrestrial habitat with circa 10% of the pond occupied by macrophytes. Visual inspections illustrate likely water quality is moderate, though submerged aquatic vegetation present in the pond. Based on the above, the HSI value of the pond has been calculated as pertaining to 0.44 – Poor. See Table 6.6.7 below for further information on the individual category scorings. |  |

**Table 6.6.2 – Pond 2 : description within 250m radial buffer, with included HSI score**

| **Pond P 2** | |
|---|---|
| P2 is located in a grazed field, to the west of the site, has an estimated area of 60m2 , likely dries annually, is not shaded 1m from shore, major waterfowl impacts evident, has fish potentially present, approximately 28 ponds per km2 , is surrounded by good value terrestrial habitat with circa 10% of the pond occupied by macrophytes. Visual inspections illustrate likely water quality is poor, though access by animals and submerged a high level of pond weed (spp.) and no other aquatic vegetation present in the pond. Based on the above, the HSI value of the pond has been calculated as pertaining to 0.30 – Poor. See Table 6.6.7 below for further information on the individual category scorings. |  |

**Table 6.6.3 – Pond 3 : description within 250m radial buffer, with included HSI score**

| **Pond P 3** | |
|---|---|
| P3 is located in a grazed field, to the east of the site, has an estimated area of 21m2 , sometimes dries in the year, is not shaded 1m from shore, minor waterfowl impacts evident, has fish potentially present, approximately 28 ponds per km2 , is surrounded by good value terrestrial habitat with circa 10% of the pond occupied by macrophytes. Visual inspections illustrate likely water quality is moderate, with submerged aquatic vegetation present in the pond. Based on the above, the HSI value of the pond has been calculated as pertaining to 0.52 – below average. See Table 6.6.7 below for further information on the individual category scorings. |  |

**Table 6.6.4 – Pond 4 : description within 250m radial buffer, with included HSI score**

| **Pond P 4** | |
|---|---|
| P4 is located in a grazed field, to the south east of the site, has an estimated area of 35m2 , likely dries annually, is not shaded 1m from shore, major waterfowl impacts evident, has fish potentially present, approximately 28 ponds per km2 , is surrounded by good value terrestrial habitat with circa 0% of the pond occupied by macrophytes. Visual inspections illustrate likely water quality is poor, though access by animals and no submerged aquatic vegetation present in the pond. Based on the above, the HSI value of the pond has been calculated as pertaining to 0.26 – Poor. See Table 6.6.7 below for further information on the individual category scorings. |  |

**Table 6.6.5 – Pond 5 : description within 250m radial buffer, with included HSI score**

| **Pond P 5** | |
|---|---|
| P5 is located in a grazed field, to the south east of the site, has an estimated area of 40m2 , likely dries annually, is not shaded 1m from shore, major waterfowl impacts evident, has possibly no fish present, approximately 28 ponds per km2 , is surrounded by good value terrestrial habitat with circa 0% of the pond occupied by macrophytes. Visual inspections illustrate likely water quality is poor, though access by animals and no submerged aquatic vegetation present in the pond. Based on the above, the HSI value of the pond has been calculated as pertaining to 0.28 – Poor. See Table 6.6.7 below for further information on the individual category scorings. |  |

**Table 6.6.6 – Pond 6 : description within 250m radial buffer, with included HSI score**

| **Pond P 6** | |
|---|---|
| P6 is located in a grazed field, to the west of the site, has an estimated area of 42m2 , likely dries annually, is not shaded 1m from shore, minor waterfowl impacts evident, has possibly no fish present, approximately 28 ponds per km2 , is surrounded by good value terrestrial habitat with circa 10% of the pond occupied by macrophytes. Visual inspections illustrate likely water quality is moderate, though access by animals and no submerged aquatic vegetation present in the pond. Based on the above, the HSI value of the pond has been calculated as pertaining to 0.46 – Poor. See Table 6.6.7 below for further information on the individual category scorings. |  |

**Table 6.6.7 - HSI quantitative assessment of the ponds**

| | Pond Name | *Example* | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|---|---|
| | Grid Ref | *SK123456* | SD 6801 5271 | SD 6795 5255 | SD 6820 5279 | SD 6831 5271 | SD 6843 5266 | SD 6761 5252 |
| SI No | SI Description | *SI Value* | SI Value | SI Value | SI Value | SI Value | SI Value | SI Value |
| 1 | Geographic location | *1.00* | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| 2 | Pond area | *0.50* | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 |
| 3 | Pond permanence | *0.90* | 0.1 | 0.1 | 0.5 | 0.1 | 0.1 | 0.1 |
| 4 | Water quality | *1.00* | 0.67 | 0.33 | 0.67 | 0.33 | 0.33 | 0.67 |
| 5 | Shade | *1.00* | 1 | 1 | 1 | 1 | 1 | 1 |
| 6 | Water fowl effect | *1.00* | 0.67 | 0.01 | 0.67 | 0.01 | 0.01 | 0.67 |
| 7 | Fish presence | *1.00* | 0.67 | 0.67 | 0.67 | 0.67 | 1 | 1 |
| 8 | Pond Density | *0.65* | 1 | 1 | 1 | 1 | 1 | 1 |
| 9 | Terrestrial habitat | *1.00* | 1 | 1 | 1 | 1 | 1 | 1 |
| 10 | Macropyhyte cover | *0.90* | 0.4 | 1 | 0.4 | 0.3 | 0.3 | 0.4 |
| | **HSI Score** | ***0.88*** | **0.44** | **0.30** | **0.52** | **0.26** | **0.28** | **0.46** |
| | Pond suitability (see below) | *Excellent* | Poor | Poor | Below Average | Poor | Poor | Poor |

Categorisation of HSI Score by Lee Brady

| **HIS Score** | **Pond Suitability** |
|---|---|
| < 0.50 | Poor |
| 0.50 - 0.59 | Below average |
| 0.60 - 0.69 | Average |
| 0.70 - 0.79 | Good |
| > 0.80 | Excellent |

NB: The HSI for great crested newts is a measure of habitat suitability. It is not a substitute for newt surveys. In general, ponds with high HSI scores are more likely to support great crested newts than those with low scores. However, the system is not sufficiently precise to allow the conclusion that any particular pond with a high score will support newts, or that any pond with a low score will not do so. There is a positive correlation between HSI scores and the numbers of great crested newts observed in ponds. So, in general, high HSI scores are likely to be associated with greater numbers of great crested newts. However, the relationship is not sufficiently strong to allow predictions to be made about the numbers of newts in any particular pond.

The site comprises a range of managed and unmanaged habitats which may provide suitable foraging resources and there is limited cover for common amphibians such as common toads. However, it is not anticipated that the scrub and ditches could support overwintering great crested newts and common toad due to the management, lack of still water and flora for feeding and breeding and exposed nature observed, through several wood and log piles within the site could support overwintering amphibian species. J Baker et al (2011) describe the contribution of terrestrial habitats, once young amphibians leave the water after the tadpole/larval stage, most of them spend the juvenile part of their life on land. In the adult stage amphibians shuttle between aquatic and terrestrial habitats. In a terrestrial contextual assessment, the adjacent areas and surrounding pond habitats provide a range of suitable habitats for individual GCN, with pools, moorland, larger woodlands and stone walls providing potentially suitable temporary refuge areas for GCN. The site

lies in feasible connectivity to ponds within the 250m radius, however the quality of these ponds as suitable habitats is noted as ‘poor’.

### Wider amphibians

Frogspawn at the time of the survey was not present in any ponds, however, It is also considered reasonably likely that common toad, like GCN will occupy the surrounding area. It is reasonable to conclude that the contribution of this site as a migrationary route and seasonal habitat is probable given its position centrally to the 6 ponds and the quality of the surrounding habitat.

### 3.3.6 Reptiles

Generally, reptiles require a mosaic of habitats. However, much of the site comprised a monoculture of bramble scrub which is not subject to recent management, which lacked a variety of heights, structure and cover that is important to reptiles to avoid predation (NARRS, 2007). In addition, along the western site boundary the site is subject to anthropogenic use from the existing holiday accommodation.

However, the habitat on site could provide suitable resting and hibernating resources for reptiles. The woodland, scrub, acidic grassland and tall ruderal habitats may provide terrestrial cover, in conjunction with the wood and log piles within the site.

Two records of Slow Worm (Anguis Fragilis) were returned in the surrounding area, during the desk study (see section 3.1.3). This species is often associated with heathland, tussocky grassland, woodland edges and rides where they can find invertebrates to eat and a sunny patch in which to sunbathe. They are often found in mature gardens and allotments, where they like hunting around the compost heap (Wildlife Trust, accessed 2025). One record of Adder (Viper berus) was also found in the local area. The adder is a relatively small, stocky snake that prefers woodland, heathland and moorland habitats. It hunts lizards and small mammals, as well as ground-nesting birds, such as skylark and meadow pipit (Wildlife Trust, accessed 2025).

Overall, the habitats on site were of value, with mobile reptile species identified within 0.0250 km of the site during the desk-top study. Therefore, reptile species may be present on site, through potential for this species group to be present is limited due to the observed management within the majority of the site and surrounding habitats providing greater quality habitat.

### 3.3.7 Birds

#### Ground nesting

The data search returned records of ground nesting birds in the local area, such as meadow pipit, pheasant, red legged partridge, skylark and whinchat. The site is anticipated to provide limited value for ground nesting birds due to lack of suitable open habitats for the species and comprising mainly of mixed woodland habitat with dense localised scrub, tall ruderal habitats and anthropogenic disturbance noted from adjacent uses. More suitable habitat is present within the surrounding area such as agricultural fields (which may contain taller forb areas for nesting skylark) and it is not anticipated within the site. In addition, the surrounding woodland to the

north and south of the site may provide suitable perches for birds of prey. The site may also be subject to disturbance from dogs in the surrounding area.

In summary, site has limited potential value to support notable ground nesting birds and the site is not considered to be of significant value.

**Passerine**

The woodland, dense scrub and surrounding farm buildings habitats may provide value to nesting birds. Due to the weather conditions in December 2024, no bird species were observed within the site boundary and surrounding areas during the field survey. Several passerine bird records within 2km were returned including Bluetit, Goldfinch, Pied Wagtail, Robin, Swallow and Wren. The field survey in January 2025 recorded the following birds: Gold Crest, Wood Pigeon, Common Crow and european Robin.

