

Llantroft, Newcastle, Craven Arms, SY7 8PD

Bat Survey with Mitigation Plan

For: Ray Woodhams

01 July 2021

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Gerald Longley Ecological Consultants

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1.0 INTRODUCTION

1.1 Background – Gerald Longley

Gerald Longley, Ecological Consultant, has been commissioned to undertake a bat survey for a proposed conversion works on the barns at Llantroft, Newcastle, Craven Arms, SY7 8PD (national grid reference SO2391779933). He has two decades of experience of wildlife surveying and, prior to working as an independent ecological consultant, held posts as Conservation Officer with Montgomeryshire Wildlife Trust and Head of Shrewsbury Countryside Unit.

1.2 Background – This survey

Works to convert at least some of the outbuildings are proposed. The former farm is in a very rural location in the hills east of the Teme Valley, approximately 3km south west of the village of Newcastle. The request for this bat survey comes from the applicants' and the planning team's need to ensure that if the buildings are being used by protected species, notably bats or nesting birds, their conservation needs are met and the law is not broken.

Under the law, a bat roost is any structure or place used for shelter or protection. "Structure" could be any building, wall, well, cave or mature tree. Bats use many roost sites and feeding areas throughout the year. These vary according to bat age, condition, gender and species, as well as season and weather. Since bats tend to re-use the same roosts for generations, the roost may be protected whether the bats are present or not. A full citation of the law with regard to bats and birds is given in the Appendices.

1.3 Report Summary

Llantroft, Newcastle, Craven Arms, SY7 8PD Bat Survey with Mitigation Plan



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A Bat Survey based on Bat Conservation Trust guidelines (BCT, 2016) was carried out by GLEC Ltd at a former farm in a very rural location on outbuildings (numbered 1 to 4) and residential buildings (numbered 5 & 6 N part only) at Llantroft, Newcastle, Craven Arms, SY7 8PD. The survey consisted of a thorough daytime inspection followed by one evening and two dawn bat activity surveys and passive bat monitoring, all between 20 May and 01 July 2021. It was an update of surveys carried out by this company in 2016 for a different client and planning application. It had been well over two years since those surveys were carried out hence the need for their update. Works to convert at least some of the outbuildings are proposed.

Residential building 5 had 6(28) common pipistrelle bat, outbuilding 4 had 3(3) brown long-eared bat, 4(7) Natterer's bat and night roosting lesser horseshoe bat (no. not known but a small number possibly 1). 2016 figures in brackets. Outbuilding 3 had 0(1) common pipistrelle in 2016. These surveys establish that Outbuildings 3 and 4 and residential building 5 have or have had bat roosts and are therefore a material consideration for works to be carried out or any planning application.

Small birds continued to nest in stone wall cavities including wagtails and owls roost in outbuildings 4 and 1.

It is recommended that:

1. Replacement bird nest sites will be provided with CJ Wildlife Ltd "Woodstone" nest boxes (4 off 28mm hole fronted and 4 off open fronted) affixed to the buildings and trees at around 3m height. To replace the owl roost in outbuildings, a barn owl nesting box will be provided at around 4m height, either in an unconverted outbuilding (not no. 1) or mounted on a pole no more than 30m away from the buildings. If owls or other birds nest in outbuildings at the time of conversion, works must be delayed until dependent young have left and the nest is not active.
2. The presence of roosting bats is a constraint to the proposed works. If works were to go ahead in Outbuildings 3 and 4 without approved mitigation, it is likely that bats would be negatively affected, especially if works were carried out in the spring or summer. Planned works can continue without constraint from bats in Outbuildings 1 and 2, residential parts 5 (not roof) and the North end of 6.
3. For the works to be carried out to outbuildings 3 and 4, a Mitigation (European Protected Species) Licence with regard to bats will need to be applied for from Natural England.
4. A Brief Bat Mitigation Plan, including a Method Statement, has been drawn up for the outbuildings and is presented in this report. They include such matters as:
 - a) Timing of works.
 - b) Worker/contractor induction on bat presence.
 - c) Contingency for discovering bats.
 - d) Provision of bat boxes.
 - e) Protection of existing/creation of new bat roosts and entry/exit points.
 - f) Applicant to provide the Mitigation details on their Planning Application drawings.
 - g) Monitoring.

2.0 METHODOLOGY

2.1 Aims of the survey

- To establish the actual or likely presence or absence of bat roosts and/or bat species in the outbuildings 1-4 and residential parts 5 and 6 (north end only) at Llantroft.
- To establish the presence of any nesting birds in or on the buildings.
- To make recommendations accordingly.

2.2 Desk study

Maps and aerial photographs were scrutinised to assess the surrounding habitat at a crude level. This looked for any semi-natural habitat that may be of value to wildlife, particularly bats, for example ponds, hedges, parkland, wetland, and woodland with interconnecting habitat links. Searches were made for statutory designated sites coincident with or adjacent to the area of search and existing records of the keynote species within two kilometres.



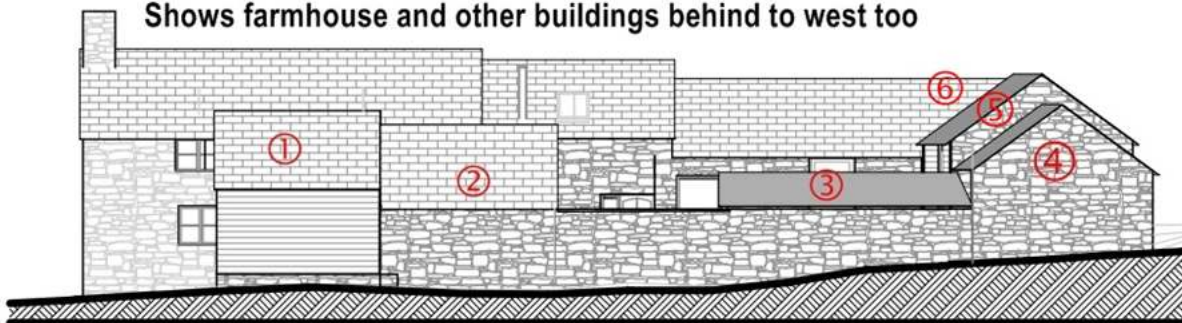
2.3 Site surveys

Surveys were designed by Gerald Longley using standard techniques based on the guidance and information in the Bat Conservation Trust guidelines (2016). The surveys of the buildings consisted of a thorough daytime inspection followed by one evening and two dawn bat activity surveys. An Anabat Express bat detector was used to carry out passive monitoring in outbuilding 4 for 22 nights during the survey period. See the Appendices for a full list of equipment used. The pre-dawn bat detector survey looked for possible re-entry into the buildings by bats and the evening activity surveys looked for emergence from the buildings. The visits also provided checks to assess whether nesting birds used the buildings. The surveyors were Gerald Longley (Natural England (NE) bat survey Class Licence CL20 (Level 4) 2015-12836-CLS-CLS), all 3 dates, Mary Thornton (NE bat survey Class Licence CL18 (Level 2) 2015-13112-CLS-CLS) 20 May 2021 only, Lindsay Barton and Katie Longley (both surveyors 14 June and 01 July 2021)



