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Inspection & Assessment in relation to Bats & Breeding Birds

April 2021

2 Bridge End Cottages
Rimington Lane
Rimington
BB7 4EA

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This report aims to provide general advice on ecological constraints associated with any development of the site and includes recommendations for further survey; it is not intended that this report should be submitted with a planning application for development of the site, unless supported by the results of further surveys and a detailed assessment of the effects of the proposed development

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Executive Summary

As part of a proposed planning application at Bridge End Cottage in Rimington, Lancashire, Tyrer Ecological Consultants Ltd carried out a daytime inspection and assessment in relation to bats and breeding birds in March 2021. The survey was commissioned by David Liversidge design; proposals are for the extension of the existing dwelling.

Detailed methods, findings, conclusions and recommendations are presented throughout the report; however, the reader should be aware of the following Key points:

Bats: Based upon the findings of the survey covered through sections 6.0-7.0 of the report and supported by Appendix I, whilst following best practice guidance, the disused Bridge End Cottage holds 'Moderate' bat roost suitability in accordance with the Bat Conservation Trust - Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd ed. (2016).

It is therefore recommended that two dusk and/or dawn emergence/re-entry surveys are conducted during the active season of bats (May - August) in order to establish if the building is being used by bats, and if so, identify the species, abundance, roost locations and flight lines around site during any emergence/re-entry. Two surveyors would be required to accurately monitor the identified access points. Applicant should be aware that where bat(s) or their roost(s) are found and will be impacted, then an EPSML may be required to legally commence with the works. See section 8.0 for more information.

Table 7.3 Recommended minimum number of survey visits for presence/absence surveys to give confidence in a negative result for structures (also recommended for trees but unlikely to give confidence in a negative result).

Low roost suitability	Moderate roost suitability	High roost suitability
One survey visit. One dusk emergence or dawn re-entry survey[a] (structures). No further surveys required (trees).	Two separate survey visits. One dusk emergence and a separate dawn re-entry survey.[b]	Three separate survey visits. At least one dusk emergence and a separate dawn re-entry survey. The third visit could be either dusk or dawn.[b]

Breeding Birds: In relation to common birds, the dwelling, nearby stone walls, and surrounding land provides nesting platforms that might be used by birds associated with rural and garden environments. In considering this point, whilst no birds were actively nesting during the survey, there is a possibility birds could use the loft for this purpose during the breeding bird season.

It is thus recommended that any demolition and clearance work is carried out outside of the breeding bird season (March-August inclusive). For works within the breeding bird season, any areas that can support nesting birds including the hedgerows and piled felled vegetation should be checked by a professional Ecologist for nesting birds within 48 hours or less prior to works commencing. If birds are found nesting any works which may affect them would have to be delayed until the young have fledged and the nest has been abandoned naturally.

Biodiversity Enhancement: As a means of enhancement and aiding the design of the scheme in keeping with local and national planning policy considering biodiversity net-gain principles, the proposals may consider incorporating wildlife friendly provisions such as:

- *Native species only when landscaping / tree re-planting,*
- *Bird and invertebrate provisions,*

Further information is provided within Appendix II.

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1.0 Introduction & Reason for Survey

1.1 As part of a proposed planning application at Bridge End Cottage in Rimington, Lancashire (see Figure 1.1), Tyrer Ecological Consultants Ltd carried out a daytime inspection and assessment in relation to bats and breeding birds in March 2021. The survey was commissioned by David Liversidge design; proposals are for the extension of the existing dwelling.

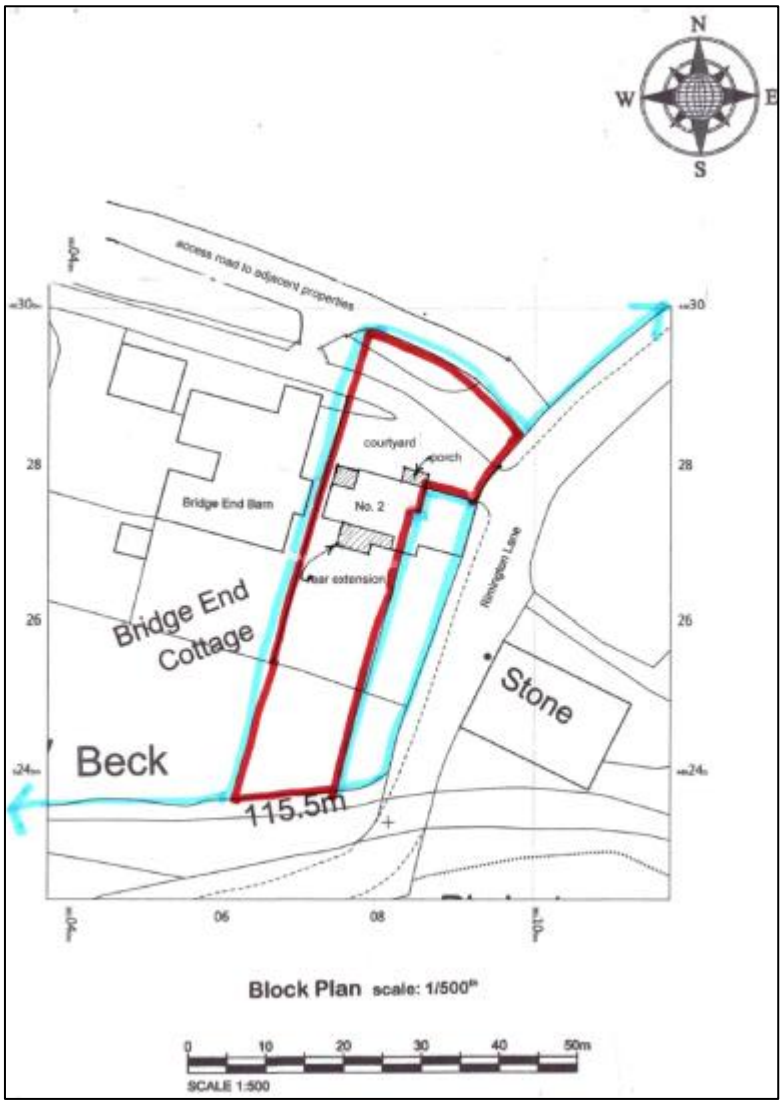

Figure 1.1 – Location plan with proposed extensions (©*David Liversidge design, 2021*)