The site has the potential to support notable passerine birds such as Common Crossbill, Fieldfares, House Sparrows, and Lesser Redpoll as well as common species recorded in the desk-top survey. .

**Wintering**

The data search returned records of notable wintering bird species in the local area, such as Redwing, Lapwing and Curlew. The site is anticipated to provide limited value for notable wintering birds due to lack of suitable habitats, such as open countryside with hedgerows and feeding areas within gardens. In addition, the habitats observed on site are anticipated to be of limited nature to support wintering bird species and is subject to disturbance from dogs which may be present within the surrounding area.

More suitable habitat for notable wintering bird species is present within the surrounding area such as agricultural fields, hedgerows and woodland habitats with a wider expanse of fields or overwintering bird assemblage and is therefore not anticipated within the site.

**Birds of prey**

Ten birds of prey species were returned in the data search, comprising common and notable species such as Barn Owl, Goshawk, Hen Harrier and Peregrine Falcon. The site is anticipated to be of limited value for these species, due to the relatively small size of the site which limits the foraging habitat for birds of prey and they are likely to utilise more suitable habitat within the wider environment.

In addition, the trees within the site were noted in young and early-mature age, with no supportive trees such as oak or beech which form the required structure (such as a main fork or a limb high in a tree) for species that may use trees to construct nests.

### 3.3.8 Bats - Preliminary Evidence and Opportunity Assessment

A PEA for the bats was completed on all structures and trees located on site and adjacent. Please refer to Appendix 2 for the results of the PEA during the survey. The majority of trees contained no PRF’s or suitable holes/crevices deep enough for

roosting opportunities and were assessed as having negligible bat roosting potential.

The habitats on site are anticipated to provide low bat roosting and foraging suitability, due to comprising no potential roost sites that could be used by individual bats, opportunistically at any time of year. However, the farm house and buildings block to the south of the site fit these criteria, and as there were no really large areas of deciduous woodland, or large bodies of open water in the nearby vicinity, the local area overall, was assessed to offer only low to moderate suitability for foraging bats, primarily pipistrelle species, but it was thought that small numbers of other species could be present.

It was considered that nearby buildings, especially occupied dwellings, in the surrounding area could offer greater potential as bat roosts. Bats favour heated, taller buildings whilst breeding.

## 3.4 Invasive Species

### 3.4.1 Flora

No Schedule 9 of the Wildlife and Countryside Act as amended 198, invasive, non-native species were present on the site at the time of the field survey. However, it should be noted that some non-native plants are very fast spreading and therefore the potential for these species to be introduced to the site at a later date cannot be ruled out. However for INNS in the Lancashire BAP, there are 10 reports of INNS Key Species. The nearest being Bramble *(Rubus armeniacus*), recorded as frequent on site and located in the west (0.510 km) from the site.

### 3.4.2 Fauna

Records in the surrounding area confirm the presence of Eastern grey squirrel (*Sciurus carolinensis*), Common Pheasant and Signal Crayfish (Pacifastacus leniusculus). At the time of the field survey no species listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) as an invasive non-native species were observed. However, we did observe bark stripping from the woodlands trees. It is anticipated that high abundances of grey squirrel are present within this region (Shuttleworth/RSST n.d.). This species will displace red squirrel through competition as well as increased red squirrel mortality through the spread of squirrel pox (The Mammal Society, 2020).

## 4.0 ECOLOGICAL CONSTRAINTS AND RECOMMENDED MITIGATION

### 4.1 Proposed Development & Mitigation

The proposals include the construction of 4 No. units welfare out building, and an access pathway. It is considered that the proposed changes to the site, as laid out in the planning application, can commence with minimal risk to the habitats, bats and nesting birds, if the following mitigation measures are adhered to.

The aim of mitigation is to ensure that any work is carried out in a manner that avoids harm, or significant disturbance to flora and fauna, also, to create new enhanced opportunities for both during and after development. However, a key issue in successful mitigation measures is the scheduled timing of the works. Ideally, all of the construction should be undertaken in the winter, to avoid the possibility of bats moving in and using the buildings as a spring, summer or autumn roost after the survey. The safest period will be from the first hard frosts, normally mid-December, until mid-March, although this could be earlier in a warm spring or later in a cold spring.

### 4.2 Designated and non designated sites

The site does fall within the Impact Risk Zone (IRZ) for a number of designated sites in the wider landscape, the nearest being a National Forestry Inventory woodland parcels, adjacent to the northern boundary of the development Site (spanning 0.56ha) - categorized as broadleaved woodland. Construction works may pose a risk of impact on this habitat and it is therefore recommended that suitable protective measures are put in place during this project.

With Bowland Fell (Beatrix Fell, Area 44) SSSI is positioned 1.3km northwest of the Site. Based on the IRZ information available on MAGIC Maps, the site does not meet any of the threshold criteria which would require further consultation with Natural England (NE). Given the degree of spatial separation with the SSSI, it is considered highly unlikely that any impacts will occur.

There are 6 non statutory BHS (Biological Heritage Sites) located within 2 km of the development site. The development site is positioned adjacent to Dunsop Fell and Low Fell BHS, the closest being Dunsop Fell, located 0.229km northwest of the red-line boundary. The Priority Habitat Inventory demonstrates 3 good quality, semi-improved grassland habitats (none-priority) within 2km of the development Site. The closest is positioned 0.45km south of the Site. With a further 46 Priority Habitats, consisting of upland heathland habitats, lowland fens, blanket bogs and upland flushes, the closest being ‘upland flushes, fens and swamps 0.6km to the west of the site. Given the degree of spatial separation, it is considered highly unlikely that any impacts will occur.

There are no priority ‘ponds and lakes’ within a 2km range of the Site.There may be a marginal increase of visitors to the site. However, based on the size of the scheme,it is anticipated the potential impacts will not be of significance.

### 4.3 Habitats

Referring to the Lancashire BAP, there are no priority habitats present on site. However, given the presence of woodland and ditches, construction works pose a risk of impact to these habitats, and it is therefore recommended that suitable protective measures are put in place during this project.

Note that the site comprised habitats that were found to be widespread in the area and it is assumed that those in the wider area are of better terrestrial quality to consequently contain value for wildlife such as bats, birds, amphibians, reptiles and terrestrial mammals.

#### 4.3.1 Other woodland mixed; mainly conifer

If trees require removal and/or works to be completed near trees, it is recommended that consultation is sought with an appropriate arborist. The loss of trees within the sire is currently unknown, as it is not fully detailed within the illustrative Site Layout provided (MacMarshalls Ltd, 12.12.24) Appendix 4. . It is recommended that the project should aim to retain and if possible, enhance the areas of woodland currently on site.

Generally, the protection measures of retained  trees will be through the use of temporary protective demarcation fencing to protect the trees and shrubs. The fencing must extend outside the canopy of the retained trees and must remain in position until completion of the project to ensure protection is provided throughout the construction phase. The fencing will be in accordance with BS 5837:2012 Trees in Relation to Design, Demolition and Construction: Recommendations.

It is recommended that replacement tree planting at a 1:3 ratio is required to compensate for loss of any trees. It is recommended that the planting comprises native species and species known to be of value for the attraction of wildlife. This will include fruiting and flowering species.

#### 4.3.3 Vascular plants

No priority vegetative species were identified on the site by the surveyor during the field survey to warrant any specific intervention measures.

One Lancashire BAP, INNS is present on site, Bramble (Rubus armeniacus) and it is considered that construction works, inclusive of vegetation clearance, are highly likely to spread this species further. To reduce this risk it is recommended that all cuttings are removed off site and disposed of properly prior to development.

Any proposed landscaping or planting carried out during the works should consider local soil types and habitats, and as such should prioritise native species which will better tolerate the soil type present on site and provision for faunal species present in the immediacy.

## 4.4 Fauna

### 4.4.1 Invertebrates

It is anticipated that mostly common and widespread invertebrates will use the site. Although limited notable invertebrates cannot be discounted, with the presence of deadwood and limited flowering plants within woodland and tall ruderal habitats.

Deadwood should be retained on the site where possible. If deadwood must be removed to facilitate the development, it should be moved to areas of retained woodland and/or within the 'wildlife areas.'

### 4.4.2 Amphibians

There is a possibility that great crested newt and common toad may use the site for migratory purposes.

It is recommended that Reasonable Avoidance Measures are to be followed during site clearance including:

- All site contractors are to be inducted to the potential presence of the species, their legal responsibilities and working limits by a qualified ecologist.
- During the development, no hole or pit should be left uncovered over-night, to ensure that wildlife such as amphibians, reptiles or hedgehogs are not trapped, and unable to escape. As such, all excavations should be checked first thing each morning, prior to the start of works that day. Any animals found within excavations should be allowed to escape and move off, or carefully removed and placed within suitable habitat cover before site work commences for the day. Alternatively a broad wooden plank can be placed in the excavation to allow animals to escape. A scaffolding board pitched at a maximum 45 degree angle should be ideal.
- Habitats deemed suitable for this species (i.e. scrub, woodland and tall ruderal habitats (including deadwood piles within the understorey) should be removed under full supervision of a suitably qualified ecologist.
- A fingertip search of these habitats prior to their removal to check for the presence or likely absence.
- Once habitats are deemed free of the species, the area will be turfed with a toothed bucket, until it is deemed unsuitable for the species. This should be done under ecologist supervision.
- Deadwood piles should be compensated for to minimise the loss of overwintering value on the site.

### 4.4.3 Reptiles

The site does offer limited potential overwintering habitat for reptile species within the deadwood piles for common reptile species (e.g. common lizard, slow worm, grass snake), whilst grass snake have previously been found within 2km of the site (see Section 3.1.3). However the majority of the site comprises bramble understory and smaller areas of acidic grassland, which is subject to anthropogenic disturbance and recent management methods, with suitable habitats for reptile species confined to the surrounding areas. Precautionary working methods (detailed in Section 4.4.2) will help to avoid harm to this species group.