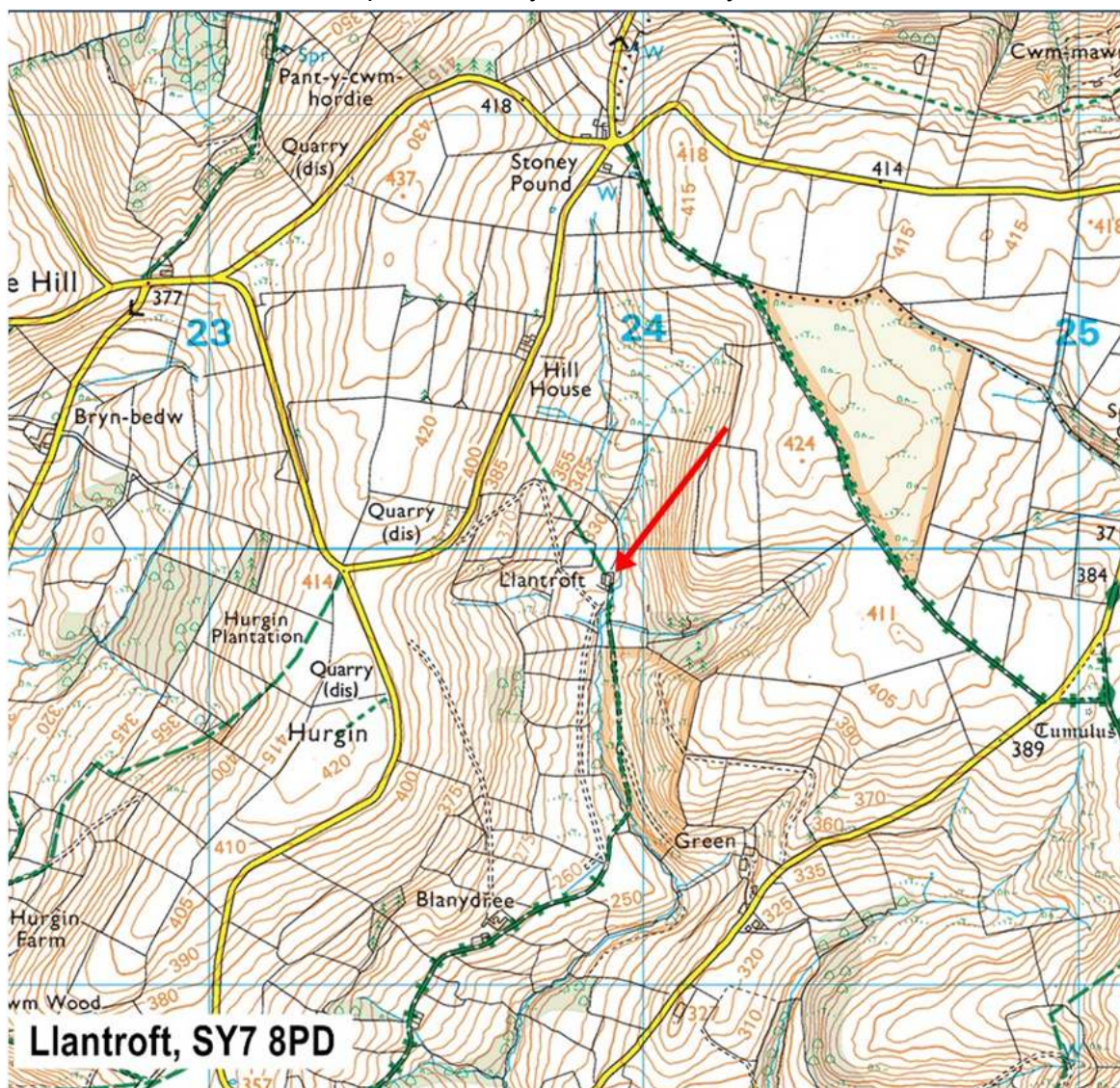
surveyor positions yellow.
building parts numbered

Llantroft
Outbuildings numbered as surveyed.
Shows farmhouse and other buildings behind to west too



East elevations

The external and internal survey of the buildings included an assessment for potential for nesting birds and bats and a search for evidence, such as pellets, dead bats, prey remains, droppings, urine marks and staining. Close-focusing binoculars were used immediately below potential roost areas. Droppings around the bases of and/or stuck to walls, on shelves, wall plates, purlins, etc. were searched for with the aid of a high-powered torch. Holes and cracks in the walls, purlins, beams etc. and behind any cladding were inspected with the colour video endoscope where they could be safely reached.



3.0 RESULTS

3.1 Desk study

There were no coincident statutory wildlife sites or SSSIs. The nearest SSSI was the River Teme some 4km west.

There were bat records for the site itself from this company's 2016 surveys. They were Outbuilding's 4/5 wall had 28 common pipistrelle bat, outbuilding 4 inside had 3 brown long-eared bat, 7 Natterer's bat and night roosting lesser horseshoe bat (no. not known but small possibly 1). Outbuilding 3 had 1 common pipistrelle.

The nearest records further away are 2 to 3km west along the Teme Valley and are for common pipistrelle and brown long-eared bat.

It should be noted that a lack of records found for a particular species in a particular location does not confirm that the species is absent.

3.2 Site surveys

These were four outbuildings probably of pre-Victorian-age associated with the former use of the site as a farm. They ran south (1) to north (4) and formed the eastern side of the farmyard. The outbuildings were close to the farmhouse. Attached on the west wall of 4 was a converted barn (5). Also the North end of the dwelling house part labelled 6 was surveyed.

Outbuilding 1

This was the most southerly building, a small, two storey former stables, probably, of timber construction (a stone wall, where it attaches to Outbuilding 2 to the north) with old weatherboarding cladding and a slate roof. Its hayloft was intact and there were barn owl pellets in good number there (>40) in the 2016 survey but none very fresh, and no owls were present or recorded in this survey. There were many potential access points for bats with gaps between boards and stones in the one stone wall, gaps under the edges of the roof and gaps around the edges of the door. The outbuilding was empty and unused. It had a small tree over the south gable.

Outbuilding 2

This was attached to Outbuilding 1, a small, very early stone barn, single storey structure with mortared stone walls and a timber-framed, pitched slated roof. There were many potential access points for bats with gaps between stones in the walls, gaps under the edges of the roof and gaps around the edges of the door. The door of this building was shut. The outbuilding was used for storage.

Outbuilding 3

This was attached to Outbuilding 4 on its north side and was an open-fronted, single storey, lean-to but had a rear wall of ancient stone with a modern corrugated roof and some weatherboarding to its west elevation top. There were many potential access points for bats with gaps between stones in the walls, gaps under the edges of the roof and gaps around the edges of the weatherboarding. The outbuilding was used for storage.

Outbuilding 4

This was attached to Outbuilding 3 on its south side and attached on the west to a building not part of this survey, a barn already converted and used as a music room. It was a small, stone barn, single storey structure with mortared stone walls to three sides and open on the fourth and a timber-framed, pitched slated roof. There were many potential access points for

bats with gaps between stones in the walls, gaps under the edges of the roof and gaps around the edges of the door. The outbuilding was used for storage.

Residential converted building 5

This was attached to Outbuilding 4 on its west side and was a single storey, double pitched slate roofed former barn of stone with a wooded clad south and north elevation walls. There were some potential access points for bats with gaps between stones in the walls, gaps under the edges of the roof and gaps around the edges of the weatherboarding. The building was used for storage.

Residential north part of house 6

This was attached to the rest of the house and formed just the north extreme part. This part only of the house was not surveyed as the client informed that this was the only part to have proposed works - a link to building 5. It was a single storey, stone built double pitched clay tiled roofed. There were some potential access points for bats with gaps between stones in the walls, gaps under the edges of the roof.

The surroundings

The farm was alone, deep in the valley of the hills west of the Teme, surrounded on all sides by a large garden and then permanent pasture dissected by grown out native hedges. The wider landscape was of pasture with woodland both coniferous and broadleaved. The area around the site was not lit at all; there were no exterior lights.

Daytime inspection – 20 May 2021

No bats were found on the exterior or interior of any of the buildings during the daytime inspection.

Outbuildings

A small number of bat droppings were found stuck to exterior walls, and on stored items inside. They were of two types, medium sized, coarser grained, Natterer's type droppings, and small, fine-grained droppings typical of pipistrelle species of bat.