1.2 The aim of the inspection was to ascertain if the building is of value to bats whilst an assessment for birds was also carried out; trees where present were also considered; if found to be suitable for bats, or signs of use were observed, then more detailed surveys would be recommended i.e. dusk/dawn emergence/re-entry surveys during the main active season of bats which is May – August. If it is determined that bat(s) or their roost/place of rest/shelter will be subsequently affected by the works then a European Protected Species Mitigation Licence (EPSML) would be legally required to proceed with the development. If evidence indicated breeding birds may be impacted by proposals, then recommendations would be made accordingly.

1.3 If additional surveys are required following the initial site visit this report will outline the details of those further requirements.

1.4 As part of the local authority's planning policies and obligations to the Planning Framework, ecological surveys are generally required prior to planning permission being granted where protected/priority habitats and species are, or may be present, that could be affected by the proposals for which the application seeks consent. Where more detailed surveys are recommended by the ecologist, following an initial daytime investigation, then Local Planning Authorities (LPA) on the advice of their ecological advisors, may not grant permission until such time that all relevant information is gathered**.**

1.5 In accordance with *Biodiversity Net Gain: Good practice principles for development* (CIEEM *et al*, 2019) the site visit also aims to identify enhancement opportunities for biodiversity in line with national and local planning policy.

2.0 Protected Species & Their Requirements

Bats

2.1 All British bats and their **roosts are afforded full protection under the Wildlife & Countryside Act (1981) (as amended) and are listed in Schedule 2 of the Conservation of Habitats and Species Regulations (2019) (EU Exit). When dealing with cases where a European Protected Species (EPS) (all UK bats) may be affected, a planning authority is a competent authority within the meaning of the Regulation 7 of the Regulations, that has a statutory duty as the local authority to have due regard to the provisions of the Regulations in the exercise of its functions.

2.2 Use of Buildings by Bats

a) Summer breeding roost (May-August)
b) Hibernation roost (October-March)
c) Transitional or temporary roost (other months)

Roost selection is often closely correlated to suitable foraging habitat within a reasonable commuting distance from the roost and different sites are used depending upon insect densities and abundance; climatic conditions can also affect their ability to successfully forage. All British bats are insectivorous.

** The term roost is generically referred to as a place that bat/s use for the any of the above reasons, however it should be noted that under the Conservation of Habitats and Species Regulations (2019) (EU Exit) (Regulation 43 (d) the term roost is not used but refers to "*a breeding site or resting place of such an animal"* and is afforded legal protection. The roost, breeding site or resting place of bats, which ever terminology is used is legally protected whether or not bats are in occupation.

Birds

2.3 All wild birds no matter how common, their eggs, young and nests whilst being built or occupied are protected under both the Wildlife and Countryside Act (WCA 1981) and Natural Environment and Rural Communities Act (NERC Act 2006). Birds listed on Schedule 1 of the WCA 1981, for example Barn owl (*Tyto alba*), are afforded a greater level of protection protected also from disturbance.

2.4 Any work that would damage an occupied nest, eggs or young of breeding birds must be avoided; any damage to nests that may occur as a result of the development should be outside of the main breeding bird season (March-August). On occasions nests can become unoccupied during the breeding season but the status of the nest(s) should be determined by a suitably experienced ecologist before any damage takes place.

Policy

2.5 The National Planning Policy Framework (NPPF) places a clear responsibility on Local Planning Authorities to conserve and enhance biodiversity and to encourage on the consideration that should be given to Protected Species where they may be affected by development. The Office of the Deputy Prime Minister (ODPM) Circular 06/2005 provides administrative guidance on the application of the law in relation to planning and nature conservation.

"It is essential that the presence or otherwise of protected species, and the extent that they may be affected by the proposed development, is established before planning permission is granted, otherwise all relevant material considerations may not have been addressed in making the decision".

2.6 This is supported by a guide to good practice entitled 'Planning for Biodiversity and Geological Conservation: Building in Biodiversity' in which paragraphs 5.34 and 5.35 identify that species such as bats are highly dependent upon built structures for survival and that roosts can be easily incorporated into existing and new developments to benefit these species.

When determining planning applications, local planning authorities should aim to conserve and enhance biodiversity by applying principle 175(a), as extracted from the NPPF:

"*if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused*".

2.7 Further to mitigating and compensating for the loss of biodiversity, LPAs should also aim to enhance existing biodiversity and provide clear and measurable net gains. Paragraph 174 of the NPPF states the following:

"*To protect and enhance biodiversity and geodiversity, plans should promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.*"

2.8 The Ribble Valley Borough Council supports this in Key Statement EN4: Biodiversity and Geodiversit of their adopted local plan, which states:

"Negative impacts on biodiversity through development proposals should be avoided. Development proposals that adversely affect a site of recognised environmental or ecological importance will only be permitted where a developer can demonstrate that the negative effects if a proposed development can be mitigated, or as a last resort, compensated for. It will be the developer's responsibility to identify and agree an acceptable scheme, accompanied by appropriate survey information, before an application is determined. There should, as a principle be a net enhancement of biodiversity."

2.9 Where more detailed surveys are recommended by the Ecologist following a daytime assessment, then the Local Planning Authority, upon the advice of their ecological advisors, should not determine an application until such time that all relevant information is gathered, i.e. - until all required survey work has been completed.