### 4.4.4 Birds

No impacts are applicable in relation to any Sch.1 (WCA) specially protected raptor species such as barn owls, and no further surveys or recommendations are necessary in relation to specially protected birds, with no viability of nesting within the site boundary. The project could consider enhancement for any loss of foraging and nesting habitat caused by the project. This should be compensated for in the final plans of the proposed development. To include bird nest boxes targeted for local bird species and suitable planting that can provide foraging opportunities for local bird species. Landscape designs for this site should include plants of value to bird species, including fruiting and seed producing plants, to compensate for the loss of potential nesting habitats.

Regarding wider breeding bird species, there is no evidence of nesting sites within the site boundary. However, scrub and potentially the grassland, prior to clearance, could provide suitable nesting locations within the nesting bird season of March - August, inclusive.

NB: All wild birds (with only minor exceptions) and their nests whilst being built or containing eggs or dependant young are protected from destruction, damage and disturbance under the Wildlife and Countryside Act 1981 (as amended). It is a punishable offence to interfere in any way with an active nest.

Any works impacting upon these areas of potential suitability should be carried out outside of the breeding season (March to September, inclusive). If this is not possible, a suitably experienced ecologist should check the habitat for breeding bird activity no more than 48 hours before clearance. If nesting activity is found, nests must be left in situ until the young have fledged. It is recommended therefore to reduce any nest disturbance that appropriate buffer zones are placed around nest sites so that no activity involving people, or equipment is carried out within a 5 - 10m radius of active nests.

To conclude, it was thought likely that the overall area and some of the nearby features, could be used by nesting birds during the nesting season, but at the time of the survey in January( 2025), although there was some bird activity in and around the site, no active nests were found amongst the vegetation, and it was also summarised that due to the time of year, most birds will have ceased breeding some time earlier in the past year. It is also summarised that due to the time of year, most birds will have already not begun breeding, and there will be no young to fledge and disperse. (Refer to **Appendix 1)**.

Although there was good potential for barn owl to forage in the nearby vicinity (open fields and moorland), it was felt that all of the woodland and the timber outhouse in the site, offered negligible potential for either roosting, nesting or breeding (Refer to **Appendix 1**). As no evidence of roosting barn owls was in fact observed in any part of the site, then it was concluded that barn owls do not use the site, either as a regular nesting roost, or as a breeding roost, however, the foraging of barn owls within the surrounding vicinity could not be ruled out.

### 4.4.5 Bats

**Roosting Bats**

It may be possible that different parts of the development may be worked on at separate times, it will be very unlikely that roosting bats will be disturbed. It is recommended though that work starts as soon as possible after this survey, and that if any roof sheeting or boarding over walls is affected by the development, these should be carefully removed by hand, as these features are the ones most likely to harbour potential for the support of roosting bats.

Although all part of the woodland and the timber out building all had low bat roosting suitability in accordance with “Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition) Collins, J. (2023). It is recommended that if building works is delayed until more than 12 months between this survey and any commencement of any building work, then the surveys must be repeated, and these must include both a daytime evidence and opportunity survey and assessment, and potentially at least one evening nocturnal bat activity and emergence survey.

**Foraging and commuting Bats**

Habitats on site offer low value of commuting and foraging habitats for bats. With the woodland edge and open woodland glade habitats on site offering the highest value to bats as linear elements within the site that bats may use as navigational aids. However, the improved grassland, tall ruderal, introduced planting and scrub on site do not comprise high floristic diversity and as such are not anticipated to attract a high abundance of invertebrate prey.

It is recommended that the woodland glade areas are retained within the development to maintain an element of connectivity to the wider environment and preserve the commuting value the site offers to bats. As there is some potential for both foraging bats, and also for roosting and nesting birds within the site and the habitats beyond the site boundaries, it is recommended that where possible, these should mostly be left untouched, to encourage future bird nesting, and to maintain navigation, foraging and commuting routes for bats.

**Bats and Lighting**

Bats are sensitive to lighting and may be impacted by any proposed development, should no mitigation for lighting be considered.

Lighting mitigation should follow the guidance outlined in the Institute for Lighting Engineers document “Guidance for the Reduction of Obtrusive Lighting” (2005) and the BCT’s “Bats and Artificial Lighting in the UK” (2018). The construction lighting may impact bats which are sensitive to light. Directional lighting will be achieved by angle and orientation of the beam, use of a cowl, louvre or other light shield, or a combination of these.

An External Lighting Scheme had not been produced on the writing of this report.As such, the following recommendations are to be considered within the scheme during

its condition, to minimise the impacts of lighting. The recommendations for lighting design and schemes are in Appendix 9

It should be remembered that bats are occasionally found in the most unexpected places. If any bats are found during unsupervised work, the consultant Mike Fisher ([redacted]) or the Bat Conservation Trust, should be notified and work stopped immediately.

**Failure to do so would be a criminal offence.**

In summary, during the preliminary survey carried out in 2042 - 2025, neither current, nor historic evidence of roosting bats were found in any part of the site.

The timber outhouse hut currently used, was unheated and cold and therefore was not deemed suitable for breeding bats. Also, as damp and frost were both likely to penetrate the interiors, this building did not offer the optimum humidity, and stable low temperatures, that are required by hibernating bats. Therefore, this building was concluded to offer low potential as possible bat roosts and, is therefore judged to be of very low roosting suitability.

There were neither trees not shrubs within the site or growing around the site boundaries that, offered any cracks, canker damage, lifted bark or holes, that could be used by roosting bats or any species, and therefore they were all concluded to offer low bat roost suitability, (refer to **Table 4**).

The adjacent habitats had the potential to support low to moderate numbers of foraging common pipistrelles, but large numbers of other species of bats was unlikely. It is concluded that since there is currently no evidence of the presence of bat roosts within any part of the site and the building, that any proposed modifications to the site, will not have significant implications on the population status of local bat species. There will not be a requirement for an EPS mitigation licence (as issued by Natural England), but as a measure of best-practice, precautionary measures should be applied.

It was also concluded that since no evidence of roosting bats, or evidence of either recent or historic bat occupation has been found during the surveys carried out in 2024/25, then a single visit to the site to carry out a preliminary ecological appraisal at this time of the year, was considered sufficient for a preliminary assessment of the site, (refer to the ‘Bat worker’s Manual’ (JNCC 2004) and ‘Bat surveys - Good Practice Guidelines’ (BCT 2023).

Since bats, particularly Pipistrelles, are opportunistic, an absence of roost evidence within the site, does not preclude the low possibility of small numbers of bats, using the site occasionally in the future, and/or at other times of year. It is considered that the likelihood of a significant roost (such as a maternity roost) being established is very unlikely, with lone and/or transient roosting likelihood being negligible.

It was thought possible that there may be some site clearance work carried out during the planned development, but details of what this would entail were not known at the time of the survey. It was hoped that this will be kept to a minimum, and that

any scrub, immature trees or mature trees growing close to the site boundaries, would all be mostly unaffected by the work, and as bats use linear features such as lines of trees, hedgerows or walls are foraging, navigating and commuting routes, it was concluded that any small loss of the habitats, and any future development works on the site, would not affect the overall foraging or commuting potential for bats in the area.

### 4.4.6 Badger & Hedgehog

Whilst no direct evidence of badger or hedgehog was identified on site, no barriers exist to prevent them accessing the red line boundary, and their presence on site on an occasional basis is considered plausible.

It is therefore recommended that Reasonable Avoidance Measures (RAMs) are put in place at the site to avoid ani impacts to either of these species. RAMs to minimise construction impacts and prevent harm or injury to badgers and hedgehog should include, as a minimum:

- All working hours should be limited to daylight (dawn - sunset, or dawn - 6pm in winter) to avoid disturbing any badger or hedgehog in vicinity of the development.
- A pre-commencement check of the site, any stored materials and the immediate vicinity of development footprint will be carried out prior to any works each morning in order to check for the presence of badger or hedgehog. •
- Materials that may cause entrapment such as plastic / metal fencing, as well as those which could be potentially harmful to terrestrial mammals such as chemicals, should not be left around the site following the cessation of daytime work.
- No bulky equipment / general construction aggregates should be left around the development area, instead leave them on bare ground away from the risk zone.
- Stock piling of spoil material MUST be left un-compacted and not allowed to grass over, as if grassed over and compacted, terrestrial mammals may be encouraged to excavate new areas for refuge. • Fires must not be used as a means of the disposing of waste materials.
- Any trenches or excavations must either be covered at the end of each working day, or a low angle (no more than 45°) sloping board of approximately 300mm width should be provisioned within any uncovered excavations to provide a means of escape for any terrestrial mammals.
- Any temporarily exposed open pipe system MUST be capped in such a way as to prevent badgers gaining access, as may happen when contractors are off site. • In the event an underground void / potential sett entrance is exposed during the works, work must cease immediately; and an Ecologist must be contacted to determine if the opening forms part of a previously undiscovered tunnel network of a badger sett. If this cannot be ruled out, works will cease, and Natural England consulted for further advice.

## 5.0 OPPORTUNITIES FOR ENHANCEMENT

The National Planning Policy Framework (NPPF) (2021) highlights the requirement for planning policies and decisions to conserve and enhance the natural environment.

Paragraph 170 states that this should be achieved by (in terms of this assessment only);

a) protecting and enhancing valued landscapes, site of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);
b) Minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;

Specific enhancement recommendations for the site include the following:

- Bat and bird boxes could be placed on the new buildings/retained trees. A plan to show the locations of these boxes and specifications should be produced by a suitably qualified ecologist once the layout is finalised.
- Planting of linear features such as hedgerows and trees along the west and east boundaries, to add commuting features within the site.
- An ecologically sensitive planting scheme could be incorporated on the site to promote invertebrate use of the site, which could benefit local bat and bird species.
- Deadwood piles could be included within the retained habitats to provide regugia and hibernacula for small mammals, amphibians, reptiles and invertebrates.
- It is clear from the illustrative Site Layout provided (xxxx, xxx) (Appendix 4) that the suggested mitigation measures and ecological enhancements can be accommodated.

As a measure of best practice and in accord with a key principle of National Planning Policy Framework (2012), it is recommended that the re-development scheme for this site incorporates biodiversity enhancement measures, and an appropriate measure will be the installation of some Schwegler 1FD bat boxes. These will be attached to the planned buildings after the completion of the building works, and these are placed as close to the eaves, or gable apex as possible. Others are to be erected upon the trees around the site, and all of these should be at least 4 meters off the ground and positioned away from windows or doors and any climbing plants, to keep inhabitants of the boxes safe from predators and disturbance. Also, it is recommended that these measures are implemented to maximise the opportunities for wildlife at the site and obtain a net gain in biodiversity.