In 2016 two tit nests were found in stone wall cavities and the walls and ledges had thrush/robin nests. In 2021 small birds continued to nest in stone wall cavities including grey wagtail. In Outbuilding 4, an owl species had been seen roosting by the site owners with pellets and droppings on the floor. The owl was not seen by the surveyors and the pellets could not be positively identified to a particular owl species. In the 2016 survey barn owl pellets were positively identified and were present in outbuilding 1.

First evening survey

20 May 2021 – 20.40 to 22.39 (sunset 21.09 BST)

A cool, overcast and windy evening with some rain. 9°C. 8/8 oktas cloud cover. Later in the survey there was some brighter weather, but there were good numbers of midges, moths and other insects about. The surveyors were placed so as to attempt to view all elevations.

No bats were recorded at all.

Dawn survey

14 June 2021 – 03.19 to 05.10 (sunrise 04.49 BST)

A warm, humid clear morning with a light west wind. 14 - 14°C. 1/8 oktas. The surveyors were placed so as to attempt to view all elevations.

From 03.52 to 04.13, **6** common pipistrelles *Pipistrellus pipistrellus* entered onto the apex of the east facing gable wall of residential building 5.

At 04.13 there was a pass by a soprano pipistrelle *Pipistrellus pygmaeus* over the yard west of the outbuildings 1,2,3. It did not enter anywhere.

At 04.24, **1** brown long-eared bat *Plecotus auritus* entered Outbuilding 4 via a large hole over the wall in its corner with the adjoining residential building 5 on the north elevation landing on the beams and roosting somewhere on them inside.

Second dawn survey

01 July 2021 – 03.23 to 05.10 (Sunset 04.55 BST)

A humid, still, overcast cool morning. 13 - 13°C. 8/8 oktas. The surveyors were placed so as to attempt to view all elevations.

From 03.55 to 04.12, **4** common pipistrelles entered onto the apex of the east facing gable wall of residential building 5.

From 04.11 to 04.19, **3** brown long-eared bats entered Outbuilding 4 via a large hole over the wall in its corner with the adjoining residential building 5 on the north elevation landing on the beams and roosting somewhere on them inside.

At 04.14 **4** Natterer's bats *Myotis nattereri* entered Outbuilding 4 via the open side on the south elevation landing on the beams and roosting somewhere on them inside.

Passive survey

Nights 20 May 2021 – 11 June 2021

An Anabat Express bat detector, was used to carry out passive monitoring in Outbuilding 4; as this building had an open entrance to the south and numerous large holes it had open bat access. It was for 22 nights (dusk to dawn) during the above survey period. The detector was located on a beam inside with the microphone facing into the building.

Five bat species were recorded. There were 7 nights at the beginning of the survey with no bats all. When the records started there were records every night: common and soprano pipistrelle, brown long-eared and Natterer's bats. In addition on 5 nights, lesser horseshoe bat *Rhinolophus hipposideros* were recorded between 00.00 and 03.20, probably indicating them just visiting the outbuilding as a night roost.

The soprano pipistrelle recorded in these passive surveys were not recorded to enter or emerge in the activity surveys in target buildings but were roosting elsewhere in buildings not surveyed close by.

See 8.0 SITE PICTURES for entry and emergence points.

3.3 Constraints of this survey

As with all wildlife surveys conducted, the data collected is only a representation of the species and species presence markers found during the actual dates of the survey. There are other seasons and many species are mobile or transitory.

The dates for the surveys were ideal, all within the active season for bats (May to September). The weather for the surveys was mainly good with little or no wind, but the first survey on 20 May 2021 had poor weather with rain and no bats were recorded. Insects were seen on the wing even in these conditions however. The passive survey started that night gave no records for the rest of that night and another 6 nights indicating bats were probably not present at the site on the 20 May 2021. The passive then recorded bats every night until it ended after 22 nights recording. This would tend to indicate that not bats were present on the 20 May 2021 not so much because of the poor weather but that they were not present at all on that early-ish date in the bat active season.

Evidence for some crevice-dwelling bats, e.g. *Myotis* species, can be difficult to find. Brown long-eared bats are notoriously difficult to pick up on a bat detector as they call very quietly or not at all. They are also difficult to see during evening emergence, as it is getting very dark when they emerge. All counts of bats should be regarded as good estimates rather than precise numbers.

During the passive survey it is possible for a single bat to be recorded more than once, particularly in the case of species like brown long-eared and *Myotis* bats which make passes around the inside of the roost building to sample light levels before emerging.

3.4 Interpretation/evaluation of survey results

All outbuildings and the gable was of residential parts 5 and 6 at Llantroft offered potential roosting habitat for bats with some open buildings and gaps and wall cracks in many parts. Also excellent, extensive foraging habitat with woodland, a stream, unimproved pasture and linking hedgerows nearby.

Three species of bat were recorded entering the outbuildings in activity surveys: to Residential building 5 - common pipistrelle 6 (28), Outbuilding 4 - brown long-eared bat 3(3), Natterer's bat 4(7) (2016 survey figures in brackets). In the passive survey lesser horseshoe bat (no. not known) was also recorded and soprano pipistrelle the latter were not roosting in target buildings but nearby in a building not surveyed and not to have any works in it. It is not possible to know the numbers of bats in passive surveys. Bats were recorded entering to the same spots from on each of the survey visits.

The number of bats has reduced from the 2016 survey and in particular the number of common pipistrelle roosting at the apex of the residential building 5 has fallen from 28 to 6 indicating that this is not a maternity any more. At the present sizes, all bat species numbers are too small for maternity colonies and are considered to be summer or day roosts, most likely of non-breeding juveniles or males.

In the passive survey recordings of bats on every night deployed after of 7 nights at the beginning with no bats in Outbuilding 4 indicated it was being used at night by all species recorded in activity surveys but also by lesser horseshoe bats, recorded on 5 of the 22 nights and by soprano pipistrelles possibly just feeding on moths etc. The formers' calls were mostly around midnight, and this is consistent with use of the building as a night roost. This species was not recorded entering or emerging on any of the three activity survey visits. It was concluded that they were most likely roosting elsewhere and visiting Outbuilding 4 while

out foraging during the night. Given the small number of calls it was probably a small number of bats possibly only one bat.

All the bat species recorded and their roosts are legally protected in the UK and all bats are listed as European protected species under the Habitats Directive.

Residential building 5 had 6(28) common pipistrelle bat, outbuilding 4 had 3(3) brown long-eared bat, 4(7) Natterer's bat and night roosting lesser horseshoe bat (no. not known but a small number possibly 1). 2016 figures in brackets. Outbuilding 3 had 0(1) common pipistrelle in 2016. These surveys establish that Outbuildings 3 and 4 and residential building 5 have or have had bat roosts and are therefore a material consideration for works to be carried out or any planning application.

Small birds continued to nest in stone wall cavities including wagtails and owls roost in outbuildings 4 and 1.

An assessment of the likely impact of the proposed works if they were to go ahead without mitigation is in Section 6.

The Mitigation Plan approach for residential building 5 is to retain the bat roost at its East gable. For Outbuildings 3 and 4 it is to carry out conversion works in the period when bats are least likely to be present (October to April inclusive) and new replacement bat roosting habitat be provided in Outbuilding 1. Residential building 5 will have its bat access point retained at the east facing gable for pipistrelle bats. Outbuilding 1 will become a dedicated bat building to support the loft dwelling, pre-emergence flying species that have been using Outbuilding 4.

A European Protected Species (EPS) Mitigation licence will be required from Natural England to carry out the works to outbuildings 3 and 4.