This is in accordance with the obligations placed upon Local Authorities in the exercise of its functions by way of its duties under the Conservation of Habitats & Species Regulations 2019 (EU Exit).

2.10 Figure 2.1 is a process model that surmises how ecological issues should be dealt with in the context of the planning process.

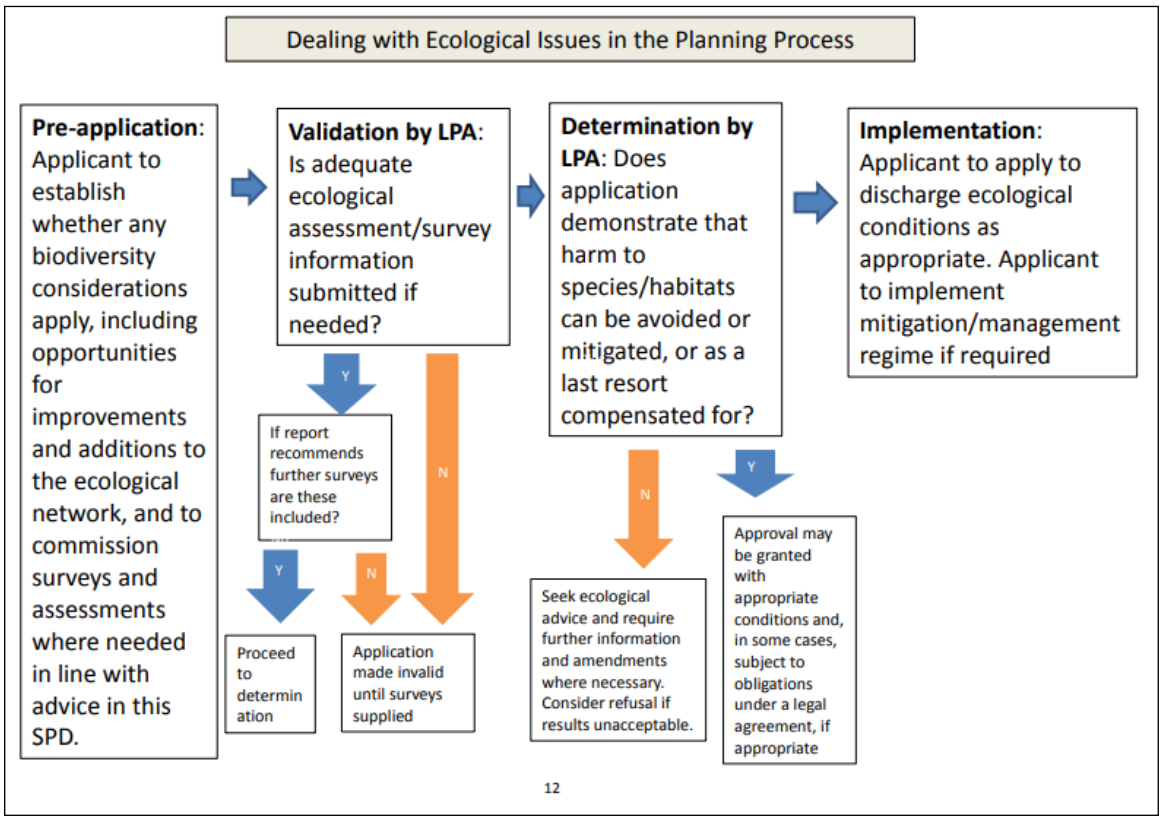

Figure 2.1 - Dealing with ecological issues in the planning process

3.0 Protected Species in the Lancashire

3.1 Up to eleven bat species have been recorded in Lancashire, many of which use built structures and trees for roosting. A variety of building types and features are utilised by bat species at different times of year, ranging from occupied residential dwellings to disused barns and bridges. The most frequently encountered species is the common pipistrelle bat (*Pipistrellus pipistrellus*) and its abundant status in Lancashire is mirrored throughout the UK.

3.2 The number of breeding Barn owls (*Tyto alba*) within rural Lancashire is moderately high across areas of countryside where suitable environs exist; they are constantly under threat from loss of habitat and nesting opportunities.

4.0 Survey Methodology

4.1 As part of the Inspection & Assessment for Bats & Breeding Birds report, a desk-top and field-based study is conducted. Methods for both components of the appraisal are given below.

Desktop Study

4.2 Prior to a site visit a desktop study was conducted using online resources to obtain information pertaining to any sites afforded statutory (e.g. SSSI) and non-statutory (e.g. LWS) designations within 2.0km of the site boundary. To do so, the Multi Agency Geographic Information for the Countryside (MAGIC – provided by DEFRA) was accessed to gather such information; this particular interactive mapping service was also used to locate any locally granted European Protected Species Mitigation Licenses (EPSML) to further inform conclusions concerning such species in the context of the study site and its proposed development.

4.3 Satellite imagery was reviewed using sources such as Google Earth (© 2019/20) to determine the nature of adjoining and extending habitats; such information aids in the understanding of how the site might interact with its surroundings ecologically and its value in that context, and how the development may impact at a wider scale.