## 5.1 Biodiversity Net Gain

Lancashire has recognised the future requirements as per the draft LCC Local Nature Recovery of Strategy (2024). This is to conserve and enhance the area's biodiversity and geological features by protecting and enhancing Lancashire's environmental assets and achieving a minimum 10% net gain in biodiversity. The proposed development should avoid a net loss of biodiversity on the site and aim for an overall increase of 10% net gain.

## 6.0 CONCLUSION

The PEA has met the objectives of the report, by demonstrating the following:

- The major habitats identified on site include other mixed woodland - mainly coniferous and 2 ditches. An ‘poor’ quality pond is present to the south of the site. Full descriptions of these habitats are provided in Section 3.
- Mitigation recommendations to be completed prior and during the construction phase for invertebrates, amphibians, reptiles, nesting birds, foraging and commuting bats, roosting bats, hedgehogs and badgers have been detailed in Section 4.
- No further surveys are required to determine presence or absence and to inform relevant mitigation requirements.
- General ecological enhancements are listed in Section 5.

## 7.0 REFERENCES


Baker, J., Beebee T., Buckley, J., Gent, A. and Orchard, D. (2011). Amphibian Habitat Management Handbook. Amphibian and Reptile Conservation, Bournemouth. Available online at Download.ashx

Bat Conservation Trust and Institute of Lighting Professionals (2023). Bats and Artificial Lighting at night (Guidance Note (08/23) - Bats and the Built Environment Series. Available online at Guidance Note 8 Bats and Artificial Lighting | Institution of Lighting Professionals

British Hedgehog Preservation Society / People's Trust for Endangered Species (2019). Hedgehogs and Development. BHPS / PTES. Available online at Hedgehogs - People's Trust for Endangered Species

CIEEM (2019). Advice Note on the Lifespan of Ecological Reports and Survey. CIEEM. Available online at Advice note on the Lifespan of Ecological Reports and Surveys | CIEEM

CIEEM (2019). Guidelines for Ecological Appraisal. CIEEM. Available online at Guidelines-for-Preliminary-Ecological-Appraisal-Jan2018-typo-edit.pdf

Collins J. Ed (2023). Bat surveys for Professional Ecologists: Good Practice Guidelines (Third Edition). The Bat Conservation Trust, London. Available online at Bat Survey Guidelines 2023

Easton MA, Aebischer NJ, Brown AF, Hearn RD, Lock L, Musgrove AJ, Noble DG, Stroud DA and Gregory RD (2015). Birds of Conservation Concern 4: The Population Status of Birds in the United Kingdom, Channel Islands and Isle of Man. British Birds 108, 708-746. Available online at BB December 2015 -

Edgar, P., Foster, J., and Baker, J. (2010). Reptile Habitat Management Handbook. Amphibian and Reptile Conservation, Bournemouth. English Nature (2004). Available Online Download.ashx

Froglife (1999) Reptile Survey: An Introduction to Planning, Conducting and Interpreting Surveys for Snake and Lizard Conservation. Froglife Advice Sheet 10. Froglife, Halesworth. Available Online at Froglife Advice Sheet 9

Google Earth (2002). Historical aerial imagery of the site. Last checked 29.01.25

Harris S., CresswellP., Jefferies D. (1989). Surveying Badgers. The Mammal Society. Available Online Badger — Mammal Society

JNCC (2004). Bat Workers Manual, JNCC, Peterborough. Available Online Bat Workers' Manual (3rd edition) | JNCC Resource Hub

JNCC (2010). Handbook for Phase One Habitat Survey - 2010 Edition. England Field Unit, Nature Conservancy Council. Reprinted JNCC. Available Online

Handbook for Phase 1 habitat survey

Lancashire BAP

Maddock, A. (2011). UK Biodiversity Action Plan; priority habitat descriptions. UK Biodiversity Action Plan. Available Online
UK Biodiversity Action Plan: Priority Habitat Descriptions (Updated December 2011)

Mathews, F., Kubasiewicz, L.L., Gurnell, J., Harrower, C.A., McDonald, R.A.,and Shore, R.F. (2018). A review of the population and conservation status of British Mammals. A Review of the Population and Conservation Status of British Mammals - JP025

Oldham, R. S., Keeble, J., Swan, M.J.S., and Jeffcote, M. (2000). Evaluating the suitability of habitat for the Great Crested Newt (Triurus cristatus). Herpetology Journal 10 (4), 143-155. Oxford City Council (n.d.) Technical Advice Note.
The_Herpatological_Journal_V10_N4

The Wildlife Trust - Ringlet Butterfly. Ringlet | The Wildlife Trusts (accessed 2025).

## APPENDIX 1 - RELEVANT LEGISTLATION

### Legislation relating to European Protected Species (e.g. Bats, great crested newt)

European Protected Species and their resting places (e.g. bat roosts) are protected under the Wildlife and Countryside Act 1981 (as amended), the Countryside and Rights of Way (CRow) Act 2000, and the Conservation of Habitats and Species Regulations 2017.

The conservation of Habitats and Species Regulations 2017 transpose the European Union's Habitat Directive (Council Directive 92/43/EEC) on the Conservation of Natural Habitats and of Wild Fauna and Flora (EC Habitats Directive) into UK law. The Regulations provide for the designation and protection of 'European Sites,' and protection of 'European Protected Species' (EPS), and the adaptation of planning and other controls for the protection of European Sites. EPS are listed on Schedule 2 of the Conservation of Habitats and Species Regulations 2017.

### Under the Wildlife and Countryside Act 1981 (a amended) it is an offence to:

- Intentionally kill, injure or take certain animals listed in Schedule 5.;
- Intentionally or recklessly damage or destroy any structure or place which any wild animal specified in Schedule 5 uses for shelter or protection;
- Intentionally or recklessly disturb any such animal while it is occupying a structure or place which it uses for shelter or protection, or
- Intentionally or recklessly construct any access to any structure or place which any such animal uses for shelter or protection.

In addition, under this legislation there are offences relating to the sale, possession and control of wild animals listed in Schedule 5.

### Under the Conservation of Habitats and Species regulation 2017 it is an offence to:

- Deliberately capture, injure or kill any wild animal listed as a European Protected Species;
- Deliberately disturb wild animals of any such species in such a way as to be likely; to impair their ability;
    - To survive, to breed, to reproduce, or to rear or nurture their young; or;
    - In the case of animals of a hibernating or migratory species, to hibernate or migrate, or;
- To affect significantly the local distribution or abundance of the species to which they belong.
- Deliberately take or destroy the eggs of such an animal, or;
- Damage or destroy a breeding site or resting place of such an animal.

In addition, under this legislation there are offences relating to possession, control sale and exchange of an EPS.

Great crested newt and several species of bat are listed as a SoPI under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006.

## Legislation for amphibians (other than great crested newt)

Under the Wildlife and Countryside Act 1981 (as amended) the four widespread amphibian species smooth newt (Triturus vulgaris), palmate newt (Triturus helveticus), common toad (Bufobufo) and common grog (Rana temporaria) receive limited protection through section 9(5) only makes selling, offering for sale, possessing or transporting for the purpose of sale (lice or dead animal, part of derivative) an offence.

Common toad is listed as a SoPI under Section 41 of the NERC Act 2006.

## Legislation relating to reptiles

All native reptile species have some degree of protection in the UK, through section 9(1) and (5) (specified in Schedule 5) of the Wildlife and Countryside Act 1981 (as amended). There are two different levels of protection afforded to reptiles through this legislation according to species and this is described in more detail below.

### Full Protection

Sand Lizard (Lacerta agilis) and smooth snake (Coronella austriaca) are afforded protection under The Conservation of Habitats and Species Regulation 2010 (are species of European importance) and are fully protected under the Wildlife and Countryside Act 1981 (as amended) and the CRoW Act (200). The Conservation of Habitats and Species Regulations 2010 implements the European Union's 'Habitat Directive' (Council Directive 92/43/EEC (a) on the Conservation of Natural Habitats and the Wild Fauna and Flora) in Great Britain. The relevant sections of this legislation make it an offence to:

- Intentionally kill, injure or capture or take a reptile;
- Possess or control (live or dead animal, part of derivative);
- Deliberately (intentionally) or recklessly damage, destroy or obstruct a access to a breeding site or any structure or place used for shelter or protection by a reptile;
- Disturb whilst the reptile is occupying such a structure or place; and
- Sell, offer for sale, possess, or transport for the purpose of sale (live or dead animal, part or derivative).

Sand lizard and smooth snake are listed asa SoPI under Section 41 of the NERC Act 2006.

### Protection against killing, injury and trade

This level of protection under Section 9 (part 1 and 5) applies to the four widespread species of reptile, namely the common lizard (Zootoca vivipara), slow-worm (Anguis fragilis), grass snake (Natrix natrix) and adder (Viper berus). Only part of sub-section 9 (1) applies, which make it an offence to:

- Intentionally kill or injure, and
- Sell, offer for sale, possess or transport for the purpose of sale (live or dead animal, part or deivative).

Grass snake, slow worm and adder are all listed as SoPI under Section 41 of the NERC Act 2006.

## Legislation relating to breeding birds

All birds, their nests and eggs are protected by the 'Wildlife and Countryside Act 1981 (as amended) and it is an offence, with certain exceptions, to:

- Intentionally kill, injure or take any wild bird;
- Intentionally take, damage or destroy the nest of any wild bird while it is in use or being built;
- Intentionally take or destroy the egg of any wild bird; and,
- Intentionally or recklessly disturb any wild bird listed on Schedule 1 while it is nest building or is on, on or near a nest with eggs or young; or disturb the dependent young of such a bird.

Schedule 1 of the Wildlife and Countryside Act 1981 provides further protection for selected species (including peregrine falcon (Falco peregrinus), barn owl (Tyto alba), little ringed plover (Charadrius dubious) and black redstart (Phoenicurus ochruros) during the breeding season. If any person intentionally or recklessly disturbs any wild bird included in Schedule 1 while it is building a nest or is in, on or near a nest containing eggs or young; or disturb dependent young of such a bird. That person shall be guilty of an offence.

