BOW20/341 Phynis Farmhouse: Bat Update Survey

Introduction

Bowland Ecology Ltd. was commissioned by United Utilities (UU) to update the bat surveys of Phynis Farm, Slaidburn (central NGR: SD 71403 54405). The survey is to inform a planning application to convert three stone barns surrounding the farm yard to residential accommodation. The aim of the bat survey was to update previous surveys of the site undertaken in 2020 and 2014. The survey included an external inspection of the buildings, searching for signs of roosting bats and one emergence and activity survey aimed to identify any bat roosts within the buildings and characterise the size and nature of the roosts, if present. This advice note identifies potential ecological constraints, legal obligations (Appendix A) and mitigation measures with respect to the proposed works. The survey included the three barns and excluded the farmhouse, since work to renovate the house has recently been completed.

Figure 1: Location of Phynis Farm Barns (red boundary).

Methodology

Bat External Building Inspection

The daytime external inspection of the barns was undertaken on the 14th September 2022 by Alice Helyar PhD, MSc, BSc (Hons), MCIEEM (Natural England Class Licence No. 2015-15679-CLS-CLS). The weather was sunny and warm (approximately 16°C) with scattered clouds (6/8) and a light north easterly breeze (Beaufort Scale 1-2). The buildings were boarded up at the time of the survey and therefore an internal inspection was not undertaken due to lack of access.

The building inspection followed the Bat Conservation Trust 'Good Practice Guidelines' (Collins, 2016) and involved an external search of the barns, checking for bats and their field signs, such as bat droppings, urine stains, bat feeding remains (moth wings, insect cases), bat staining, a distinctive smell of bats, scratch marks and smoothing of surfaces which would indicate a roosting site. An assessment of the potential of the building was also made

during the survey i.e. searching for suitable roosting crevices. Using the information collected during the external assessment, a 'roost potential' score was given to the structure according to the criteria shown in Appendix B (Collins, 2016). High power torches (Cluson Clu-lite 500,000 candlepower) and close focus binoculars were used to aid the survey.

Emergence and Activity Survey

Dusk emergence and activity survey of the barns was undertaken on 14th September 2022. The survey methodology followed the guidelines as described in Collins (2016). Foraging and commuting activity of bats around the site was also recorded during the survey. Details regarding the date, start times, weather conditions and surveyors is shown in Table 2 below.

Table 1: Dates, times, weather conditions and surveyors during bat surveys.

Date	Start and end time and time of sunset/ sunrise	Weather Conditions	Surveyors[1]
14/09/2022	Start: 19:14 End: 21:00 Sunset: 19:29	Start Temp – 16°C End Temp – 13°C Beaufort wind scale – F1-2, north east Precipitation – None Cloud cover – 6/8	AH, DF, LK, LB

The surveyors positioned themselves to get the best coverage of the buildings and focused in on those areas with the most potential as roosting habitat. The surveys were aided by the use of the following bat detectors: Petterson D230 and EM Touch. Two infrared cameras were positioned to record emergence activity of parts of the buildings that were not covered by the surveyors.

The bat emergence survey was completed at an appropriate time of year. It is therefore considered that in conjunction with the building inspections, an appropriate survey to update the existing survey information assessing the potential of the buildings to support roosting bats for the site was undertaken.

Limitations

Bat surveys are limited by factors such as poor weather conditions, time of year, constraints to access for inspections and areas with restricted view. Whilst the survey was undertaken within the optimum period for bat surveys, it was towards the end of the survey season and did not include a survey within the maternity period. However, the survey aims to update existing information held for the site, which previously covered the maternity period, and confirm that there have been no significant changes to the integrity of the site and bat roosting opportunities.

Internal inspection of the buildings was prevented by the presence of boards over the windows and doors. In addition, breeding barn owl were noted (from noises heard) as being present. Schedule 1 bird species cannot be disturbed whilst breeding without a licence, therefore, access into the building would not have been possible.

Survey Results

The results of the survey are provided below and include the building inspection results and photographs. Appendix C shows the location of the farmhouse and adjacent barns within the holding of Phynis Farm.

[1]AH (Alice Helyar PhD, MSc, BSc (Hons) CIEEM (Natural England Class Licence No. 2015-15679-CLS-CLS), DF: Dave Fisher (Natural England Bat Licence No. 2015-12106-CLS-CLS), LK: Liz Kenyon and LB: Lucy Brookfield.

Building Description

External Inspection

The barns comprise three separate solid stone buildings occupying the north western (Barn 1), north eastern (Barn 2) and south eastern (Barn 3) aspects of the farm yard (see Appendix C). The farmyard is not fully enclosed with the south western side being bordered by the farm house garden and a semi-improved grassland field. A nissen hut is located to the north east of the yard; this was not surveyed as it is considered unsuitable for use by roosting bats due to its open, exposed nature and the construction materials comprise corrugated concrete asbestos sheets and concrete blocks. The farm is not an active working farm and the adjacent barns and sheds are apparently no longer in regular use. The farm is situated in a rural location, immediately surrounded by semi-improved pasture and has good connecting habitat (walls and tree lines) to watercourses and woodland, located to the south west and south east respectively. Woodlands and tree belts are also located further north and east, all of which provide potential optimal foraging habitat. Works to the Hodder Treatment Works are currently ongoing to the north east of the farm and have resulted in the associated temporary loss of foraging habitat.

Barn 1 is a solid stone two storey high building with a slate-tiled pitched gable roof. The walls are unrendered; the mortar work between the stones is in moderate condition, with some cracks and crevices present, particularly beneath the eaves. Gaps in the mortar work are present around the double barn door on the southern elevation and adjacent to the timber purlins where they emerge from the gable ends. Ventilation holes are present in the gable end walls, which allow potential access by bats and birds. The concrete asbestos corrugated roof has been removed from the catslide part of the barn, exposing crevices between the stonework beneath the eaves. The slates are generally well fitting, however there are a few raised ridge tiles and raised tiles, particularly along the roof verge and above the eaves. The window and door openings have been boarded shut, reducing opportunities for access by bats, however, gaps around the boards may themselves provide opportunities for roosting bats. Metal guttering is bracketed onto the walls and there are no timber fascias or barge boards. Access beneath the eaves is possible in the gap between the slate tiles and wall tops.