4.4 A commercial data request to the Local Environment Records Centre serving the area LERN (Lancashire Environment Record Network) has not been sourced and is justified through application of the following recent guidance:

1) The Guidelines for Accessing, Using and Sharing Biodiversity Data in the UK (CIEEM, 2020) states:

"*It is generally expected that a desk study, including a data search, will be a key part of the ecological surveys or reports produced to inform a planning application. Freely available web-based sources of data and contextual information should always be used; in some cases, it may be acceptable to not undertake a data search with the LERC or other relevant NSS or local interest groups, for example:*

ii) Situations where the data search would be extremely unlikely to provide information needed to inform the assessment, due to the scale and location of the proposed development. The appropriateness of excluding a data search will need to be judged on a case-by-case basis as, in most situations, it will be essential to carry out such a search even if the development is very small or is likely to have a low impact. It can be very difficult to demonstrate that a data search would not have provided relevant information without obtaining and reviewing those data.

iii) In some cases for Preliminary Roost Assessments of buildings in ***low impact*** */* ***small-scale scenarios****, such as an extension to a residential property, loft conversions (full or partial), installation of Velux/dormer windows, single modern agricultural or similar building conversion or demolition; however, it should not be assumed that data searches are never required for such scenarios and this must be judged on a case by case basis and justified accordingly.*

2) The Guidelines for Preliminary Ecological Appraisal (CIEEM, 2017) also states:

"Very occasionally it might be possible to carry out a robust PEA without obtaining LERC/NBDC/CEDaR data; this will usually only apply to low impact or ***small-scale projects*** *(e.g. by virtue of size, extent, duration of works, magnitude and locality), and should be determined on a case-by-case basis."*

4.5 As exemptions as made **bold** above can be applied at the application site, in good practice, it is considered unnecessary to conduct a commercial data request following the desk study effort and daytime assessment at this time which offers a proportionate level of survey effort, however, if a data search is considered to be necessary by the Local Authority to inform the ecological impact assessment following any further surveys recommended in this report, a proportionate data search should be commissioned with results interpreted into the conclusions and recommendations of a re-issued/updated report.

Field Survey

4.6 In context with the above a diurnal inspection and assessment of the property in relation to bats and breeding birds was conducted on 30th March 2021 in sunny conditions (14ºC) wind 1/12 (Beaufort scale), 0% cloud, by Mr. J. Pescod Qualifying CIEEM, a Junior Ecologist of four years who is additionally an accredited agent on the Class 2 Natural England bat licence of Mrs. K. Wilding (CLS-14227).

4.7 Bat Conservation Trust (BCT) - Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd ed. (2016) states:

"*The guidelines should be interpreted and adapted on a case-by-case basis according to site-specific factors and the professional judgement of an experienced ecologist. Where examples are used in the guidelines, they are descriptive rather than prescriptive."*

4.8 The bat and breeding bird survey was conducted in tandem; the building was inspected for potential places that may be of value to bats or breeding birds, and to determine if evidence of use by either group was present; loft spaces were assessed with the aid of a high powered torch for evidence of bat use which mainly includes bat droppings and/or prey items, or incidental presence of live or dead animals, for example, and investigated for evidence of breeding birds which broadly involves a search for nesting materials, presence of pellets or accumulated faeces and/or dead juveniles/hatchlings, for example.

4.9 External elevations were investigated with the aid of high-powered torch and close focus binoculars (where necessary) for places that can be used as a roost by bats or as a means of ingress for bats and birds leading to areas of roosting/nesting potential. These features are typically referred to as potential roost features (PRF) concerning bats. All external features were able to be surveyed without constraint.

4.10 The surrounding habitat was also considered in terms of general suitability for bat and bird species associated with the local habitat types.

4.11 No mature trees are understood to be affected by the proposed works; therefore no assessment of trees was undertaken.

4.12 Criteria for roost assessment are based upon the determinants given in the Bat Conservation Trust - Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd ed. (2016): (see Figure 4.1).

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.

Suitability	Description Roosting habitats	Commuting and foraging habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats.	Negligible habitat features on site likely to be used by commuting or foraging bats.
Low	A structure 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 conditions[a] 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 or hibernation[b]). A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential.[c]	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or unvegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat. 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 or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions[a] and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are 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 commuting such as lines of trees and scrub or linked back gardens. 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 or 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[a] and surrounding habitat.	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. 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. Site is close to and connected to known roosts.

[a] For example, in terms of temperature, humidity, height above ground level, light levels or levels of disturbance.
[b] 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*, 2015). 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 large buildings in highly urbanised environments.
[c] This system of categorisation aligns with BS 8596:2015 Surveying for bats in trees and woodland (BSI, 2015).

Figure 4.1 - BCT guidelines extract

4.13 An assessment of the building was conducted when birds are within their breeding season (this is typically March-August inclusive). Elevations were inspected for evidence of birds that show a high dependency upon built structures, many of which are in a state of decline. These might include the following species for example:

- Starling (*Sturnus vulgaris*): Birds of Conservation Concern (BoCC) red status
- House Sparrow (*Passer domesticus*): BoCC red status
- House Martin (*Delichon urbica*): BoCC amber status
- Swift (*Apus apus*): BoCC amber status
- Swallow (*Hirundo rustica*): BoCC green status

4.14 Additional to the site's capacity to support common species of bird, the area was subject to an assessment for capacity to support specially protected species such as Barn Owl, a species protected under Schedule 1 of the Wildlife & Countryside Act (1981) (as amended).

4.15 The results, conclusions and recommendations are based on a number of factors i.e.

- Practical experience of surveyor,
- Knowledge of bat/bird species relevant to the site location and geographical range,
- Nature of immediate/surrounding habitat in relation to foraging/commuting,
- Condition of the building,
- Presence/absence of a loft space or cellar and reasonable practicality of use,
- Presence/absence of roost potential,
- Value of roost potential – if present.

4.16 All aspects of the field survey were undertaken in line with government and CIEEM (2020) standing guidance during the COVID-19 pandemic.

4.17 The results, conclusions and recommendations of this report have been assessed by Mrs. K. Wilding, the Director of Tyrer Ecological Consultants Ltd, and her assessment is consistent with that of Mr. Pescod.