4.0 RECOMMENDATIONS

It is recommended that:

1. Replacement bird nest sites will be provided with CJ Wildlife Ltd “Woodstone” nest boxes (4 off 28mm hole fronted and 4 off open fronted) affixed to the buildings and trees at around 3m height. To replace the owl roost in outbuildings, a barn owl nesting box will be provided at around 4m height, either in an unconverted outbuilding (not no. 1) or mounted on a pole no more than 30m away from the buildings. If owls or other birds nest in outbuildings at the time of conversion, works must be delayed until dependent young have left and the nest is not active.
2. The presence of roosting bats is a constraint to the proposed works. If works were to go ahead in Outbuildings 3 and 4 without approved mitigation, it is likely that bats would be negatively affected, especially if works were carried out in the spring or summer. Planned works can continue without constraint from bats in Outbuildings 1 and 2, residential parts 5 (not roof) and the North end of 6.
3. For the works to be carried out to outbuildings 3 and 4, a Mitigation (European Protected Species) Licence with regard to bats will need to be applied for from Natural England.
4. A Brief Bat Mitigation Plan, including a Method Statement, has been drawn up for the outbuildings and is presented in this report. They include such matters as:
 - a) Timing of works.
 - b) Worker/contractor induction on bat presence.
 - c) Contingency for discovering bats.
 - d) Provision of bat boxes.
 - e) Protection of existing/creation of new bat roosts and entry/exit points.
 - f) Applicant to provide the Mitigation details on their Planning Application drawings.
 - g) Monitoring.

5.0 REFERENCES

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6.0 MITIGATION PLAN

Llantroft, Newcastle, SY7 8PD

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Bat Survey Residential building 5

Common pipistrelle day roost: 6(28) bats

Bat Survey Outbuilding 4

Brown long-eared bat day roost: 3(3) bats

Natterer's bat day roost: 4(7) bats

Lesser horseshoe bat night roost: no. not known, small possibly only 1. (no. not known)

Bat Survey Outbuilding 3

Common pipistrelle day roost: 0(1) bat

2016 survey figures in brackets

Objective: To ensure the bats remain at a favourable conservation status.

Impact assessment (in absence of this mitigation plan)

Proposed works

It is proposed to convert the outbuildings.

Short-term impacts: disturbance

Adult, juvenile bats could be killed or abandon their roosts if conversion works are started while they were present in spring and summer. If works started in the winter and were not completed by the following spring, the bats would have no roosts to return to. Any bats hibernating in cracks in walls could be killed or injured if works started while they were present during the winter.

Long-term impacts: roost modification

The bats' roosts would be permanently lost and they would have to find new roosting habitat.

Long-term impacts: roost loss that is relevant

The roosting and flying spaces in Outbuilding 4 would be lost as the open south front and other holes would have been closed. Roosts under the roof of the outbuildings would be lost when a new roof with no gaps was laid.

Long-term impacts: fragmentation and isolation

Any loss of linear features such as hedges or tree lines, loss of foraging areas such as woodland, increased lighting, or severance of flight lines by open spaces would be negative. (NB: BUT removal of trees heavily shading a roof from the sun's warmth over a building used by bats would be positive for bats, not negative).

Post-development interference impacts

The converted buildings would be houses so there would be a change in human activity and their use. Any exterior lighting on and around the outbuildings may have a negative impact on any bats roosting.

Predicted scale of impact

The impact on the individual bats of all species concerned would be high and the impact on the numbers in the locality would be:

- Lesser horseshoe bat – low. Lesser horseshoe bats are one of the UK's rarer bats and populations are localised and rare. National populations are recovering probably in response to concerted conservation efforts.

- Natterer's bat – low. Natterer's bats are found throughout most of the British Isles. Recent records have extended its range in Scotland north to the Great Glen fault. Generally it is a scarce and poorly known species. The UK population of Natterer's bats is of international importance. They rely heavily on Churches and barns for breeding and day roosting.
- Brown long-eared bat – moderate. Although still widespread, brown long-eared bats have declined in Britain due to changing land use and the conversion of buildings which have resulted in the loss of suitable feeding and roosting/breeding habitats. They are particularly susceptible to pesticides, especially used in roofs where the bats often roost on exposed timbers.
- Common pipistrelle – low. Common and soprano pipistrelles are the UK's commonest bats and are widely distributed. Populations declined sharply in previous decades but have shown some recovery since 1999. However, their reliance on buildings for roosting makes them vulnerable to building demolition and renovation, including exclusion and chemical timber treatment.

Land ownership – Llantroft garden, house, residential and outbuildings are all in the ownership of the applicant, Ray Woodhams.

Method Statement

Llantroft, Newcastle, SY7 8PD

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Bat Survey Residential building 5

Common pipistrelle day roost: 6(28) bats

Bat Survey Outbuilding 4

Brown long-eared bat day roost: 3(3) bats

Natterer's bat day roost: 4(7) bats

Lesser horseshoe bat night roost: no. not known, small possibly only 1. (no. not known)

Bat Survey Outbuilding 3

Common pipistrelle day roost: 0(1) bat

2016 survey figures in brackets

a) Timing of works

Carry out all the works to renovate and convert outbuildings 3 and 4 to include all roof stripping and taking down of walls, construction of new walls and roof, laying slates/felt, construction of soffits and barge boards, application of verge mortar, creation of bat loft and bat access points, construction of ceilings, any rendering and removal of all scaffolding and fitting of windows and doors in a single period **01 October to 30 April**. Internal fitment works can continue after this period. Any works to take down, create new apertures or re-point the stone walls will take place in **October, November, March or April only** to avoid disturbance or harm to any hibernating bats.

b) Worker/contractor induction on bat presence

Provide a "Tool Box Talk", Method Statement and summary sheet of guidance about bats in old buildings to site owners and all workers/contractors before works begin.

c) Creation of temporary roosts for any bats found during conversion

Erect at 3m to 4m height, prior to any works, three untreated timber bat boxes to BCT wedge box design, with a slot width 16 - 17mm within 30m of the building. They will be primarily a safe, temporary roosting site for the licensed ecologist to place bats in if any are found at the searches prior to and during the works.

d) Contingency for discovering bats

The licensed bat ecologist will carry out a thorough search of Outbuildings 3 and 4 with an endoscope etc. immediately prior to any works starting and, if bats are found, consider delaying the works until the bats are not present or, provided a licence has been issued, move any bats found to the bat boxes. This will be by hand. They will also provide a "watching brief" of work to strip and dismantle the roofs of the Outbuildings 3 and 4 and any works to dismantle their stone walls. If any bats are found during the works, work will stop and the licensed ecologist will be contacted and will attend the site. Any bats found that do not fly will be released immediately at the site into the bat boxes already erected by the licensed ecologist. If this is not possible they will be rehabilitated at a suitable centre with later release at site.