Barn 2 is a solid stone, two storey high building with a Yorkshire slate-tiled pitched roof. The north eastern and north western walls are partially rendered, however they walls are in poor condition with numerous cracks and crevices in the stone work. The mortar work is in poor condition with numerous cracks and crevices present, particularly around the first storey windows, beneath the eaves and roof verges at the gable ends. Ventilation holes and slots are present in the southern gable end wall, allowing access to the interior by bats and birds, particularly barn owl. Ventilation slots in the south western elevation have been filled with loose stone, providing potential crevices for roosting bats. The roof is generally in moderate condition, with some gaps beneath the ridge tiles and slipped and raised roof tiles allow potential access to bats. Likewise, abundant gaps between and beneath the slates on the roof verges allow potential access by bats. The window and door openings have been boarded shut, reducing opportunities for access by bats, however, gaps around the boards may themselves provide opportunities for roosting bats. Metal guttering is bracketed onto the walls and there are no timber fascias or barge boards. The guttering on the north eastern elevation is blocked with vegetation growth, causing the wall beneath to be very damp, reducing its suitability for roosting bats. Access beneath the eaves is possible in the gap between the slate tiles and wall tops.

Barn 3 is a solid stone, single storey building with an undulating Yorkshire slate-tiled pitched roof. The north western elevation and south western gable walls are partially rendered, with cracks and crevices present, particularly around the door opening and coin stones in the south western gable. The roof has recently been repaired and the ridge tiles well sealed. There are some slates that have gaps beneath, however, these are not lifted slates and the

gaps are small. The roof verges have been well sealed, minimising access by bats. Ventilation holes are present in the north eastern, south western and south eastern elevations. All window and door openings have been boarded shut, reducing opportunities for access by bats, however, gaps around the boards may themselves provide opportunities for roosting bats. Timber fascia boards are present along the north western and south eastern elevations. The boards have gaps behind and allow access onto the eaves, providing potential roosting opportunities for bats.

During the external inspection, occasional scattered bat droppings were found on wall surfaces, confirming use of the buildings by bats. Numerous opportunities for roosting bats were present in all three buildings.

<table>
<tr><td>  </td><td>  </td></tr>
<tr><td>Photograph 1: South-eastern and south-western elevations of Barn 1 Circled is the location of the roost entrance where 1 common pipistrelle bat emerged.</td><td>Photograph 2: Example of gaps in mortar work between the stones and access beneath the eaves (circled).</td></tr>
<tr><td>  </td><td>  </td></tr>
<tr><td>Photograph 3: South western elevation of Barn 2, highlighting the gaps in the stone work above the infilled ventilation slot where one bat emerged.</td><td>Photograph 4: Ventilation slots and holes in the south eastern gable of Barn 2. Circled is the location of the roost entrance where 6 soprano pipistrelle bats emerged.</td></tr>
</table>

	
Photograph 5: North-western and south western elevation of Barn 3, showing the undulating slate-tiled roof and ventilation holes. The ridge line and roof verges are well sealed.	**Photograph 6**: Nissen style shed considered unsuitable for roosting bats.

Building Inspection Results

The barns have several structural features which could be used by roosting bats, including:

- Slipped and lifted tiles and ridge tiles and gaps beneath verge tiles which provide roosting opportunities for small numbers of crevice dwelling bats;
- Gaps in the mortar work beneath the eaves, roof verges, around windows and doorways;
- Ventilation slots and holes allowing internal access; and
- Narrow crevices behind the fascia boards.

Due to the frequency of potential roosting opportunities, the barns were assessed as having high potential for roosting bats (Appendix B).

Emergence and Activity Surveys

Following the external building inspection, one dusk emergence survey was undertaken to reassess the status of the building for roosting bats and if present, to characterise the roost, including the species and number of bats using the roost. Usually, three emergence/return surveys would be required to assess and characterise buildings assessed as being high risk for roosting bats. However, as a full suite of surveys have previously been undertaken for the site, it was considered sufficient that one emergence survey, to update the existing survey information, was undertaken. This survey, undertaken in September 2022, confirmed that the conditions at the site have not significantly changed since 2020, when the full suite of surveys were undertaken. Appendix C shows the surveyor locations. Appendix D shows the time, species and activity type recorded by each surveyor. Appendix E shows roost emergence/entry points observed during the 2020 and 2022 surveys.

The emergence survey was undertaken on the 14th of September 2022. The surveyor at Position 1 observed the first bat at 19:27 (2 minutes before sunset); a soprano pipistrelle (*Pipistrellus pygmaeus*) emerged from the south eastern gable end wall of Barn 2. A further 5 soprano pipistrelle bats emerged from the same location over the following 11 minutes. A soprano pipistrelle bat was also observed to emerge from a crevice in the stone work close to the barn doors at 19:42. During the remainder of the survey the surveyor at Position 1 observed foraging flight and social calls from small numbers (maximum of 3 bats) of soprano and common pipistrelle (*P. pipistrellus)* bats. The frequency of social calls increased towards

the end of the survey. An adult barn owl was observed flying in the fields to the north east of the site.

The surveyor at Position 2 observed the first bat at 19:31 when a common pipistrelle bat emerged from a crevice in the stonework above an infilled ventilation slit (to the north of the main barn doors) in Barn 2. A single common pipistrelle bat emerged from the south eastern corner of Barn 1 at 19:41. The bat returned to the roost site and re-emerged at 19:44. Continuous foraging and social calling by small numbers of common and soprano pipistrelle bats were recorded within the farmyard for the duration of the survey. At 19:52 and 19:54 a brown long eared bat was observed flying between Barn 1 and Barn 2. Individual Myotis (*Myotis sp.*) bats were observed flying north out of the yard at 20:10 and 20:12.