5.0 Limitations

5.1 The survey was conducted at a time when bats are outside of their active season and are within the hibernation season, a period when bat activity is significantly reduced. Evidence of bats can be less apparent in March particularly on external features exposed to wind and rain, however bat roost potential and suitability of potential roost features can be adjudged as conclusively as within the active season of bats at most structures, saving time and unnecessary delay to applicants; thus, frequently the assessment can be as conclusive as if carried out within the active season though the applicant should be aware of the risks. Survey timing is not considered a constraint in this instance.

5.2 One section of the loft space was not fully accessible; however sufficient information was gathered during the survey of the rest of the space and from viewing via the loft hatch. No other access limitations were experienced on site and the surveyor was able to conclusively assess the building for field signs at an appropriate time of the year; therefore having considered possible survey constraints no significant limitations were experienced that might adversely influence the results, conclusions and recommendations of this report.

6.0 Desk Study Results

6.1 The dwelling Bridge End Cottage (referred to in part as "the application site") is located in a rural area in Rimington off Rimington Lane approximately 8.1km north-east of Clitheroe town centre (see Figure 6.1). The site comprises a disused farmhouse and adjacent garden, which appears from aerial imagery to have been used primarily for residential use.

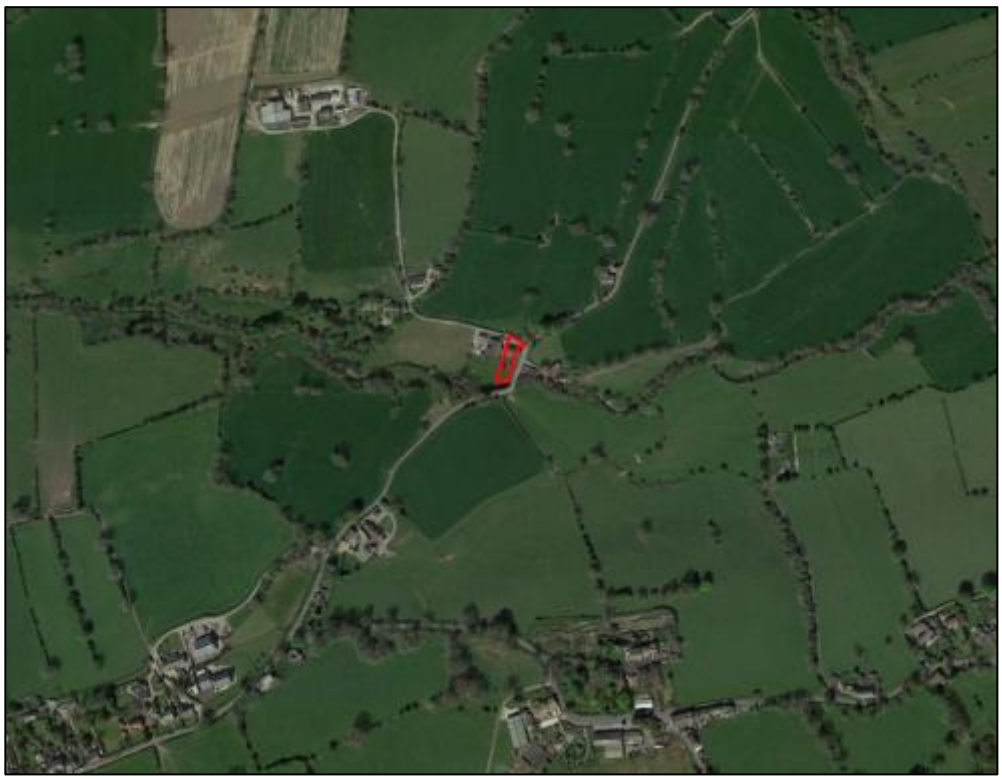

Figure 6.1 - Location of the building within the landscape (Source: Google 2020).

6.2 The immediate environment is comprised of heavily managed arable and pasture fields with the wider Bridge End complex which extends immediately to the west and contains a second farmhouse and a storage building, along with a lawn and yard area. A small patch of deciduous woodland is present just to the south on the far bank of the Stankhill Beck, and scattered trees are present lining roads and tracks; further farm buildings are present across Rimington Lane to the east.

6.3 The wider landscape continues in similarity with hilly, heavily farmed land in all directions intersected by a network of lanes and divided by abundant boundary hedgerows; the A59 lies to the north crossing a railway line to the west. A number of water features are present in the area including Ings Beck, Dudland Syke, Howgill Beck, Thistleber Beck, and the aforementioned Stankhill Beck, and small ponds are infrequently distributed with the primary concentration at Castill House to the north-west. A mixture of priority habitats are represented including Lowland Meadows to the east, Lowland Calcareous Grassland and Lowland Dry Acid Grassland to the south-west, and modest patches of Deciduous Woodland throughout the search area.

6.4 The protected species most typically associated with the habitats described is the Common Pipistrelle (*Pipistrellus pipistrellus*) bat, frequently associated with using buildings in sub-urban settings; this species' presence in the landscape is likely.

NB: *Where quality habitat is present close to buildings then the percentage use of those buildings, by bats, increases given that roost opportunities are available and vice versa.*

6.5 No statutorily designated sites feature within 2.0 kilometres.

6.6 Despite proximity to statutory designated sites the proposed development is unlikely to have any direct impact upon the sites or their associated interest features. Where no impact to SSSI's is predicted however, Natural England issue the following advice within their standing guidance on SSSI impact zones (NE, 2019):

"*It is important to note that the SSSI IRZs only indicate Natural England's assessment of likely risk to the notified features of SSSIs. Where they indicate such a risk is unlikely, this does not mean that there are no potential impacts on biodiversity or the wider natural environment.*"

6.7 An online search of MAGIC maps revealed two European Protected Species Mitigation licences (EPSMLs) in relation to bats have been granted within a 2.0km radius of the application site (Figure 6.2); these pertain to breeding and non-breeding roost of Common Pipistrelle, Soprano Pipistrelle (*Pipistrellus pygmaeus*), and Natterer's (*Myotis nattereri*) bats and are located approximately 360m to the north-west and 1.4km to the south-east. A search of bat records held by Tyrer Ecological Consultants Ltd revealed additional records relating to a day roost of Common Pipistrelle located 600m to the north-east along with activity by this species 1.25km to the north-west. These records date from 2015-2018 and have been submitted for the Local Environment Records Centre that serves the area.