e) New/existing bat roosting habitat

Existing bat roosting habitat

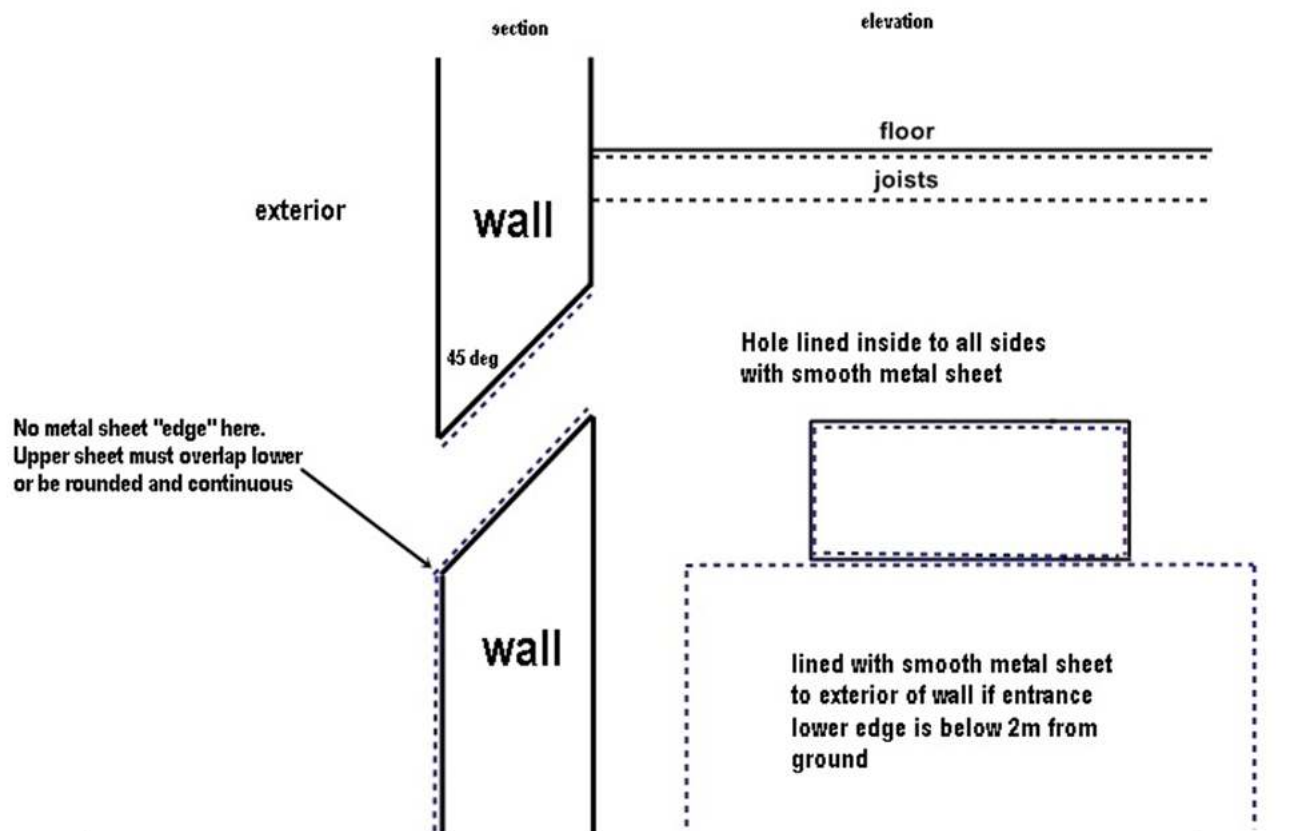
The common pipistrelle roosting site at the apex of residential building 5 East facing gable wall shall be protected from works. No works are planned to alter it and it will be retained and accessible for bats as it is. Any roof repairs shall use bitumastic roofing felt BS8747:2007 TYPE 1F only under natural slate.

New bat roosting habitat

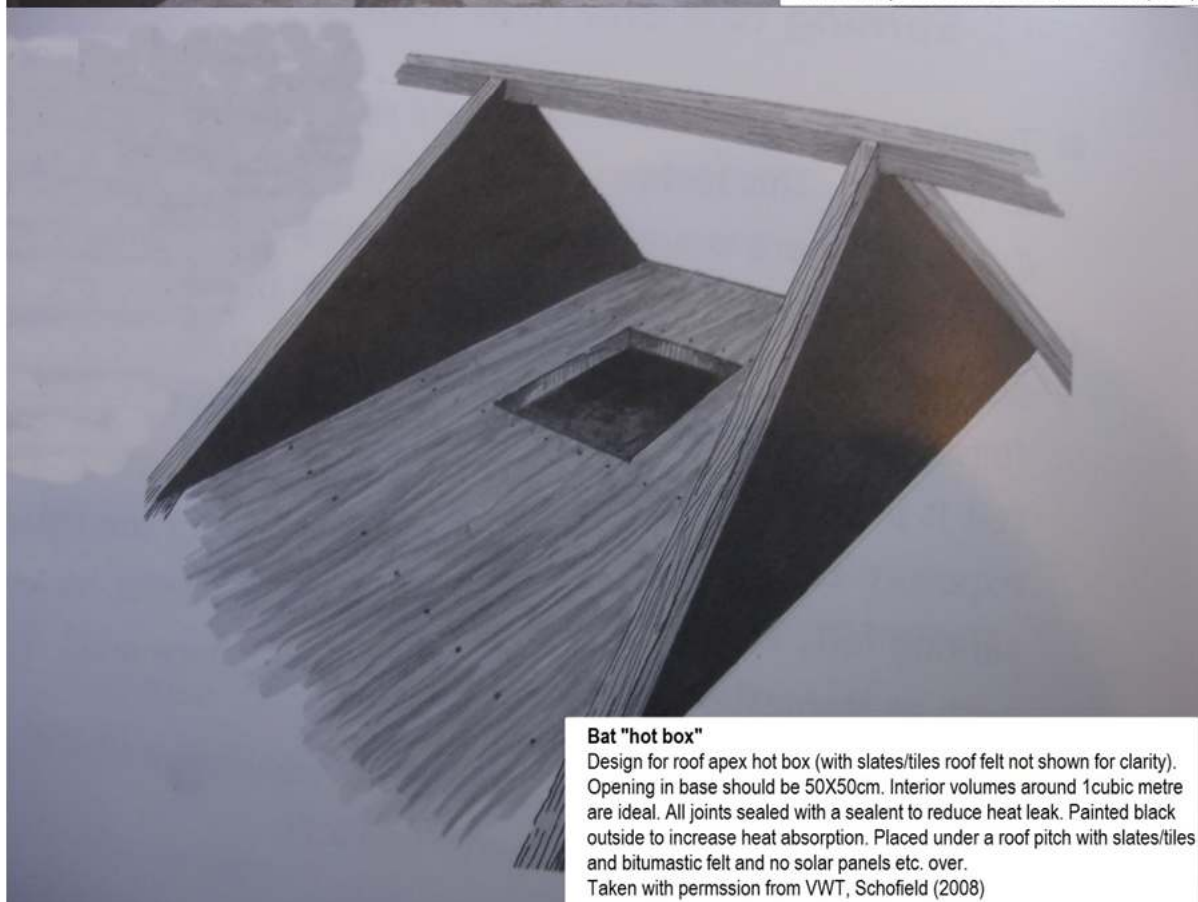
- I. A dedicated bat building will be made of Outbuilding 1 to provide bat roosting habitat to replace that in Outbuilding 4 including a ground level room and loft above. Outbuilding 1 has no conversion works planned. Bats will be excluded from Outbuilding 4 as part of the conversion works. Outbuilding 1 is large enough at around 5m square in plan and shall have all the design features listed below incorporated. This will provide the roosting and flying space essential for Natterer's, brown long-eared and lesser horseshoe bats. It must have a minimum apex height above its loft floor of 2.0m. It will have a load-bearing floor installed, designed for occasional access to monitor bats. There will be a secure, locked ground level door access to monitor bats.
- II. The roof will be repaired/constructed with a traditional cut and pitch method to form an unobstructed open space using rough sawn/un-planed/pre-roughened timbers to aid bats to hang and grip. Ancient timbers can be fixed in the roof structure with cracks, splits, open mortises, slots etc. in them, these do not have to be structural. It will be re-roofed with slate (must be natural slate) using traditional bitumastic roofing felt BS8747:2007 TYPE 1F under. Breathable 'Tyvek' type products must not be used. Ridge tiles will be dark or black coloured to absorb heat. ALL roof timbers must be rough sawn (or roughened liberally before their construction with wire brush if they are not) and left exposed with no roof lining or insulation.
- III. To the underside of the rafters inside the attic on both pitches fix 6 number rough sawn battens, about 25mm x 25mm in dimension, the width of the building excluding in the hot box (see below). The highest placed within 100mm of the apex beam and the other 5 at approx. 200mm spacing down the roof pitches. The lower parts therefore have no underside battens.
- IV. The small tree at the South gable of building 1 will be removed completely to reduce shading of the roof pitches. Bats need heat in bat lofts from the sun. No large trees shall be allowed to grow over the roof.
- V. A rectangular bat entrance/exit will be adapted from the former window in the east facing wall. It have no artificial light spilling into it. The entrance will be 500mm in width and 200mm in depth. It will be angled up through the wall at 45° in section. It will be installed with its upper edge at ideally about 1.7m from ground level. It is to enter the interior in the ground floor room (not into the loft). To deter cats jumping/climbing in the entrance, the bat entrance will be lined to all 4 sides in smooth metal sheeting. The area of exterior wall below the bat entrance will also be covered in a smooth metal sheet 1000mm wide over the timber cladding from ground level bending into the entrance hole with no "edge" there. The sheet will be as smooth as possible with any sheet overlaps being upper sheet over lower sheet.