The surveyor at Position 3 observed the first bat, a soprano pipistrelle, at 19:32. Foraging and commuting pipistrelle bats (common and soprano) were observed throughout the survey. No bats were seen to emerge from the northern gable end of Barn 2. One Myotis bat was heard at 20:10.

The surveyor at Position 4 recorded the first bat, a common pipistrelle to emerge from under the slates at the bottom edge of the roof of Barn 1. It foraged within the uncovered/unroofed section of Barn 1 before flying around the north eastern corner of Barn 1. Constant foraging and social calls from common pipistrelle and soprano pipistrelle bats were observed around the north western and northern elevations of the barn. A single Myotis bat was recorded at 20:43, passing the surveyor and six passes by noctule (*Nyctalus noctula*) bats were observed by the surveyor at Position 4.

The Camera filming the south western gable end of Barn 3 recorded no bats emerging from the gable end of Barn 3.

The Camera filming the south western elevation of Barn 2 recorded one bat emerge from the infilled ventilation slit on the south western elevation at 19:35 (21:46 minutes after filming commenced). A second bat emerged from a crevice in the stonework beneath the eaves in the south western elevation (above the double barn doors) at 20:03 (49:26 minutes after filming commenced).

In summary, day roosting common pipistrelle and soprano pipistrelle bats were confirmed to be using Barn 1 and Barn 2. Whilst they were confirmed to be foraging/commuting around the site. There is also potential that brown long eared and myotis sp. were also using the barns as roosts.

Nesting Birds

The internal spaces of the barns are considered to offer potential for nesting birds. Whilst internal access was not possible, nesting barn owls (*Tyto alba*) were confirmed to be present in Barn 2 (see Appendix C) during the emergence survey, due to the noise of chicks/young barn owls coming from the building. Adult barn owls were observed foraging around the buildings during the survey. Swallows (*Hirundo rustica*) have been confirmed as using the buildings during previous surveys.

Impact Assessment and Recommendations

The works proposed as part of the barn conversions to residential accommodation will likely include: re-roofing, rebuilding structural walls, rendering, replacing guttering the following (Scope of Works: Refurbishment of Phynnis Farm, Slaidburn, 2020):

- Complete re-roofing or Isolated repairs to the roof, to involve addressing any slipped tiles;

- Clear adjacent vegetation and rebuild structural walls;
- Rendering;
- Replace all gutters, downpipes and SVP/drainage pipework;
- Fitting fascia boards and soffits;
- Repair or replace and fit windows and doors;
- Install services, including septic tanks systems; Prepare and repaint existing main and side entrance doors;
- Remove and replace 11 windows;
- Septic tank service and isolated drainage repair; and
- Works to the internal living spaces to include; replacing structural timberwork, repairing stone work/mortar work, installing internal walls and floors, electrical works, install new boiler/heaters, install fixtures and fittings and decorate.

During the building inspection, several PRFs were noted on all buildings, with Barns 1 and 2 providing the most potential (designated as high potential). Previous surveys of the buildings have confirmed roosting activity in all buildings (see Appendix E), with the most numerous roosts in Barn 1 and 2. Barn 3 has the lowest potential for roosting bats; however, bats have been confirmed previously as emerging from and re-entering the south western gable.

Following the initial building inspection, emergence surveys identified several roosts of individual pipistrelle bats in Barns 1 and 2, and one roost of six soprano pipistrelle bats in the south eastern gable of Barn 2. The bats are using crevices in the mortar work between the stones and beneath slates.

The survey effort is considered adequate for confirming; bat use of the barns, and that the characteristics of the buildings have not changed significantly since 2020. Whilst there are numerous roosts present in the barns, they are occupied by small numbers of bats, and given the low numbers of emerging bats recorded during the surveys undertaken during the maternity period in 2020 (Bowland Ecology, 2020), the combined evidence (internal inspection + emergence surveys) is deemed sufficient to confirm the absence of maternity roosts.

The likelihood of bats utilising the building for hibernation cannot be ruled out. Hibernation roosts require consistent low temperatures and low levels of disturbance. The buildings offer these conditions due to the lack of heating and low levels of disturbance (due to lack of use).

Overall, in line with Natural England's Bat Mitigation Guidelines (Mitchell-Jones, 2004), the identified roosts are considered to be small summer roosts, used by up to four commonly occurring species on a regular basis and are therefore of **low conservation significance**.

In the absence of mitigation, works to section 4 would result in the long-term loss of a summer roost utilised by a small number of common pipistrelle species, along with a moderate risk to roosting bats through the potential disturbance and/or harm (including injury and/or death) of individual bats (CIEEM, 2021; Mitchell-Jones, 2004).

In the absence of appropriate mitigation, the proposed works to the three barns would highly likely result in the long-term loss of a number of summer roosts, utilised by a small number of pipistrelle species, Myotis bats and possibly brown long eared bats. There is also a high risk to roosting bats, through potential disturbance and/or harm (including injury and/or death) of individual and small groups of bats (CIEEM, 2021; Mitchell-Jones, 2004). These actions would constitute an offence under both the Wildlife & Countryside Act (1981), as amended and the Conservation of Habitats and Species Regulations (2017; Appendix A).

In order for the works to lawfully proceed, it is recommended that the **works be carried out under a European Protected Species mitigation licence** issued by Natural England. Licences are usually only issued following granting of full planning permission and discharge

of all relevant planning conditions. Applications can take at least six weeks to process following receipt of all required documentation. Information on the licensing process can be found in Natural England's *European Protected Species: Mitigation Licensing - How to get a licence* document (Natural England, 2010) and at www.gov.uk.