A number of bird species are listed as SoPI under Section 41 of the NERC Act 2006.

## Conservation status - Birds of Conservation Concern (Eaton et al. 2015)

The UK's leading bird conservation organisations have worked together on the third quantitative review of the status of the birds that occur regularly in the UK, updating the last review in 2011. The status of birds within the UK have been regularly monitored through a series of surveys, including the national Breeding Bird Survey, Common Bird Census, sea bird monitoring programs and wetland monitoring programs. The result of this review and continued monitoring is The Population Status of Birds in the UK, Birds of Conservation Concern 4: 2015.

Birds are assessed against criteria to place each species on one of three alert lists, red, amber or green. Red list species are considered to be of high conservation concern, being either globally threatened, having historical UK population declines, having a rapid population decline or breeding range contraction of 50% or more in the last 25 years.

Amber list species are considered to be of medium conservation concern as they meet one or more of the following criteria (but none of the red list criteria). Red listed for historical decline in a previous review but with substantial recent recovery (more than doubled in the last 25 years), a UK breeding range contraction of between 25% and 49%, a reduction of breeding or non-breeding population of 25-49% in the last 25 years, a 5 year mean of 1-300 breeding pairs in the UK, an unfavourable European conservation status, at least 50% of the UK breeding population found in 10 or fewer sites, or where the breeding population in the UK represents 20% or more of the European breeding populations.

Green list species are considered to be of low conservation concern. They include all regularly occurring species that do not qualify under any of the red or amber criteria

and are green listed. The green list also includes those species listed as recovering from Historical Decline in the last review that have continued to recover and do not qualify under any of the other criteria.

## Legislation relating to Badger

Badgers are protected under the Protection of Badgers Act 1992 (as amended) which makes it an offence to:

- Wilfully kill, injure, take, possess or cruelly ill-treat a badger, or to attempt to do so;
- Intentionally or recklessly damage, destroy or obstruct access to a badger sett; and,
- Disturb a badger when it is occupying a sett.

These provisions have implications for construction and preparation works undertaken in the vicinity of an active sett and may be confounded by distance from a sett entrance. Any works resulting in ground penetration, vibration or noise near an identified badger sett entrance/s have the potential to disturb badgers and advice should be sought from a suitably experienced ecologist under such circumstances. If disturbance to an active sett is probable, then a licence may need to be obtained from Natural England before any works commence.

## Legislation relating to invasive plant species

Several non-native invasive plant species sich as Himalayan balsam (Impatiens glandilifera), giant hogweed (Heracleum mantegazzianum), Japanese Rose (Rosa rugosa), variegated yellow archangel (Lamiastrum galeobdolon), rhododendron (Rhododenron ponticum) and Japanese Knotweed (Reynoutria japonica) are listed under Schedule 9 of the Wildlife and Countryside Act, 1981 (as amended), which makes it an offence to '....plant or otherwise cause the species to grow in the wild'. This includes spreading or transferring contaminated soil from one area to another.

Estate managers and landowners have a duty to pro-actively treat knotweed outbreaks. Under the Natural Environment and Rural Communities Act 2006 (NERC), subsection 14ZA (1), makes it an offence to sell, offer for sale, or to have in one's possession or transport for the purpose of sale, any Schedule 9 animal or plant oor anything from which sich an animal or plant can be propagated, including rhizomes of Japanese knotweed. Under subsection 14ZA (2) it is also an offence to public or cause to be published any advertisement for the sale or purchase of these animals or plants.

The Environmental Protection Act 1990 (EPA1990) contains a number of legal provisions concerning controlled waste. AnyJapanese knotweed contaminated soil or plant material that is intended for discard is likely to be classified as controlled waste.

The Environmental Protection (Duty of Care) regulations 1991 also imposes a 'duty of care' on persons concerned with controlled waste, which includes any materials incorporating Japanese Knotweed including soil, grass cuttings, general wastes and ash arising from the burning of knotweed. The duty applies to any person, who produced, imports, carries, keeps, treats or disposes of controlled waste. Failure to appropriately dispose of any material containing Japanese Knotweed may lead to prosecution under Section 33 and 34 of the EPA 1990 and Section 14 (2) of the Wildlife and Countryside Act 1981 (as amended).

If Knotweed stands are to be treated with herbicides, The Control of Pesticides Regulations (1986) applied. These regulations require any person who uses a pesticide to take all reasonable precautions to protect the health of human beings, creatures and plants, safeguard the environment and in particular avoid the pollution of water. If pesticides are to be used in or near to a watercourse, the Environment Agency should be contacted, and approval must be sought (application to use herbicides in or near water).

Waste leaving the site must be handled responsibility and in accordance with the law at all stages between its production and final recovery or disposal. Waste must be transferred to an authorised person, wipo is either a registered waste carrier or exempted from registration by the Controlled Waste (Registration of Carriers and Seizure of Vehicles) Regulations 1991.

Additional legislation regarding the transport of Japanese Knotweed contaminated materials is covered by the Hazardous Waste Regulations 2005 (HWR 2005). This contains provisions about the handling and movement of hazardous waste. Consignment notes must be completed when any hazardous waste is transferred, which includes details about the hazardous waste properties and any handling requirements. Untreated Japanese Knotweed is not classed as hazardous waste, but material containing Knotweed which has been treated with certain herbicides, may be classified as hazardous waste.

If any waste soil of knotweed is sent for landfill either before or after treatment, it must go to a landfill that is authorised to receive it.

## Bluebells

Bluebells are protected by the Wildlife and Countryside Act 1981 (as amended). It prohibits anyone from digging up bulb in the countryside and landowners from removing bluebells from  their land for sale. The species is also listed on Schedule 8 of the Act in 1998 which makes trade in wild bluebell bulbs or seeds an offence.

## APPENDIX 2 - BAT PRELIMINARY EVIDENCE AND OPPORTUNITY ASSESSMENT

### 2.1 The Building - Timber Outhouse

In the north western corner of the site is a timber outhouse, which consisted of a wooden frame covered in over lapped waney lap planking, with the sloping roof made from concrete corrugated board. There is insulation panelling on the internal roof structure with a shallow internal roof cavity. This building is currently unoccupied and the whole construction is in good condition and is unheated and, as such would be damp, draughty and cold, and as frost and inclement bad weather could penetrate the interior of the building in the second part of the year, the timber outhouse would be deemed low for either daytime roosting bats or breeding bats, and did not offer the optimum humidity and constant low temperatures that are required for hibernating bats, (refer to photos 1 and 2).

In accordance with the “Bat Survey, Good Practice Guidelines” (Bat Conservation Trust Collins J 2023), a ‘low’ roosting habitat in structures is classified as “A structure with one or more potential roost sites that could be used by individual bats opportunistically at any time of the year. However, these potential roost sites do not provide enough space, shelter protection, appropriate conditions, and or/suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity and not a classic cool/stable hibernation site, but could be used by individual hibernating bats” (Collins J. ed 2023.) Refer to **Table 4**.

Photograph 1- External of timber out house

Photograph 2 - internal of timber outhouse.

There were potential bat access points however, and these were:

- Each roof canopy was open along its northern and southern elections and a thorough internal search using torches, found neither bat droppings, any invertebrate prey remains, nor any grease fur staining, also no urine stains were found amongst the wood when viewed using a UV flashlight, it concluded therefore, that bats do not use the timber outhouse for any type of roosting. Also due to the outhouse being at ground level, it was thought that if bats did in fact roost within the outhouse, they could potentially be predated on, and therefore the timber outhouse was deemed to remain low roosting suitability.

## 2.2 Trees and shrubs

The site consists of mature and young trees with bramble scrub as the understorey and where possible these were all inspected for signs of potential bat roosting suitability. However, none were found to have any lifted bark, canker damage, any cracks, or holes suitable for roosting bats, and as such, all were judged to be category 3 (of negligible value for roosting bats) in accordance with **Table 3**.

### 2.2.3 Foraging Potential and Alternative Bat Roost Potential

The woodland is in a rural area and situated to the north of a lane, and surrounded by lengths of wire fencing and ephemeral drainage ditches along the north and south boundaries. Mature trees are growing along the western, northern and eastern boundaries with young trees planted along the southern boundary and the corner of the south eastern boundary. The lane on the southern boundary ran in an east to west orientation immediately south of the ditch, with farm buildings immediately to the south of this ditch.

The site to the north of the site itself consists of a mixed woodland and a small wooden hut is in the adjacent area (upon inspection the woodland was judged to be (low value for roosting bats) and the wooden hut was deemed unsuitable for either daytime roosting bats or breeding bats, and did not offer the optimum humidity and constant low temperatures that are required for hibernating bats). Whilst to the east of this were large areas of open pasture, bordered by wire fencing and site walls. To the west of the site this contained 4 camping pods (these were assessed as low for roosting and hibernation opportunities for bats, due to no presentation of suitable features and predation risk at ground level) open pasture, a small ephemeral pond positioned nearby to them and a young planted hedgerow. The south of the lane is bordered by a farm house and farm buildings.