General arrangement of bat access through wall

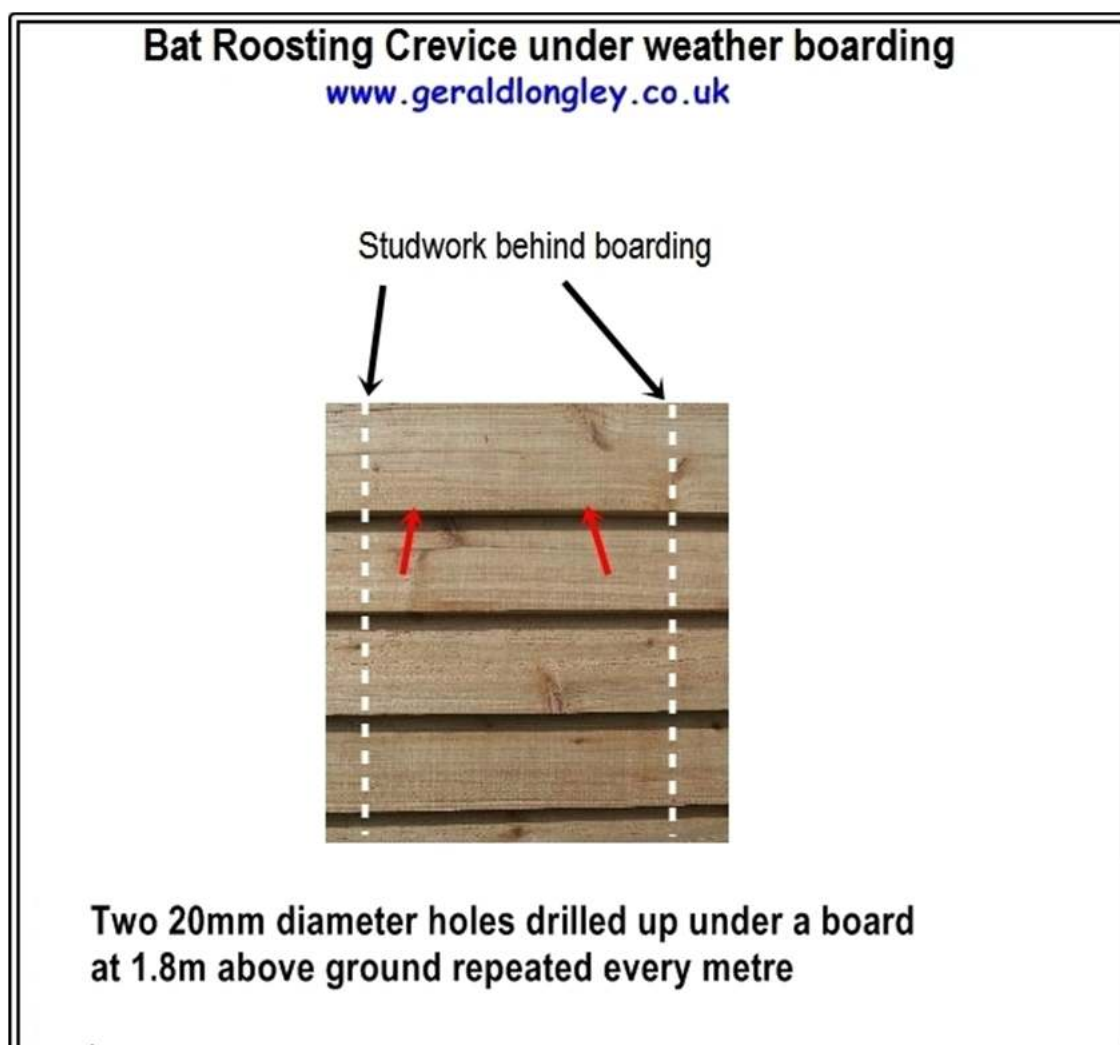
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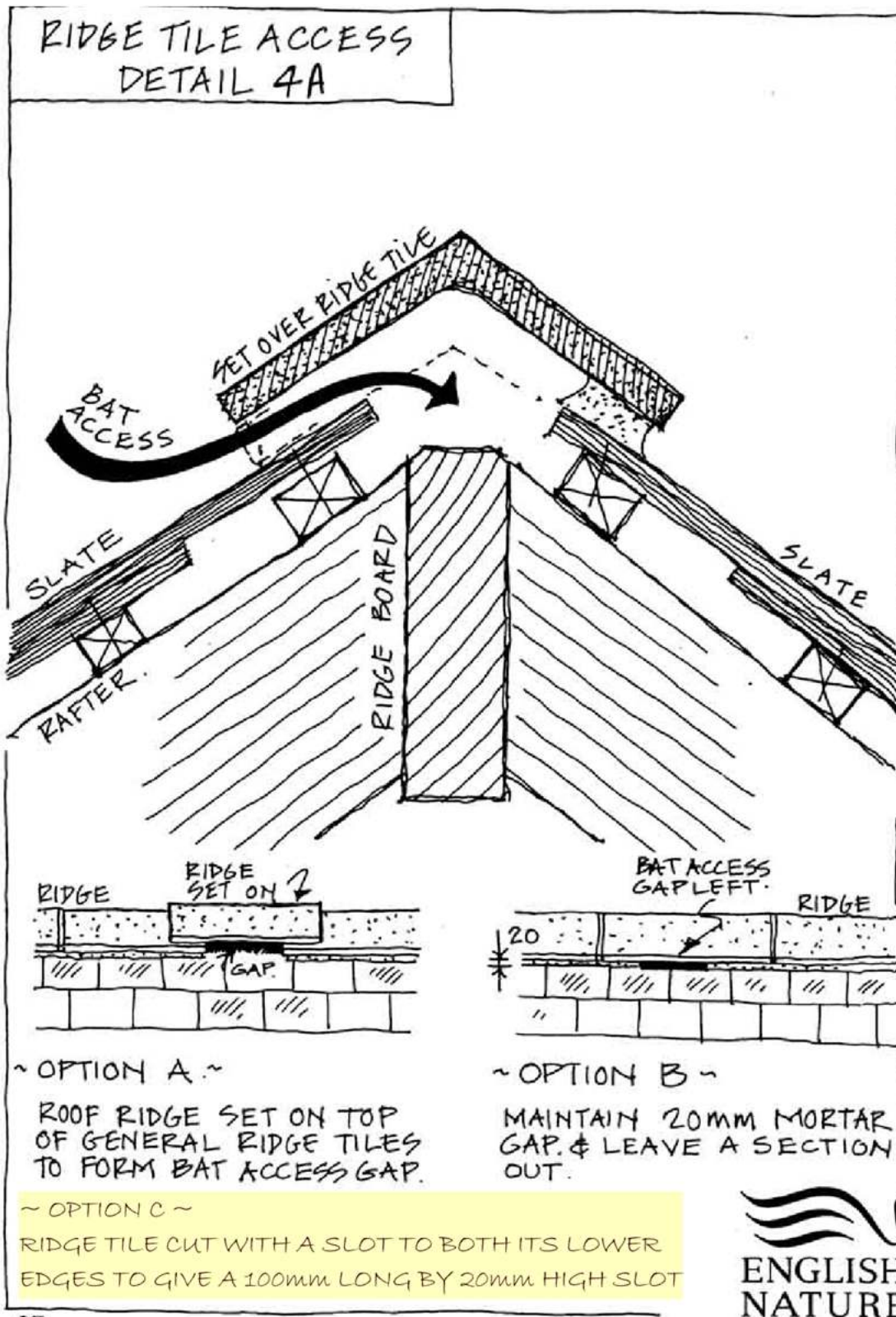
- VI. In the centre of the loft, a “hotbox “ will be constructed of sterling/OSB and untreated timber, to be approximately 2000mm long, and 1000mm deep, sealed with mastic at its joints, painted black on the outside with a bat access hatch through its “floor” of 450mm by 450mm. See illustrative photo of a hotbox installed and a drawing with roof and slates removed for clarity (below).