The license application will include a method statement outlining a detailed mitigation and monitoring strategy, the implementation of which will be a condition of the licence. The implementation of the mitigation strategy may be subject to seasonal constraints. Sufficient time will need to be allowed in the development programme to enable bats to find the new roosts prior to destruction of existing roosts. Subject to confirmation of the a detailed mitigation strategy at the detailed design stage and its implementation, it is anticipated that the favourable conservation test can be met and the EPS licence application will be successful. A reasoned statement, to be completed by the developer, will also be required for the proposed works.

It should also be noted that Natural England may request further emergence and/or re-entry surveys to update the surveys covering the maternity period, as part of the licence application.

Guidance states that the unavoidable loss of small summer roosts should be mitigated for by the provision of new roost facilities where possible, ideally on a like-for-like basis. Where like-for-like provision is not possible, the new roosts should be designed based on the identified roosting species' requirements. This should be considered within the renovated building designs, including access into the roof voids maintained through gaps beneath tiles (e.g. purpose built Morris bat slates), above the roof verge, beneath ridge tiles (e.g. created by leaving haps in the mortar along the ridge line) and behind fascias, along with access into the walls via maintained crevices or integrated bat boxes. The integrated boxes and access features will be supplemented by the addition of multi-chambered woodcrete boxes which provide optimal roosting conditions with successful uptake rates (Poulton 2006). This should be discussed with the project ecologist during the design stage to avoid delays later in the scheme. The new roosts will also require a short period of monitoring following implementation.

In addition to the above, the replacement roof structures will be lined in order to enhance the roosting conditions available, non-bitumen coated roofing membranes (NBCRMs), formerly referred to as breathable roof membranes (BRM's), **must not be used** due to the long synthetic fibres in which bats become entangled resulting in mortality; only bituminous felt that does not contain non-woven spunbonded polypropylene filaments (i.e. bitumen 1F) is to be used.

Working methods must be considered to minimise impacts and ensure continuity of roosting habitat throughout the works, for example, completing the re-roofing of barns 1 and 2 in two phases; where one roof is replaced before the other and provision of roosting opportunities are made so bats have roosting opportunities in place before the second barn roof is stripped. If this is not possible, bat boxes will need to be installed elsewhere on site prior to the works.

General Mitigation

In addition to the above and as part of the licence, measures to reduce the risk of impacting bats will be required. The following measures (but not limited to) will likely be included and adhered to during the works:

- A procedure will be in place should bats be found or suspected at any time during the works. If bats are found or suspected, as a legal requirement, works in that area

should cease immediately until further advice has been sought from Natural England or the scheme ecologist;

- Before any works proceed, all contractors will be made aware of the possible presence of bats, bat field signs to look for and procedure if bats are found or discovered (Appendix F). Prior to any works to the roof and associated features (fascia/bargeboards) a toolbox talk will be given to all contractors involved in this work by a suitably qualified ecologist;
- Careful timing of works is recommended. For works to conform with best ecological practice, it is recommended that any work to the structures is scheduled to occur within the period of least impact to bats – during the autumn (late October and November) or early spring (late February and March). If undertaken during autumn or spring, any roosting bats will be able to relocate to alternative roosts, although individual bats can be found at any time. Works will be carried out in appropriate weather conditions and when temperatures are above 8°C;
- Prior to works commencing, a Double Chamber Improved Crevice Bat Box (or equivalent) will be installed at a suitable location under guidance from the supervising ecologist. The bat box will be used to receive any bats encountered and requiring relocation during the works;
- All works to the roof structures will be undertaken carefully by hand, under the supervision of a suitably experienced and licenced ecologist;
- A suitably licensed ecologist must be on-call throughout the works;
- If, in the absence of a supervising ecologist, a bat is unexpectedly encountered within the working area, as a legal requirement, the bat will be left in situ and all works must **cease immediately** and the ecologist notified. If a suitably experienced and licenced ecologist is not on site, the on-call ecologist will be notified, who will attend site. The ecologist will remove the bat, check the health of the bat and then place it the Improved Crevice Bat Box; and
- If a bat is discovered in imminent danger, the bat will be moved carefully by a contractor wearing gloves and placed within a suitable container (a covered box such as a shoe box) with air holes. The container will be placed in a safe, dark and quiet location until the on-call ecologist arrives on site.

Light spillage onto surrounding habitats such as the tree lines, fields, and incorporated roosting features on the building/installed bat boxes, will be avoided so as to not impact on roosting, foraging, and commuting bats. Any lighting schemes incorporated into the building design and surrounding land will be designed in accordance with best practice guidance (ILP, 2018), existing on-site lighting may also be modified to accommodate this. This includes measures such as:

- All light fittings should lack UV elements when manufactured. Metal halide, fluorescent sources should not be used;
- LED luminaires should be used where possible due to their sharp cut-off, lower intensity, good colour rendition, and dimming capability;
- Any security lighting should be sensor activated, rather than permanently illuminated during darkness;
- The use of red light is encouraged to reduce the impacts of lighting to bats and other wildlife[2]. Otherwise, a warm white spectrum (ideally <2700 Kelvin) should be adopted to reduce blue light component; and
- Lighting should be directed to where it is needed, and light spillage avoided in particular to created roosting features and foraging habitat on site.

[2] https://www.conservationevidence.com/actions/2021

Nesting Birds

Vegetation removal should ideally take place outside the breeding bird season which runs from March until August inclusive, in order to prevent any impacts upon nesting birds.

Vegetation removal that must be carried out within the bird breeding season will be subject to a pre-clearance bird survey carried out by a suitably experienced ecologist. No works will be carried out within 5 m of an identified nest until the young have fledged and are no longer returning to the nest site. Works will only be undertaken once the ecologist has declared the nest to be no longer in use.