Further east and south there are numerous areas of open pasture boarded by stone walls and lines of fencing or groups of other coniferous woodland and posts, together with a small number of farms dotted amongst them. To the south east there is a series of 3 in field ponds. To the west there is a similar landscape with 1 pond and felled woodland clough and felled large coniferous woodland (the latter has been replanted) and to the north direction is moorland fells. The adjacent farm buildings

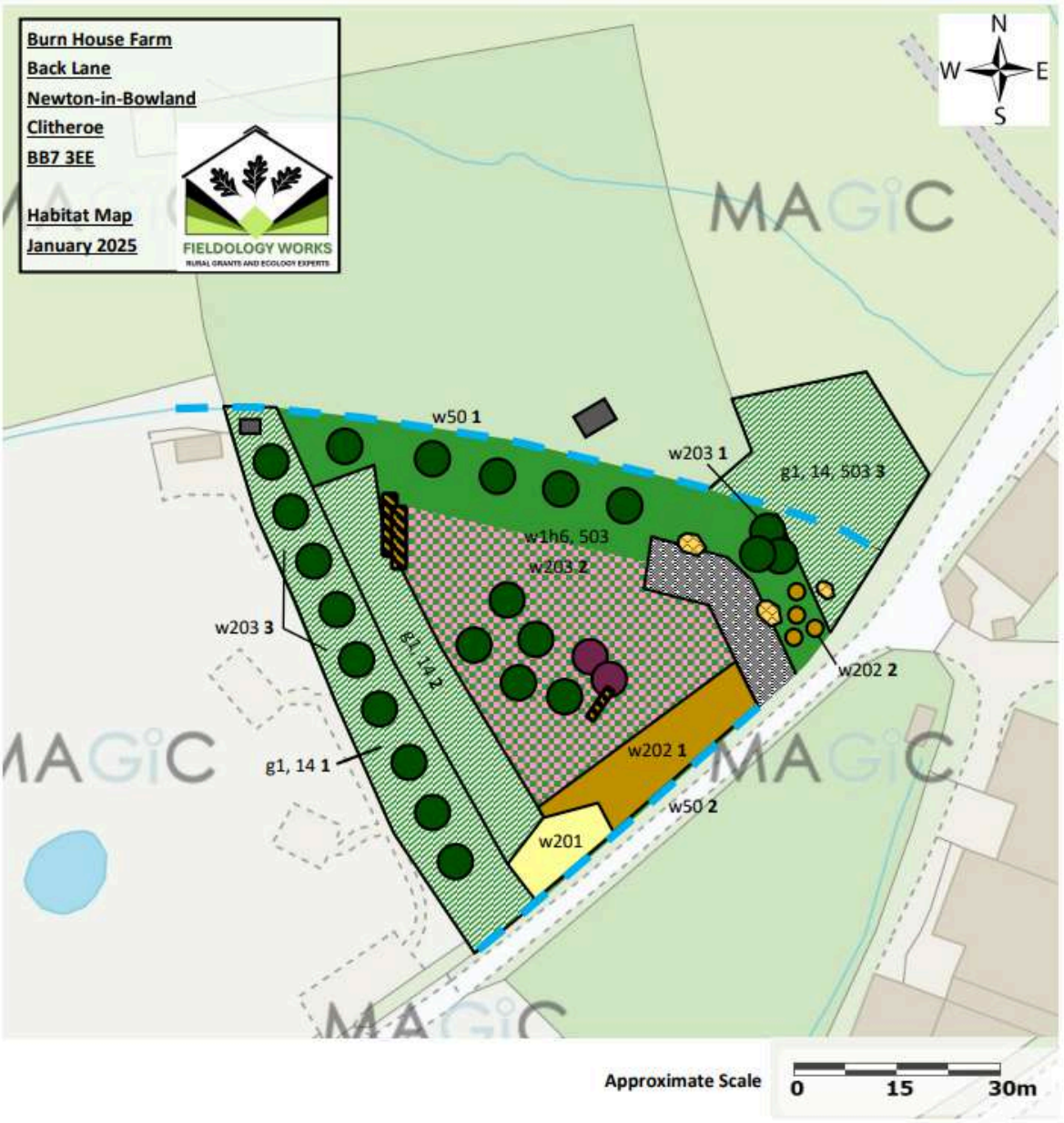
and nearby features offered some linear features suitable for foraging bats such as Common Pipistrelle, (Pipistrellus pippistrellus), and possibly other bat species, to help them navigate and commute, and to hunt along for their insect prey.

In accordance with the “Bat Survey, Good Practice Guidelines” (Bat Conservation Trust Collins J 2023), it says .(Refer to **Table 4**). The site provides low potential for foraging bats at the exterior and open clearings of the woodland, and the trees present offer negligible roosting and hibernating opportunities, due to the absence of suitable features. To be a low potential flight path and foraging habitat the “habitat could be used by small numbers of bats as flight-paths, such as a gappy hedgerow or unvegetated ‘ditch’, but isolated i.e. not very well connected to the surrounding landscape by other habitats. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.

The farm house and buildings block to the south of the site fit these criteria, and as there were no really large areas of deciduous woodland, or large bodies of open water in the nearby vicinity, the local area overall, was assessed to offer low to moderate suitability for foraging bats, primarily pipistrelle species, but it was thought that small numbers of other species could be present.

It was considered that nearby buildings, especially occupied dwellings, in the surrounding area could offer greater potential as bat roosts. Bats favour heated, taller buildings whilst breeding.

## APPENDIX 3: Habitat Plan and DAFOR



**Key**

w1h6, 503 - Other woodland mixed; mainly Conifer (*Pinophyta sp.*) and wet

h3d, 12, 14 - Bramble (*Rubus fruticosus agg.*) scrub with scattered Bracken (*Pteridium aquilinum*) and scattered Rushes (*Juncus spp.*) - *understorey of w1h6*

w201 - Young trees - planted

w202 - Young trees - self-set

*w202* ***1*** *- Habitat Parcel* ***1****: Alder (Alnus glutinosa), Birch sp. (Betula sp.), Hazel (Corylus avellana), Hawthorn (Crataegus monogyna), Elderberry (Sambucus nigra), Willow sp. (Salix sp.) and Oak (Quercus robur)*

*w202* ***2*** *- Habitat Parcel* ***2****: Hazel (Corylus avellana) and Oak (Quercus robur)*

w203 - Mature trees

*w203* ***1*** *- Habitat Parcel* ***1****: Conifer sp. (Pinophyta sp.)*

*w203* ***2*** *- Habitat Parcel* ***2****: Mixed species comprising Sitka spruce (Picea sitchensis), Conifer sp. (Pinophyta sp.), Oak (Quercus robur), Sycamore (Acer pseudoplatanus), Willow sp. (Salix sp.), Aspen (Populus tremuloides), Beech (Fagus sylvatica), Birch sp. (Betula sp.), Hazel (Corylus avellana), Hawthorn (Crataegus monogyna), Scots pine (Pinus sylvestris) and Elderberry (Sambucus nigra)*

*w203* ***3*** *- Habitat Parcel* ***3****: Shelterbelt of Pine spp. (Pinus spp.), Sycamore (Acer pseudoplatanus) and Beech (Fagus sylvatica)*

w207 - Forest brash

w214 - Deadwood abundant

w215 - Standing deadwood *(Hawthorn)*

g1 - Acid grassland

*g1,14* ***1*** *- Habitat Parcel* ***1****: With scattered rushes (Juncus spp.) and understorey of (w203* ***3****) mature trees shelterbelt*

*g1, 14* ***2*** *- Habitat Parcel* ***2****: With scattered rushes (Juncus spp.) and clearing area, where trees recently felled*

*g1, 14, 100, 503* ***3*** *- Habitat Parcel* ***3****: With scattered rushes (Juncus spp.), grazed and wet*

w50 - Ditch

*w50* ***1*** *- Habitat Parcel* ***1****: Northern boundary ditch*

*w50* ***2*** *- Habitat Parcel* ***2****: Southern boundary ditch*

u1b5 - Building/structure

w839, 81 - Woodland track, with ruderal ephemeral vegetation

**Burn House Farm**
**Back Lane**
**Newton-in-Bowland**
**Clitheroe**
**BB7 3EE**

**Habitat Map**
**January 2025**

FIELDOLOGY WORKS

## w1h6 Canopy & Tree Species

Burn House Farm, Back Lane, Newton-in-Bowland, Clitheroe, BB7 3EE

| **w1h6 Other woodland mixed; mainly conifer - canopy & tree species** | | **Dominant** | **Abundant** | **Frequent** | **Occasional** | **Rare** |
|---|---|---|---|---|---|---|
| Alder | *Alnus glutinosa* | | | | x | |
| Aspen | *Populus tremula* | | | | | x |
| Beech | *Fagus sylvatica* | | | | | x |
| Birch sp. | *Betula sp.* | | | | x | |
| Conifer sp. | *Pinophyta sp.* | | x | | | |
| Elderberry | *Sambucus nigra* | | | | | x |
| Hawthorn | *Crataegus monogyna* | | | x | | |
| Hazel | *Corylus avellana* | | | x | | |
| Oak | *Quercus robur* | | | x | | |
| Rowan | *Sorbus aucuparia* | | | | | x |
| Scots pine | *Pinus sylvestris* | | | | x | |
| Sitka spruce | *Picea sitchensis* | x | | | | |
| Sycamore | *Acer pseudoplatanus* | | | | x | |
| Willow sp. | *Salix sp.* | | | | | x |

## w1h6 Understorey

Burn House Farm, Back Lane, Newton-in-Bowland, Clitheroe, BB7 3EE

| **w1h6 Other woodland mixed; mainly conifer - understorey vegetation** | | **Dominant** | **Abundant** | **Frequent** | **Occasional** | **Rare** |
|---|---|---|---|---|---|---|
| Bracken | *Pteridium aquilinum* | x | | | | |
| Bramble | *Rubus fruticosus agg.* | x | | | | |
| Bryophyte spp. | *Bryophyta spp.* | | x | | | |
| Chickweed | *Stellaria media* | | | | | x |
| Common nettle | *Urtica dioica* | | | | x | |
| Common sorrel | *Rumex acetosa* | | | | x | |
| Fern sp. | *Polypodiopsida sp.* | | x | | | |
| Foxglove | *Digitalis purpurea* | | | | | x |
| Leaf litter | - | x | | | | |
| Pine needle litter | - | | x | | | |
| Soft rush | *Juncus effusus* | | x | | | |
| Thistle sp. | *Cirsium sp.* | | | | | x |
| Tufted hair grass | *Deschampsia cespitosa* | | | | x | |