- VII. A human load bearing ceiling/floor over the whole area will be installed at approximately eaves level with rough sawn/un-planed/roughened timber joists and suitable timber flooring. An access hatch, 600mm by 600mm without a hatch door, no safety rail above and no access ladder will be installed in the centre of the ceiling/floor to allow bat access to the loft and human bat monitoring access.
- VIII. A secure, exterior door will be provided on the west elevation wall for human access to monitor bats. This door must be kept locked and will be labelled: "This building has no access. The door is locked. This building must not be used for any human purpose e.g. no storage. It is a Dedicated Bat Building."
- IX. The horizontal exterior timber cladding on walls will have holes, 20mm in diameter, at approx. 1000mm spacing, drilled up vertically at the bottom edge of a cladding board, at approx. 1.7m from the ground on each elevation to allow access for bats behind the cladding into the cavities between battens. The timber walls will have an interior lining throughout of OSB boarding to provide the cavity for bats to roost in



- X. Five evenly spaced ridge tiles it will be “notched” (option C below) to their lower edges to provide a slot 100mm long and an effective depth, when the ridge tile is in situ, of 20mm (and no larger or smaller) to both lower edges to provide access for crevice dwelling bats such as pipistrelles under the ridge tiles but with no hole in the felt, with a cavity left inside the whole ridge so bats can move laterally from this point. The ridge will be a mortared not “dry system” ridge.



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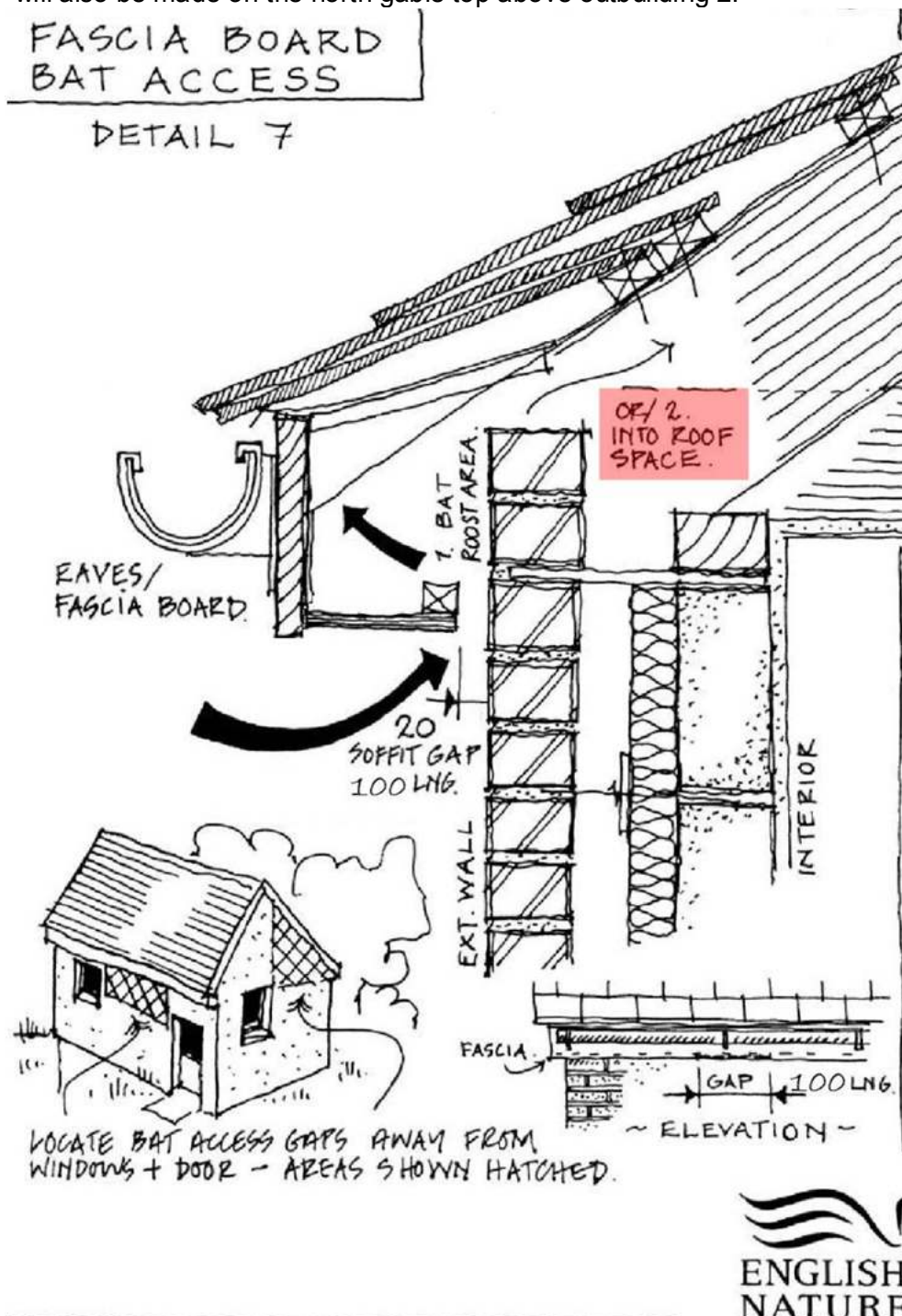
The above information is for guidance only and may not be appropriate in all circumstances, if in doubt seek professional advice.
 English Nature Cumbria Team, Juniper House, Murfey Moss, Oxenholme Road, Kendal LA9 7RL. Tel: 01539 792800 Fax: 01539 792830 Email: cumbria@english-nature.org.uk

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- XI. Outbuilding 1 will have no lighting inside it or fixed to the outside of it and will have no exterior lighting within 10m of it at all and no exterior lighting directed at it at all. No electrical power will be wired in or supplied to the building or water supplied to it.
- XII. Outbuilding 1 will have no solar panels of any sort placed over or on the roof or walls or contain any wiring, inverter or controller from any other panels nearby.
- XIII. Along both eaves a simple soffit box with be made of rough timber and well-sealed but about every metre small bat access slots will be made, see below. All slots will be 100mm long and 20mm deep (and no larger) giving access to the interior. A single slot access of the same dimensions will also be made at the south gable apex. 2 sot will also be made on the north gable top above outbuilding 2.



f) Providing clear details and connection to Planning Permission/Listed Building Consent

The applicant/surveyor/architect will include all bat mitigation specifications and details on their Planning and/or Listed Building Application plans and drawings.

g) Monitoring

As the works will take place under an EPS Mitigation licence issued by Natural England (NE), monitoring will be:

- (i) On completion of building and installation of mitigation works, a report including photographs of the mitigation works will be written and sent to NE by the ecologist Gerald Longley.
- (ii) Two post-development bat surveys will be carried out, one in each of the two summers following completion of the works, to establish the presence or absence of bat roosts and/or bat species and make recommendations accordingly. Surveys will include day time inspections of the bat loft and bat emergence/re-entry activity surveys of . They will be carried out with a minimum of two surveyors, using standard methodology as per Bat Conservation Trust guidelines (2016).
- (iii) Any remedial works identified and required will form part of recommendations made in a report on the post-development monitoring of bats to NE and the licence holder.