Compensation for the loss of breeding bird habitat is not considered necessary due to the small area of vegetation subject to removal, and the abundance of high quality nesting habitats located within the surrounding area.

Barn Owl

The following measures must be undertaken in order to minimise disturbance to the breeding barn owls and retain roosting potential for them at the site:

- Works are not to be undertaken when barn owls are nesting (the status of the nest must be checked by a licenced ornithologist);
- Prior to commencement of works, a site check will be required by a suitably experienced ornithologist to assess the use of Barn 2 by barn owls;
- Prior to commencement of works a barn owl nest box is to be installed on a mature tree close to the site (on United Utilities owned land);
- An integrated barn owl nest box will be installed within the loft space of Barn 2 (this is usually a small dedicated loft space for barn owls), with the existing entrance maintained in the south eastern elevation.
- If works to Barn 1 and Barn 3 are undertaken whilst the barn owls are considered to have an active nest, the working hours should be restricted to between 09:00 and 16:00. Once the young have fledged, working hours should not exceed 09:00 to 17:00. The status of the nest must be checked by a licenced ornithologist prior to extending working hours;
- If barn owls are nesting, it should be ensured that Barn 2 is not used during the works, including for storage of equipment and materials, and the barn owls nesting within the barn are not disturbed during the works;
- The entrance to Barn 2 should not be blocked at any point during or after the works, allowing continued access to the nest box by barn owl; and
- Any external lighting required will be directed to where it is needed and light spillage onto Barn 2 avoided whilst the barn owls are nesting.

Re-survey of the site

If no works are undertaken on site within 12 months of this survey or if any changes to the proposed scope or timescales are made, a further ecological survey is recommended (because of the mobility of animals and the potential for colonisation of the site).

References

Bowland Ecology (2020) *Phynis Farmhouse Refurbishment; Ecological Advice Note*

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Institute of Lighting Professionals (2018) *Bats and artificial lighting in the UK*. The Bat Conservation Trust, London.

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

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Appendix A – Legal Information

This report provides guidance of potential offences as part of the impact assessment. This report does not provide detailed legal advice and for full details of potential offences against protected species the relevant acts should be consulted in their original forms i.e. The Wildlife and Countryside Act, 1981, as amended, The Countryside and Rights of Way Act 2000, The Natural Environment and Rural Communities Act, 2006 and The Conservation of Habitats and Species Regulations 2017.

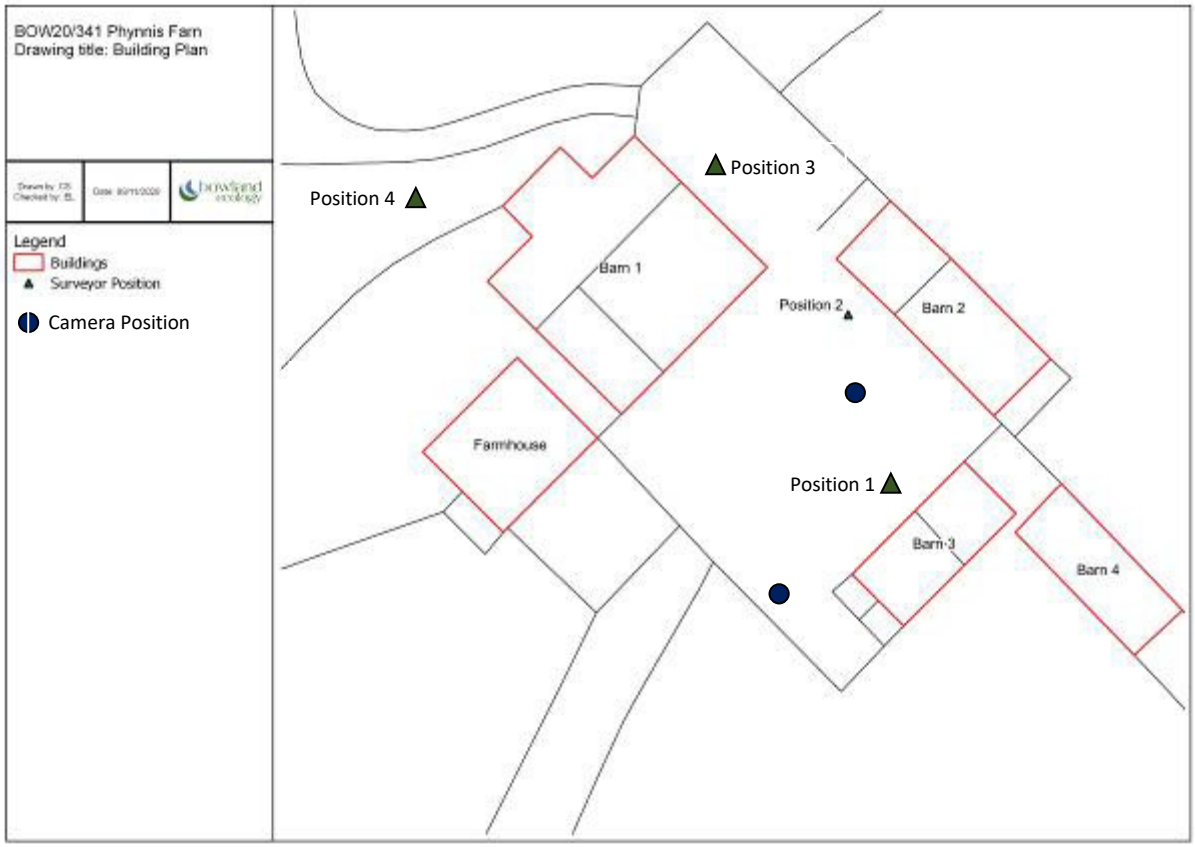
Species	Legislation	Offences	Notes on licensing procedures and further advice
Species that are protected by European and national legislation			
Bats *European protected species*	Conservation of Habitats and Species Regulations 2017 Reg 41	Deliberately[1] capture, injure or kill a bat; Deliberate disturbance[2] of bats; Damage or destroy a breeding site/resting place used by a bat. The protection of bat roosts is considered to apply regardless of whether bats are present.	An NE licence in respect of development is required in England. *European Protected Species: Mitigation Licensing- How to get a licence* (NE 2010) *Bat Mitigation Guidelines* (English Nature 2004) *Bat Workers Manual* (JNCC 2004) *BS8596:2015 Surveying for bats in trees and woodland* (BSI, 2015)
	Wildlife and Countryside Act 1981 (as amended)[4] S.9	Intentionally or recklessly[3] obstruct access to any structure or place used for shelter or protection or disturb a bat in such a place.	A licence from NE is required for surveys (scientific purposes) that would involve disturbance of bats or entering a known or suspected roost site.
Birds	Wildlife and Countryside Act 1981 (as amended)[4] S.1	Intentionally kill, injure or take any wild bird; Intentionally take, damage or destroy the nest of any wild bird while that nest is in use or being built; Intentionally take or destroy the nest or eggs of any wild bird. **Schedule 1 species (includes barn owl)**: Special penalties are liable for these offences involving birds on Schedule 1 (e.g. most birds of prey, kingfisher, barn owl, black redstart, little ringed plover). Intentionally or recklessly[3] disturb a Schedule 1 species while it is building a nest or is in, on or near a nest containing eggs or young; intentionally or recklessly disturb dependent young of such a species.	No licences are available to disturb any birds in regard to development. Licences are available in certain circumstances to damage or destroy nests, but these only apply to the list of licensable activities in the Act and do not cover development. General licences are available in respect of 'pest species' but only for certain very specific purposes e.g. public health, public safety, air safety. https://www.gov.uk/wild-birds-protection-surveys-and-licences https://www.gov.uk/prevent-wild-birds-damaging-your-land-farm-or-business