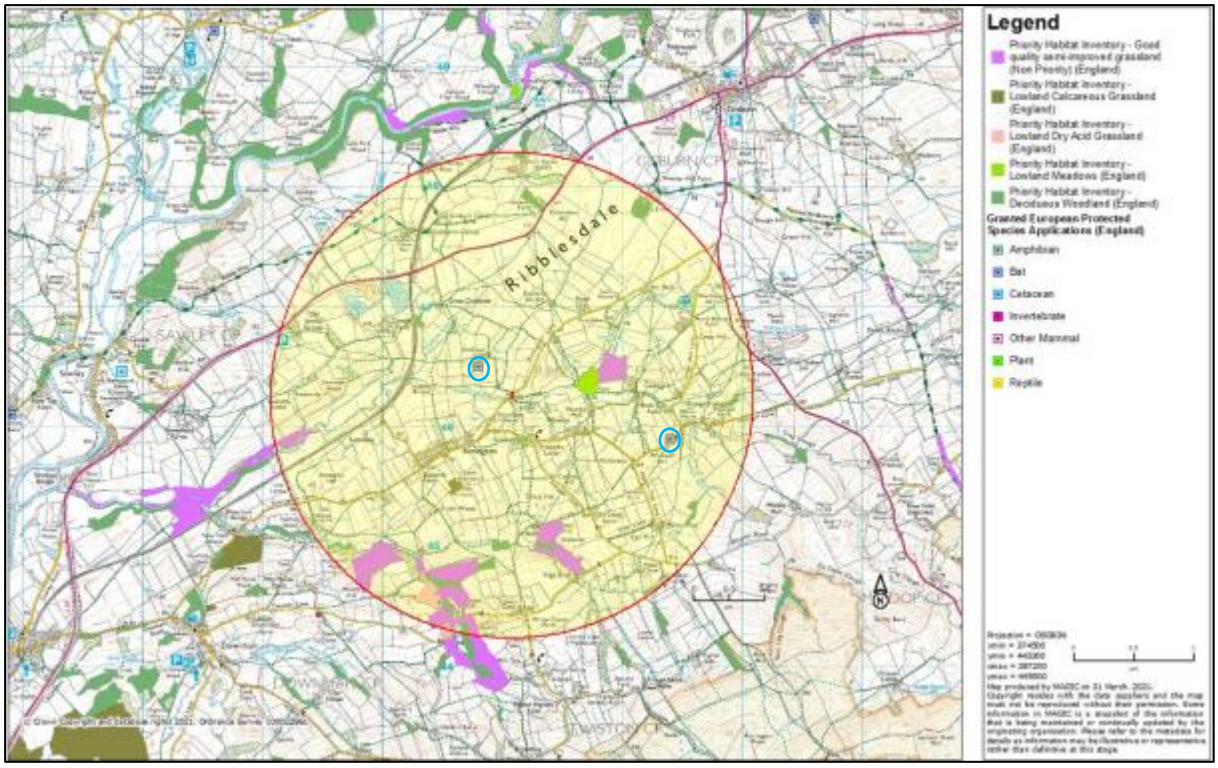

Figure 6.2 – MAGIC Map 2.0km radius desk-top results. Granted EPSMLs in relation to bats have been highlighted with a blue circle

7.0 Field Study Results

Bats

7.1 The building at Bridge End Cottage "the dwelling" is a stone-built two-storey unoccupied dwelling with a stone pitched roof, to the approximate maximum dimensions of 19m x 10m x 6m; this also includes a small single-storey entryway at the western end. Whilst the surveyor is not qualified to assess the structural condition of the dwelling, it was adjudged to be in an aesthetically good condition given the absence of any apparent signs of dereliction or vandalism, and has been unoccupied for a minimum of a month.

Figure 7.1 – The front elevation of the disused dwelling

7.2 A loft space is present internally which follows the footprint of the building with a dividing wall running north-south; the smaller western section is accessible via a loft hatch however the larger eastern section was not fully accessible due to the constrictive nature of its loft hatch and all observation were made from the hatch. Internally both spaces were found to be in a similar condition, namely; cold and with a light draught, dark and unrestrictive, and with a heavy covering of cobwebs across many of the roofing timbers which would have been disturbed if loft-dwelling bat species were in frequent occupation.

7.3 The dwelling is therefore considered broadly unsuitable for the breeding requirements of loft-dwelling bat species such as the Brown Long-eared (*Plecotus auritus*) bat; this is a species which prefers dark, unrestrictive loft spaces with room for free flying, and a stable temperature free from draughts. This does not necessarily discount the building from being used by such species for other purposes than breeding; and evidence of occupation by Brown Long-eared bats was identified in the western loft space in the form of two historic droppings.

7.4 A traditional bitumen 1F underfelt is present immediately beneath the roofing tiles; where present such under linings typically improve a building's value to bats notably for crevice-dwelling bats of the *Pipistrellus* genus, whereby the bats roost between linings and the roof cover material provided external access opportunities exist. No evidence of such bats was found; however this is often the case due to the crevice-dwelling nature of these species.