7.0 APPENDICES

7.1 Relevant Legislation: Bats

Bats – Legislation

All British bat species receive legal protection in the United Kingdom under the Wildlife and Countryside Act 1981 (WCA) (as amended). The WCA 1981 was amended by the Countryside and Rights of Way (CROW) Act 2000. All British bat species are listed under Schedule 5 of the 1981 Act, and are therefore subject to the provisions of Section 9, which makes it an offence to:

- Intentionally kill, injure or take a bat.
- Possess or control any live or dead specimen or anything derived from a bat.
- Intentionally or recklessly disturb a bat while it is occupying a building or place which it uses for shelter or protection.
- Intentionally or recklessly obstruct access to any building or place which a bat uses for shelter or protection.
- Sell, offer for sale, possess or transport for the purpose of sale or publish advertisements to buy or sell a bat.

Bats are also included on Annex IV of Council Directive 92/43/EEC of 21 May 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora. As a result of the UK ratifying this directive, all British bats are also protected under the Conservation of Habitats and Species Regulations 2010. It makes it an offence to:

- Deliberately capture or kill a bat.
- Deliberately disturb a bat in such a way as to be likely to significantly affect (i) the ability of any significant group of animals of that species to survive, breed or rear or nurture their young, OR (ii) the local distribution of that species.
- Damage or destroy a breeding site or resting place of a bat.

Under the law, a roost is any structure or place used for shelter or protection. This could be any structure, for example any building or mature tree. Bats use many roost sites and feeding areas throughout the year. These vary according to bat age, condition, gender and species, as well as season and weather. Since bats tend to re-use the same roosts for generations, the roost may be protected whether the bats are present or not.

Birds - Legislation

Under Section 1 of the Wildlife and Countryside Act 1981 it is an offence to intentionally kill, injure, handle or remove any wild bird (with the exception of a few pest species); take or damage a nest whilst in use or being built; and take or destroy eggs. A person is not guilty of any offence if their action was the incidental result of a lawful activity and could not have been reasonably avoided.

A higher level of protection is afforded to those birds listed in Schedule 1 of the Act. It is an offence to disturb Schedule 1 species whilst it is building or sitting on a nest, in addition to damaging or destroying their nests or eggs.

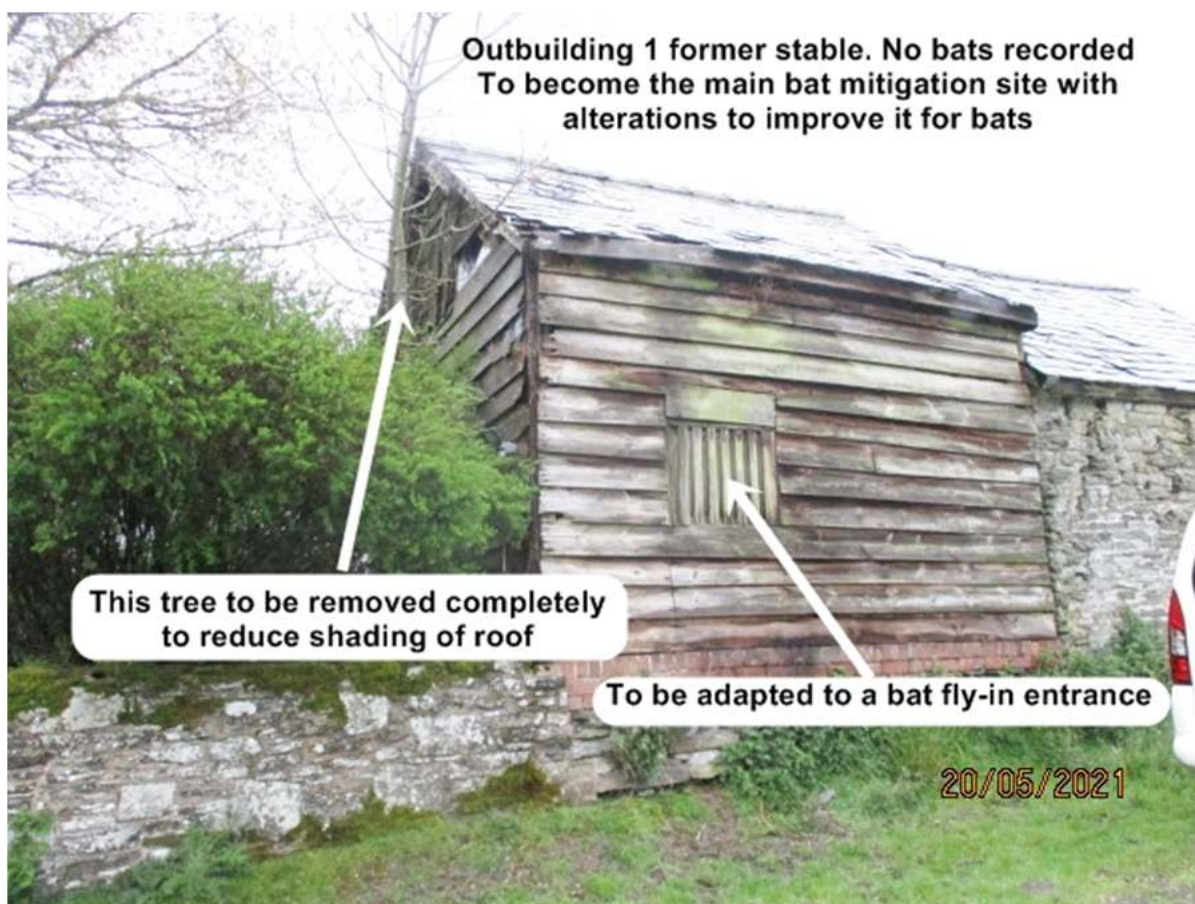
It is not an offence to disturb non-Schedule 1 species whilst they are building a nest or sitting on it. However, an offence may be committed if the bird is driven away from a nest by prolonged disturbance which results in the failure of eggs or death of dependent young.

7.2 Field equipment used for the survey

Escort mini temperature data logger
Silva compass
Leica 8 x 42 close-focusing binoculars
Cluson Clubman 1 Million candle-power lamps
Access Cam Pro-Sight colour video endoscope (1m probe)
Telescopic mirror
Suunto clinometer
3.8-metre extendable ladder
8m extendable ladder
Anabat SD2 bat detectors with GPS and HP iPaq PDAs (active monitoring)
AnalogW v3.7w (bat data analysis software)
Anapocket v2.5b (bat data analysis software)
Wildlife Acoustics EM3+ bat detector
Kaleidoscope v1.12 (sound analysis software)
SSF Bat2 bat detector (frequency division and heterodyne bat detector)
Two-way radios
Anabat Express bat detector

8.0 SITE PICTURES









**Outbuilding 2 no bats, west elevation.
Outbuilding 1 no bats also, to become the bat mitigation site**