[1]Deliberate capture or killing is taken to include "accepting the possibility" of such capture or killing. [2]Deliberate disturbance of animals includes in particular any disturbance which is likely a) to impair their ability (i) to survive, to breed or reproduce, or to rear or nurture their young, or (ii) in the case of animals of hibernating or migratory species, to hibernate or migrate; or b) to affect significantly the local distribution or abundance of the species to which they belong. Lower levels of disturbance not covered by the Conservation of Habitats and Species Regulations 2010 remain an offence under the Wildlife and Countryside Act 1981 although a defence is available where such actions are the incidental result of a lawful activity that could not reasonably be avoided. Thus, deliberate disturbance that does not result in either (a) or (b) above would be classed as a lower level of disturbance. [3]The term 'reckless' is defined by the case of Regina versus Caldwell 1982. The prosecution has to show that a person deliberately took an unacceptable risk, or failed to notice or consider an obvious risk. [4] The Wildlife and Countryside Act (1981) has been updated by various amendments, including the Countryside and Rights of Way Act 2000 and the Natural Environment and Rural Communities Act 2006. A full list of amendments can be found at http://jncc.defra.gov.uk/page-1377.

Appendix B – Assessing the Suitability of Bat Roosting and Foraging Habitats (Collins, 2016)

Suitability	Description of Roosting Habitat	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 and/or suitable surrounding habitats to be used on a regular basis or by a larger number of bats (i.e. unlikely to be suitable maternity or hibernation). A tree of sufficient size and age to contain potential roosting features but with none seen from the ground, or feature seen with only very limited roosting potential.	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, and surrounding habitat but unlikely to support a roost of high conservation status.	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 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 and connected to know roosts.

Appendix C - Phynis Farm – Farmhouse and Barns



Appendix D - Emergence Survey Results

Date: 14/09/2022, Dusk, Sunset 19:29, Survey start: 19:14, Survey end: 21:00		
David Fisher (Surveyor Position 1)		
Time	Species	Activity
19:27	Soprano pipistrelle	Emergence from south gable end of Barn 2.
19:35	Soprano pipistrelle	Emergence from south gable end of Barn 2.
19:36	Soprano pipistrelle	Emergence from south gable end of Barn 2.
19:36	Soprano pipistrelle	Social calls
19:37	Soprano pipistrelle	Emergence from south gable end of Barn 2.
19:37	Soprano pipistrelle	Emergence from south gable end of Barn 2.
19:38	Soprano pipistrelle	Emergence from south gable end of Barn 2.
19:41	Soprano pipistrelle	Social calls
19:42	Soprano pipistrelle	Foraging flight along front of Barn 2
19:44	Soprano pipistrelle	Foraging flight around gable end of Barn 2
19:45	Soprano pipistrelle	Social calls
19:48	Common pipistrelle	Foraging pass
19:49	Soprano pipistrelle	Foraging pass
19:52	Common pipistrelle	Foraging passes
19:53	Common pipistrelle	Foraging passes around yard
19:55	Common pipistrelle	Foraging passes around yard
19:56	Common pipistrelle	Social calling in yard
20:01	Soprano pipistrelle	Foraging passes around yard
20:05	Soprano pipistrelle	Foraging flight around gable end of Barn 2
20:07	Soprano pipistrelle	Foraging flight around gable end of Barn 2
20:10	Soprano pipistrelle	Foraging passes around yard
20:30	Soprano pipistrelle	Foraging passes around yard
20:31	Soprano pipistrelle	Social calling in yard
20:32	No ID	Social calling in yard
20:42	Soprano pipistrelle	Foraging passes around yard and social calls
20:48	Soprano pipistrelle	Persistent social calling in yard
20:50	Soprano pipistrelle	Foraging passes around yard and social calls
20:54	Soprano pipistrelle	Foraging passes around yard and social calls
20:54	Common pipistrelle	Foraging passes around yard and social calls
20:57	Soprano pipistrelle	Foraging passes around yard and social calls
20:59	Soprano pipistrelle	Foraging passes around yard and social calls
Alice Helyar (Surveyor Position 2)		
Time	Species	Activity
19:31	Common pipistrelle	Emergence from Barn 2 above surveyor
19:36	Soprano pipistrelle	Possible emergence from Barn 2 above surveyor
19:36	Common pipistrelle	Foraging flight in front of Barn 2, above surveyor
19:40	Common pipistrelle	Foraging flight around Barn 2
19:41	Common pipistrelle	Emergence from Barn 1, at the southern end of the south eastern elevation. From crack in stone work.
19:42	Soprano pipistrelle	Foraging flight around yard