***NB**: The breeding roosts of Pipistrelle bats are proportionally higher in occupied residential dwellings were the warm, dry conditions favour the requirements of a maternity colony but other structures are also used, especially for hibernation or by male bats which do not need the same conditions as a maternity colony.*

7.5 Externally the building presents potential roost features (PRF's) to the northern and southern elevation which include:

- A major gap beneath a ridge tile
- Minor gaps beneath tiles
- Gaps in the stonework

On the basis of the PRF's identified on the exterior of the building, along with the presence of bat records in proximity to the application site and the favourable habitat in the wider area, the dwelling has been duly categorised as pertaining to 'Moderate' bat roost potential in line with current Bat Conservation Trust (BCT) guidelines.

7.6 No mature trees which may hold any potential to host roosting bats are understood to be affected by the proposed works.

Breeding Birds

7.6 In relation to WCA Schedule 1 specially protected bird species such as Barn Owl, no evidence was found to suggest any form of site use or historic nesting; and the dwelling and wider site is wholly unsuitable for this species breeding requirements.

7.7 Numerous opportunities that favour the requirements of various bird species that nest in garden and rural habitat or within or on the fabric of buildings were observed, notably including within the gaps in the brickwork in the dwelling in which historic droppings were identified, gaps in the low stone walls immediately adjacent to the dwelling, and within the roof of the dwelling itself; thus, the presence of nesting birds within the nesting period (March-August inclusive) is considered to be likely. Historic evidence of nesting birds was identified within a stone wall in the wider site boundary; whilst this wall is not to be affected by the proposed works it does provide evidence of use of the site by breeding birds.

8.0 Conclusions & Recommendations

8.1 Based upon the findings of the survey covered through sections 6.0-7.0 of the report and supported by Appendix I, whilst following best practice guidance, Bridge End Cottage holds 'Moderate' bat roost suitability in accordance with the Bat Conservation Trust - Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd ed. (2016) (see Figure 8.1). It is therefore recommended that two dusk and/or dawn emergence/re-entry surveys are conducted during the active season of bats (May - August) in order to establish if the building is being used by bats, and if so, identify the species, abundance, roost locations and flight lines around site during any emergence/re-entry. Two surveyors would be required to accurately monitor the identified access points.

Table 7.3 Recommended minimum number of survey visits for presence/absence surveys to give confidence in a negative result for structures (also recommended for trees but unlikely to give confidence in a negative result).

Low roost suitability	Moderate roost suitability	High roost suitability
One survey visit. One dusk emergence or dawn re-entry survey[a] (structures). No further surveys required (trees).	Two separate survey visits. One dusk emergence and a separate dawn re-entry survey.[b]	Three separate survey visits. At least one dusk emergence and a separate dawn re-entry survey. The third visit could be either dusk or dawn.[b]

Figure 8.1 - Bat Conservation Trust (BCT) extract on Moderate roost potential requirements

8.2 The applicant should be aware that where bat(s) or their roost(s) are found and will be impacted, then an EPSML may be required to legally commence with the works.

8.3 Natural England provides information and guidance about licensing and the following extract is included in that guidance: -

"If you intend to apply for a licence for development, you are advised to seek the guidance of a consultant ecologist. Natural England's view is that a licence is needed if the consultant ecologist, based on survey information and specialist knowledge of the species concerned, considers that on balance the proposed activity is reasonably likely to result in an offence under the Conservation of Habitats & Species Regulations 2019 (as amended).

If the consultant ecologist, on the basis of survey information and specialist knowledge of the species concerned, considers that on balance the proposed activity is reasonably unlikely to result in an offence being committed then no licence is required. However, in these circumstances Natural England would urge that reasonable precautions be taken to minimise the effect on European protected species should they be found during the course of the activity. If European protected species are found, cease the work until you have assessed whether you can proceed without committing an offence. A licence should be applied for if an offence/s is unavoidable and the work should not commence until a licence is obtained.

The application should be completed by the developer and a consultant ecologist. The ecologist will need to be able to demonstrate to the satisfaction of Natural England that they have the relevant skills and knowledge of the species concerned.

8.4 Where more detailed bat surveys are recommended, following an initial daytime survey, then Local Authorities on the advice of their ecological advisors, may not determine the application until such time that all relevant information is gathered, i.e., by conducting dusk/dawn surveys. The advice that is provided by the ecological advisors is also in accordance with the obligations placed upon Local Authorities by way of its duties under the Conservation of Habitats & Species Regulations 2019 (as amended). Therefore, it would be prudent to make enquiries to the relevant departmental Planning Officer before submitting a Planning Application that includes an ecological survey report that recommends more detailed surveys.

8.5 No vegetation has any potential to host roosting bats and no further surveys in relation to vegetation are required.

8.6 Installation of overly harsh artificial lighting as part of any development that exceeds current levels may have a negative impact upon foraging/commuting bats in the landscape, particularly if increased light spillage occurs in areas of that are currently free from illumination. A bat-sensitive lighting plan is therefore recommended in order to avoid potential impacts to bats that may use the surrounding treelines. Several options to consider have been listed below, though the reader is referred to the Bat Conservation Lighting Guidelines for further information.

Type of lamp (light source): The impact on bats can be minimized by the use of low pressure sodium lamps or high pressure sodium instead of mercury or metal halide lamps where glass glazing is preferred due to its UV filtration characteristics.

Lighting should be directed to where it is needed and light spillage avoided. This can be achieved by the design of the luminaire and by using accessories such as hoods, cowls, louvres and shields to direct the light to the intended area only. Planting can also be used as a barrier or manmade features that are required within the build can be positioned so as to form a barrier.

Predicting where the light cone and light spill will occur: There are lighting design computer programs that are widely in use which produce an image of the site in question, showing how the area will be affected by light spill when all the factors of the lighting components listed above are taken into consideration. This should be a useful tool to inform the mitigation process.

Light levels: The light should be as low as guidelines permit. If lighting is not needed in any particular area, do not light. Numerous software programmes are currently available which can be used inform lighting plans, demonstrating how lighting decisions will illuminate a site.