## g1 Acid Grassland

Burn House Farm, Back Lane, Newton-in-Bowland, Clitheroe, BB7 3EE

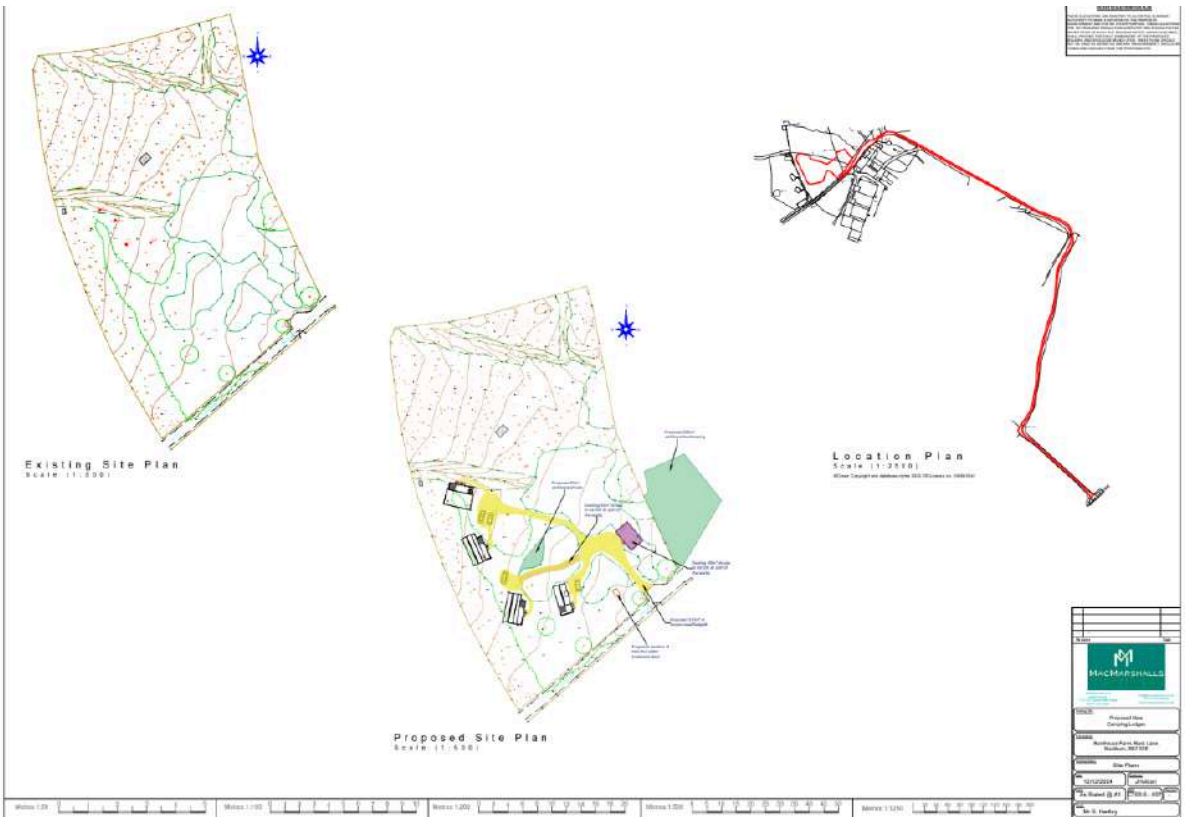
| **g1 Acid grassland - Habitat Parcels 1 & 2** | | **Dominant** | **Abundant** | **Frequent** | **Occasional** | **Rare** |
|---|---|---|---|---|---|---|
| Bryophyte spp. | *Bryophyta spp.* | | | | x | |
| Fern | *Polypodiopsida sp.* | | | | x | |
| Fungi spp. | - | | | | | x |
| Hard rush | *Juncus inflexus* | | | | x | |
| Leaf litter | - | | x | | | |
| Pine needle litter | - | | x | | | |
| Red fescue | *Festuca rubra* | | | x | | |
| Soft rush | *Juncus effusus* | | | | x | |
| Tufted hair grass | *Deschampsia flexuosa* | | x | | | |
| Yorkshire fog | *Holcus lanatus* | | x | | | |

| **g1 Acid grassland - Habitat Parcel 3** | | **Dominant** | **Abundant** | **Frequent** | **Occasional** | **Rare** |
|---|---|---|---|---|---|---|
| Beech (saplings) | *Fagus sylvatica* | | | | | x |
| Bryophyte spp. | - | | | | x | |
| Buttercup sp. | *Ranunculus sp.* | | | | x | |
| Common couch | *Elymus repens* | x | | | | |
| Common nettle | *Urtica dioica* | | | | | x |
| Hard rush | *Juncus inflexus* | | x | | | |
| Red fescue | *Festuca rubra* | | | | x | |
| Soft-rush | *Juncus effusus* | | x | | | |
| Thistle sp. | *Cirsium sp.* | | | | | x |
| Tufted hair grass | *Deschampsia cespitosa* | | x | | | |
| Yorkshire fog | *Holcus lanatus* | | x | | | |

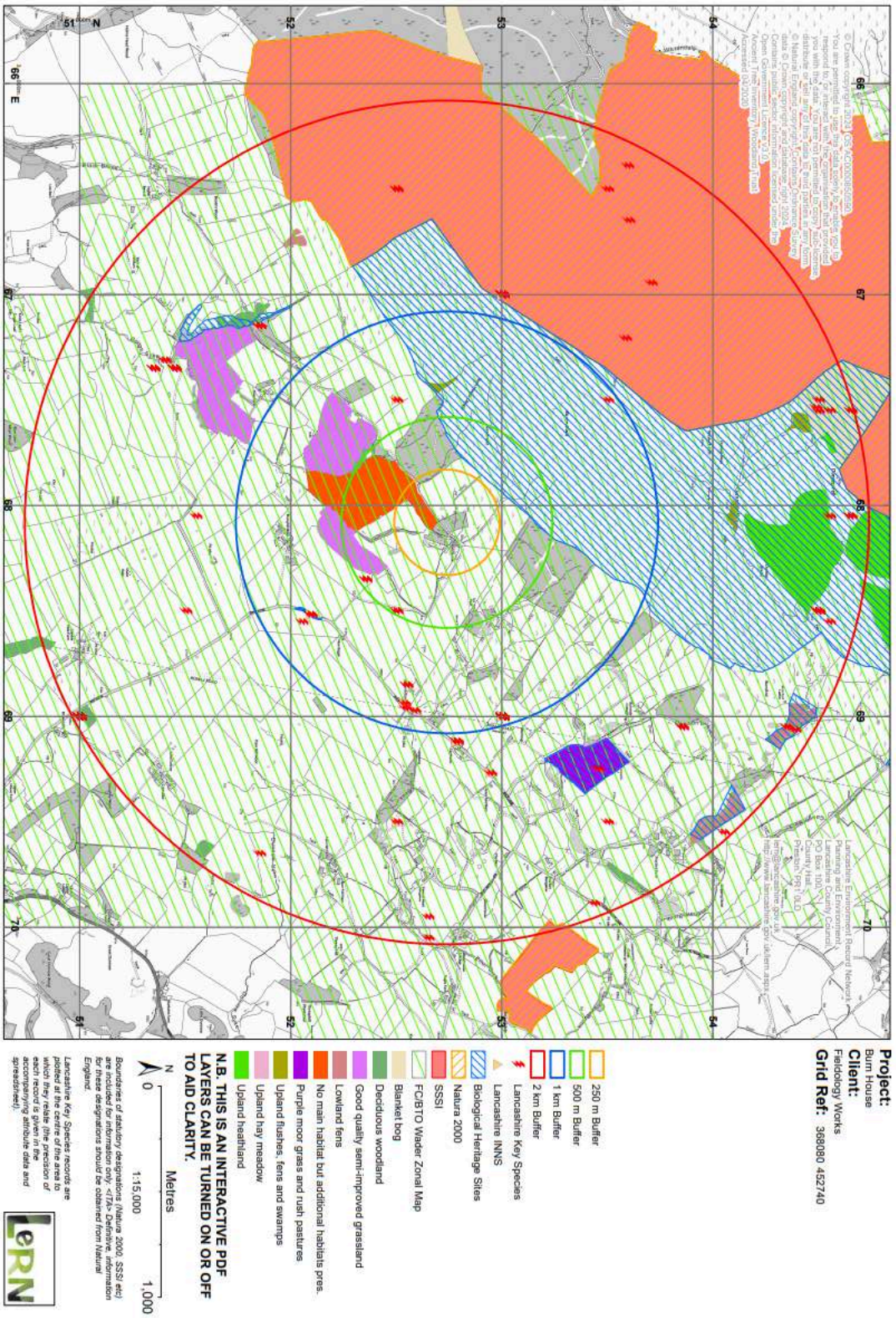
## w839 Woodland Track

| Burn House Farm, Back Lane, Newton-in-Bowland, Clitheroe, BB7 3EE | | | | | | | |
|---|---|---|---|---|---|---|---|
| **w839, 81 Woodland track, with ruderal ephemeral vegetation** | | **Dominant** | **Abundant** | **Frequent** | **Occasional** | **Rare** | |
| Bare ground | - | | x | | | | |
| Broad-leaved dock | *Rumex obtusifolius* | | | | x | | |
| Chickweed | *Stellaria media* | | | x | | | |
| Common sorrel | *Rumex acetosa* | | | | x | | |
| Creeping buttercup | *Ranunculus repens* | | | x | | | |
| Grass spp. | *Gramineae spp.* | | | x | | | |
| Leaf litter | - | | | x | | | |
| Pine needle litter | - | | | | x | | |
| Rosebay willowherb | *Chamaenerion angustifolium* | | | | | x | |

## APPENDIX 4: SITE LAYOUT PLAN



## APPENDIX 5: LEARN DATA RESULTS



## APPENDIX 6: Bats: What to do, should bats be found during building work.

All of the UK's bats and their roosts, are protected by law, (see Appendix 1), so it is important to understand these laws, if you are planning any building or remedial work that may affect or disturb a bat roost. The relevant statutory authority should be initially contacted for advice.

Having bats roosting within a building does not necessarily mean that work cannot be carried out. What it does mean is that the work will need careful consideration, especially in terms of time and materials, so that the area can continue to be used by both bats and people. Therefore, the earlier in the process. the bats are taken into account, the less disruption to building plans there will be.

If at any point during either new building work, renovation work, or demolition, one or more bats are found, then all work being undertaken by contractors should stop immediately. All working machinery and contractors should be removed from the area where the bats have been found, and advice sought immediately from one of the following, on how to proceed while causing minimal disturbance to bats.

Advice can either be provided by a professional licensed ecological consultant - Echo Calls Bat Surveys on [redacted] the Bat Conservation Trust on 0345 1300 228, or from your Statutory Nature Conservation Organisation (SNCO) , or from Natural England on 01270 754 000.