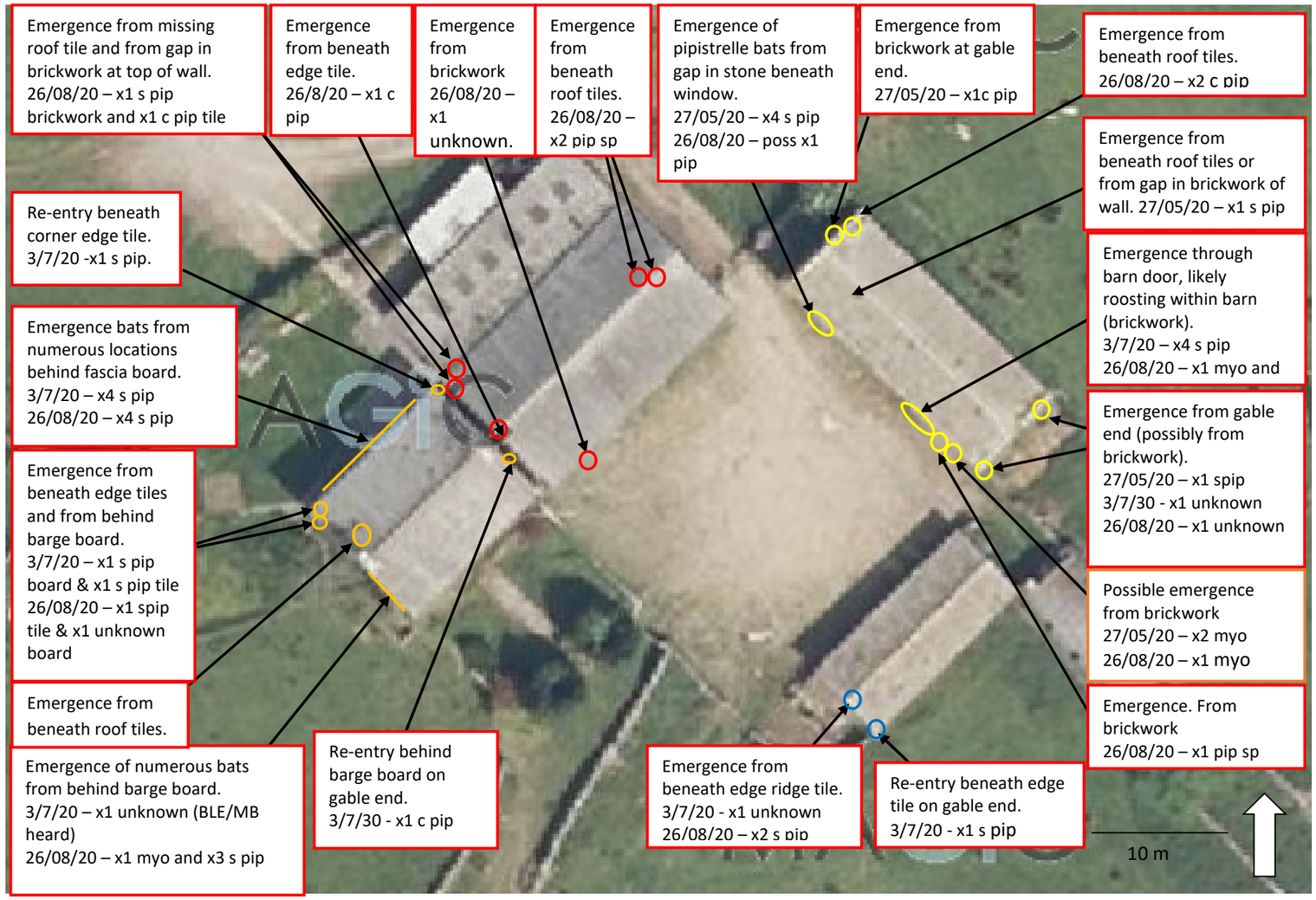
19:43	Common pipistrelle	Foraging between Barn 1 and Barn 2
19:44	Common pipistrelle	Foraging flight around yard
19:44	Common pipistrelle	Bat returned to roost in Barn 1
19:52	Brown long eared	Observed flying around northern elevation of Barn 1
19:54	Brown long eared	Heard not seen (HNS)
19:57	Common pipistrelle x 2	Continuous foraging between Barn 1 and Barn 2
20:00	Soprano pipistrelle	Foraging flight around yard
20:01	Common pipistrelle	Foraging flight around yard
20:03	Soprano pipistrelle	Foraging flight around yard
20:07	Soprano pipistrelle	Foraging flight around yard
20:09	Soprano pipistrelle	Foraging flight around yard
20:10	Myotis bat	Flew north out of yard between Barn 1 and Barn 2
20:11	Myotis bat	HNS
20:12	Myotis bat and soprano pipistrelle	Foraging flight around yard
20:14	Soprano pipistrelle	Foraging flight around yard
20:31	Soprano pipistrelle	Foraging flight around yard
20:41	Noctule	Flight overhead
20:42	Soprano pipistrelle	Commuting through yard
20:49	Soprano pipistrelle	Foraging and social calls around yard
20:50	Soprano pipistrelle	Foraging and social calls around yard
20:52	Common pipistrelle	Foraging and social calls around yard
20:53	Soprano pipistrelle	Foraging and social calls around yard
Liz Kenyon (Surveyor Position 3)		
Time	Species	Activity
19:32	Soprano pipistrelle	Commuting flight
19:36	Common pipistrelle	Commuting flight
19:41	Common pipistrelle	Commuting flight
19:43	Common pipistrelle	Commuting flight
19:44	Common pipistrelle	Commuting flight
19:44	Common pipistrelle	Commuting flight
19:45	Soprano pipistrelle	Commuting flight
19:45	Common pipistrelle	Foraging until 20:05
19:49	Common pipistrelle	Commuting flight
19:54	Common pipistrelle	Foraging and social calls
20:02	Common pipistrelle	Commuting flight
20:10	Myotis bat	Commuting flight (HNS)
20:12	Soprano pipistrelle	Foraging pass
20:13	Soprano pipistrelle	Commuting flight
20:31	Soprano pipistrelle	Commuting flight
20:42	Soprano pipistrelle	Commuting flight
20:48	Noctule	Commuting flight
20:49	Common pipistrelle	Continuous foraging flight until end of survey
20:57	Noctule	Commuting flight