Please refer to the 'Landscape and urban design for bats and biodiversity' (*Gunnell et. al.*, 2012, Bat Conservation Trust) for further information.

8.7 No impacts are applicable in relation to any Sch.1 (WCA) specially protected bird species such as Barn Owl and no further surveys or recommendations are necessary in relation to specially protected birds at this time.

8.8 In relation to common birds, whilst no evidence of current occupancy was identified during the survey, historic evidence was identified in the wider site, and the building and associated land provides abundant platforms which might be used by breeding birds associated with rural and garden environments.

8.9 It is thus recommended that any demolition and clearance work is carried out outside of the breeding bird season (March-August inclusive), including works on the adjacent stone walls. For works within the breeding bird season, any areas that can support nesting birds should be checked by a professional Ecologist for nesting birds within 48 hours or less prior to works commencing. If birds are found nesting any works which may affect them would have to be delayed until the young have fledged and the nest has been abandoned naturally.

8.10 Point 3.24 of the British Standards Publication 42020:2013 defines a professional ecologist as "*a person who has, through relevant education, training or experience, gained recognised qualifications and expertise in the field of ecology and environmental management.*"

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 & Countryside Act 1981 (*as amended*)*. It is a punishable offence to interfere in any way with an active nest.*

8.11 As a means of enhancement and aiding the design of the scheme in keeping with local and national planning policy considering biodiversity net-gain principles, the proposals may consider incorporating wildlife friendly provisions such as:

- Native species only when landscaping / re-planting,
- Bird and invertebrate provisions,

Further information is provided within Appendix II.

9.0 Bibliography

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Appendix I: Site Photographs

Plate 1 – Northern elevation of Bridge End Cottage

Plate 2 – Eastern elevation viewed from the road

Plate 3 – Southern elevation with amenity garden to rear

Plate 4 – Western elevation with existing single-storey entrance way

Plate 5 – View of the single-storey entrance

Plate 6 – Gap beneath ridge tiles on the southern elevation

Plate 7 – Gap in the stonework above the window

Plate 8 – Gap in the stonework

Plate 9 – Internal character of the fully accessible loft space

Plate 10 – Internal character of the fully accessible loft space

Plate 10 – Internal character of the loft space viewed via a loft hatch

Plate 11 – Internal character of the loft space viewed via a loft hatch

Plate 12 – Wall adjacent to the dwelling with gaps that could be utilised by nesting birds

Plate 13 – Historic evidence of nesting in a wall in the wider site boundary

Appendix II: Biodiversity Enhancement Strategy

Birds

Breeding Bids - House Sparrow

The Sparrow Terrace has been designed to help redress the balance of falling House Sparrow numbers. The current UK population is now half of what it previously was in 1980 and this is widely attributed to habitat destruction and lack of suitable nesting spaces. House Sparrows are social birds and like to nest in company, therefore, this terrace provides ideal nesting opportunities for three families. The terrace can be fixed on to the surface of a suitable wall or incorporated into the wall. It is suitable for all types of buildings.

Breeding Birds - Other

This traditional design has proved to be highly effective in attracting Robins, as well as other small species such as Black Redstart, Spotted Flycatcher and Wren. It is designed to be installed on the walls of houses, barns, garden sheds or other buildings and should be hung so that the entrance is to one side (at an angle of 90° to the wall). The front panel can be easily removed for cleaning.

This type of box should not be made conspicuous on a tree or bush because small predators can enter through the unprotected opening. By hanging on a wall, predators won't be able to reach the box. Alternatively hide the box in Ivy, Honeysuckle or other climbing plants.

Invertebrates

Invertebrates - Bee bricks

The Bee Brick can be used in place of a standard brick or block in construction to create habitat for solitary bees. Alternatively, it can be used as a standalone bee house in your garden or wild patch. It will provide much needed nesting space for solitary bee species such as red mason bees and leafcutter bees, both of which are non-aggressive.

Each Bee Brick contains cavities in which solitary bees can lay their eggs before sealing the entrance with mud and chewed-up vegetation. The offspring will emerge the following spring and the cycle will begin again. Each cavity goes part way into the brick, which is solid at the back. Bee Bricks should be placed in a warm sunny spot on a south-facing wall at a minimum height of 1m, with no vegetation obstructing the holes. It is highly recommended that bee-friendly plants should be located nearby so that the bees using the bricks have food, otherwise it is unlikely that the brick will be used.

Available in a choice of four colours: white grey, dark grey, yellow and red.

Specification
* Material: Concrete
* Origin: Cornwall, UK
* Dimensions: W 215mm x D 105mm x H 65mm
* Weight: 2.9kg
* Colours: White grey, yellow, dark grey and red

Native Planting and/or Landscaping

New feature landscaping should incorporate native woody plants as opposed to non-native species that are of significantly less benefit to biodiversity. Species such as Blackthorn (*Prunus spinosa*), Honeysuckle (*Lonicera periclymenum*), Rowan (*Sorbus aucuparia*), Guelder-rose (*Vibernum opulus*) and Hawthorn (*Crataegus monogyna*) are native and will provide a valuable resource for a myriad of wildlife as opposed to non-native, exotic species which are generally much less effective, particularly to pollinator groups including bees, butterflies and moths.

Trees	Woody Shrubs
English Oak (Quercus robur)	Hawthorn (Crataegus monogyna)
Rowan (Sorbus aucuparia)	Honeysuckle (Lonicera periclymenum)
Wild Service Tree (Sorbus torminialis)	Guelder Rose (Vibernum opulus)
Silver Birch (Betula pendula)	Elder (Sambucus nigra)
Ash (Fraxinus excelsior)	Wild Privet (Ligustrum vulgare)
Goat Willow (Salix capraea)	Blackthorn (Prunus spinosa)
Beech (Fagus sylvatica)	
Wild Cherry (Prunus avium)	