Depending on the advice given, a licensed bat worker, or suitably qualified Natural England approved representative, will then be sent to site to liaise with the site manager, and Natural England itself. Depending on the advice given, actions will be recommended that may include the safe removal of the bat by the nominated person, only where written or verbal permission has been gained by Natural England.

Works will recommence when Natural England are satisfied that the risk to bats has been removed. If, however, it is determined that the proposed work on site contains more risk to bats than was originally thought, then it is probable that further work will only proceed under a Natural England Development Licence.

If a bat is found under a tile, slate, flashing or any other covering material, work must stop immediately. If the bat does not fly out immediately, then the area around the roost must be carefully covered over, to protect the bat from the elements and further disturbance, leaving a small gap for bats to escape voluntarily. At this point, advice must be sought as mentioned above. The materials used to cover the occupied bat roost must be free from liquid, oil, grease, and other contaminants.

It is recommended that the handling of bats be avoided wherever possible, but if it absolutely necessary, then to avoid a bat being harmed, gloves must be worn whilst handling the bat. It should be carefully caught, placed in a cardboard box with air holes in the lid, and a small container containing water. The box should then be kept in a very quiet, dark area, away from further disturbance, whilst awaiting the arrival of the licensed bat worker, or Natural England approved representative.

**Failure to do any part of this could result in a criminal offence**.

## APPENDIX 7 - Types of Bat Boxes

The aim of any mitigation is to ensure that any work is carried out in a manner that avoids harm or significant disturbance to bats, and also to create new roosting opportunities for bats both during and after the development.

Schwegler 1FD boxes are to be erected to larger trees located along the edges of the site. This type of bat box is a "general all-rounder" and is suitable for all types of bats.

These boxes are to be erected as recommended by the Bat Conservation Trust guidelines which state that

- Ideally, erect the boxes facing so they face in different directions, to provide a range of temperature conditions. For example, boxes facing from south-east to south-west allow the sun to fall on each box for part of the day. During very hot days a south-facing box may overheat, but the other boxes should have some shade during the day.
- Bat boxes should be located close to a linear vegetation feature such as a tree line or hedgerow or to lines of buildings. Some bat species use these features for navigation between their roosting site and feeding ground and to avoid flying in open and exposed areas.
- Ensure that tree branches or other items will not impede the bats' approach to the box – clear away underneath the box so the bats can land easily before crawling into the box.
- Boxes should be erected at a height of approximately 4m above ground level.

**Schwegler 1FD Bat Box**

This Schwegler 1FD bat box has been developed specifically for smaller bats. The interior and the type and size of the entrance hole match the requirements of smaller species. It features a special layout inside the domed roof, an increased interior height, and two grooved internal wooden front panels with precise spacing between them.

This model has proved highly effective as a nursing area.

**Occupants**: Small bats such as the Common Pipistrelle (*Pipistrellus pipistrellus*), Soprano Pipistrelle (*Pipistrellus pygmaeus*), Daubenton`s Bat (Myotis daubentonii) and Common Long-eared bat (Plecotus auritus).

## APPENDIX 8: Nesting Birds Mitigation and Compensation Measures

Birds are declining throughout the country due to loss of roost and nesting places, and as the development may disturb nesting potential on the site, artificial nests are to be erected to compensate for this possible loss. The erection of artificial nests around the complex, will provide alternative sites for all three species of bird, and make a positive contribution to their conservation.

**Making a nestbox suitable for robins and other box builders**

**What you need**

Natural nest holes do not come in standard sizes, so use these dimensions only as a guide. Any plank or sheet of about 15 mm thick weatherproof timber is suitable. However, do not use CCA pressure-treated timber, since the leachates may harm birds. Cut each section as per our plan, which you can download by clicking on the link to the right.

**Dimensions**

The plan gives measurements for a small and a large box. Use only the first or the second figure throughout. For starlings and great spotted woodpeckers, use the dimensions for the large box; all the others need the small one.

The bottom of the entrance hole must be at least 125 mm from the floor of the nestbox. If it's less, young birds might fall out or be scooped out by a cat. The inside wall below the entrance hole should be rough to help the young birds to clamber up when it's time for them to leave.

**Putting it together**

Drill drainage holes to the base of the box, and use galvanised nails or screws to assemble. It's always best to leave the box untreated. As it weathers, it will blend into its surroundings. Softwood boxes can be treated with selected water-based preservatives, which are known to be safe for animals, such as Sadolin. Apply it only to the outside of the box, and not around the entrance hole. Make sure the box dries and airs thoroughly before you put it up.

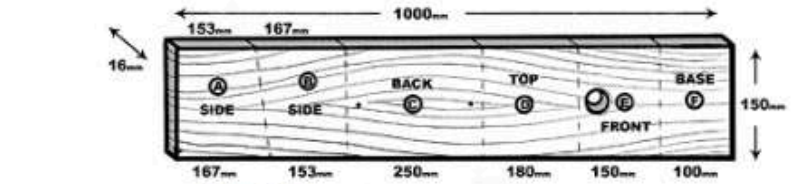
A woodpecker box should be filled with a block of balsa wood, rotting log or wood chips – woodpeckers like to excavate their own nesting cavities.

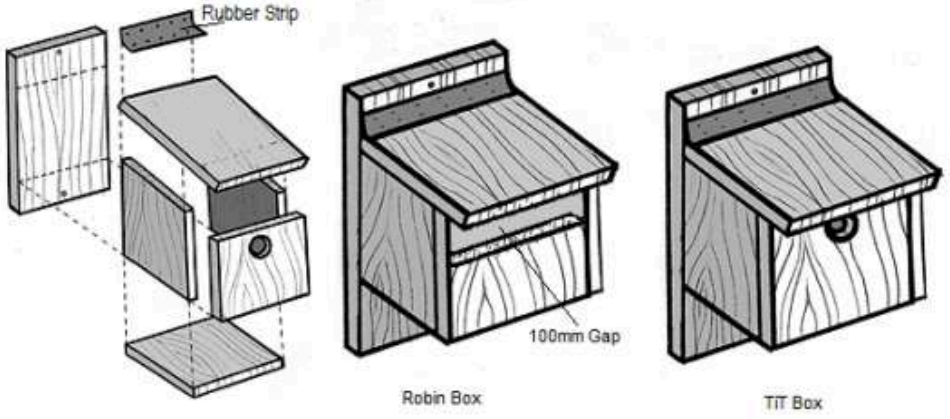
Do not nail down the lid since you will need to clean out the box in the autumn. Attach the lid with a brass or a plastic hinge that will not rust, or hinge it with a strip of leather or rubber (an old piece of bicycle inner tube will do). Fasten it down with a good catch.

**How big does the hole need to be?**

The entrance hole size depends on the species you hope to attract:
25 mm for blue, coal and marsh tits.
28 mm for great tits, tree sparrows and pied flycatchers.
32 mm for house sparrows and nuthatches.
45 mm for starlings.

The small box with a 100 mm high open front may attract robins, or pied wagtails. A wren would need a 140 mm high front panel, while spotted flycatchers and blackbirds prefer a low 60 mm front to the box.




Robin Box

Tit Box

## APPENDIX 9: Bats and lighting

The detailed lighting plan on-Site should be functional and directional and in line with current guidance (Bats and Artificial Lighting at Night, August 2023). Habitat retained, enhanced or planted for roosting, foraging and/or commuting bats will need to be considered within a suitable lighting plan in order to be used by bats. Where designing with bats in mind:

- Light emitting diodes (LED) should be used, as these typically feature no UV component and as a result are less attractive to invertebrates and less disturbing to bats;
- Only luminaires with 0 % upward light ratio should be used and fitted on the horizontal to avoid excessive up-lighting, back lighting and light spill onto boundary hedgerows and trees;
- A warm white spectrum (ideally under 2700 Kelvin) should be used in order to reduce blue light component, therefore reducing the number of invertebrates attracted to the lights;
- Internal luminaires can be recessed where installed in proximity to windows to reduce glare and light spill;
- The use of specialist bollard or low-level downward directional luminaires to retain darkness above can be considered, although this has certain drawbacks and should only be used as directed by a lighting professional;
- Column heights should be carefully considered to minimise light spill;
- Any external security lighting should be set on motion-sensors and short (e.g., 1 minute) timers;
- Luminaires should feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats;
- As a last resort, accessories such as baffles, hoods or louvres can be used to reduce light spill and direct it only to where it is needed;
- Where habitat needs to be unlit (e.g., important foraging and commuting corridors/roost sites), illuminance should be below 0.2 lux on the horizontal plane and below 0.4 lux on the vertical plane.

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## TERMS OF BUSINESS

This fee proposal has been produced in good faith and in line with the specified details to Provide a fair reflection of our required involvement based upon our judgment and experience.

However, due to the nature of ecological survey work, this involvement may evolve should we encounter issues at the appraisal stage, if there is a significant departure from the original brief, or should unforeseen issues arise. Should this occur, we will notify you as soon as possible and prior to the addition of any further charges.

This cost estimate will remain valid for three months following the date of its production, after which we reserve the right to amend the document to reflect current market conditions. Our fee proposal includes various ecological assessment services aimed at ensuring compliance in your development project. The specific services are detailed within the fee estimate, and adjustments are noted where applicable.

The assessment works will be invoiced after the assessment/report has been produced when paid, the final report will be released to the client. Any additional services or disbursements required beyond the scope of this fee proposal will be reported to and agreed with the client, based on an hourly charge-out rate of £__/hour plus VAT and disbursements.

By accepting this fee proposal, the client confirms: The correct ownership details for the site, including details of any adjoining land in the applicant's ownership, have been supplied.

That with respect to the Local Planning Authority/Council for the site, the applicant is not one of the following: a member of staff, an elected member, related to a member of staff, or related to an elected member.

The general term of business for Fieldology Works Ltd apply to this fee proposal. A copy of these terms is attached to this fee proposal and can also be found using the following link: Fieldology Works Ltd Terms and Conditions. Fieldology Works (google.com) By accepting this fee proposal, you also accept the general terms of business for Fieldology Works Ltd.

Should you have any questions or require further clarification regarding this fee proposal, please do not hesitate to contact us

Date of production: 29.08.2024

Review date: 29.08.2025