Lucy Brookfield (Surveyor Position 4)		
Time	Species	Activity
19:41	Common pipistrelle	Emergence from under slates along edge of roof. Foraged within building without roof covering before flying around the northern gable of Barn 1.
19:41	Common pipistrelle	Foraging flight
19:43-20:05	Common pipistrelle	Foraging flight and social calling
20:31	Noctule	HNS
20:33	Noctule	HNS
20:38	Noctule	HNS
20:38-20:43	Noctule	HNS (approximately 25 passes)
20:43	Myotis bat	Single pass HNS
20:47	Noctule	HNS (approximately 20 passes)
20:52	Soprano pipistrelle	HNS (2 passes)
20:52-20:59	Noctule	HNS constant activity.

Appendix E – Roost Emergence/Entry Points

Note: Red text box denotes confirmed roosts exit/entry points, orange text box denotes potential access points. Red Circles – Barn 1, Yellow Circles – Barn 2, Blue Circles – Barn 3, Orange Circles and lines – Farm House

Emergence/Entry Points from surveys undertaken in 2020:



Emergence Points from survey undertaken in 2022:

Appendix F – Bat Information Poster for Contractors

BATS

Information, legal responsibilities and best practice for the construction industry

Legal Protection

All UK Bat species are protected by European and UK law, in practical terms this means it is an offence to:

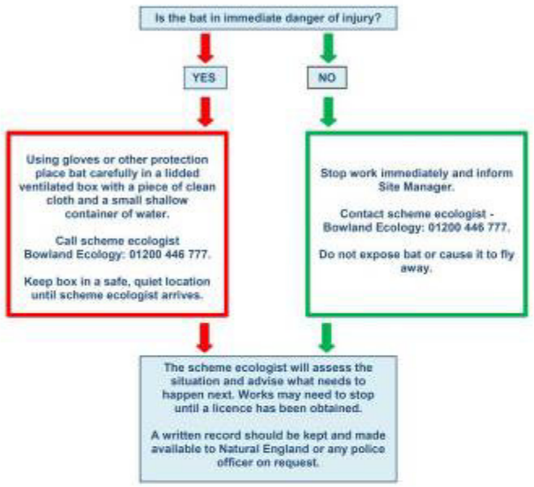
- Deliberately capture, injure or kill a bat;
- Deliberately disturb bats;
- Damage or destroy a breeding site or resting place (even if bats are not occupying the roost at the time);
- Intentionally or recklessly obstruct access to any structure or place used for shelter or protection or disturb a bat in such a place;
- Possess or advertise/sell/exchange a bat (dead or alive) or any part of a bat.

Penalties on conviction: the maximum fine is £5,000 per incident or per bat (some roosts contain several hundred bats), up to six months in prison, and forfeiture of items used to commit the offence, e.g. vehicles, plant, machinery.

Defences include:

1. Tending/caring for a bat solely for the purpose of restoring it to health and subsequent release.
2. Mercy killing where there is no reasonable hope of recovery (provided that person did not cause the injury in the first place – in which case the illegal act has already taken place).

Found a bat during unsupervised works?



Field signs of bat presence:

- Live or dead bats: the smallest UK bat species, the pipistrelle is only 3.5-4.5cm long.
- Droppings: bat droppings look like mouse droppings but will crumble between your fingers (they are dry and made entirely of insects).
- Feeding remains: piles of butterfly/moth wings are often left below bat feeding perches.

Schematic from www.bats.org.uk

Bats can roost in the following places:

- The top of gable end or dividing wall;
- The top of chimney breasts;
- Ridge and hip beams and other roof beams;
- Mortise and tension joints;
- All beams/ceilings/pipework (free hanging bats);
- The junction of roof timbers, especially where ridge and hip beams meet;
- Behind purlins;
- Between tiles and the roof lining;
- Under flat felt roofs;
- Under barge boards;
- In cavity walls;
- In cracks in stone or concrete;
- Behind peeling paint/wall coverings;
- Gaps behind window and door frames;
- Between window panes and timber boarding.
- In trees (cracks/holes/ivy cladding).

Why wear gloves?

There is a small risk that some bats carry a rabies virus – European Bat Lyssavirus. The purpose of wearing gloves is to reduce the chance of being bitten, as the virus is transmitted via bat saliva. Thick leather gloves are appropriate for removing a bat from imminent danger but these should be clean.

In the event that you are bitten, wash the wound, gently but thoroughly, with soap and water. Speak to a health professional immediately, advising them that you have been bitten by a bat.

References:
Bat Conservation Trust. August 2016. Why wear gloves when handling bats?
BCT Bat Surveys for Professional Ecologists, Good Practice Guidelines, 3rd Edition, 2016

version 1 August 2017