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Little Overton Farm
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Ecological Survey

August 2018

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1. Executive Summary

- 1.1 A protected species survey was carried out on a small barn at Little Overton Farm, Overton, in May, June and July 2018. This survey included daytime investigation, 2 evening emergence surveys and a dawn re-entry survey.
- 1.2 The survey has revealed 5-6 Common Pipistrelle bats accessing the barn during the survey periods.
- 1.3 Recommendations are made with respect to timing/method of works on the property in order to minimise damage/disturbance of any bats/birds found on site and mitigation in order to preserve/enhance the roosting opportunities for bats in the area.

2. Background

- 2.1 Little Overton Farm is situated at Grid Ref. SJ 378416, on the outskirts of the village of Overton. It is accessed directly off Station Road (A539), Overton to Ruabon road (see map & Aerial views).
- 2.2 The property is situated in a rural area surrounded by semi improved pastureland grazed by sheep and cattle. The barn is on the north-east of the farmyard with the farmhouse to the north-west & traditional farm buildings to the south-west & south-east, with more modern agricultural buildings beyond to the south. There are hedgerows & tree lines surrounding the site which offer good linear features for bats & connectivity to the wider landscape.
- 2.3 The owners propose to convert the barn into a residential dwelling.
- 2.4 Prior to undertaking these works the architect Tim Jones on behalf of the property owners, Mr and Mrs D Price-Jones commissioned a bat survey to determine if the work would have an impact on these protected species. The Jon Sloan Ecological Consultancy was therefore engaged to undertake the survey and produce a report with appropriate mitigation recommendations. This report encompasses details of the survey work undertaken.

3. Constraints

- 3.1 There were few constraints to the undertaking of the site survey. The property was easily located, and the surveyors were given complete freedom of access to all parts of the barn and exteriors. It was not possible to fully survey the upper floor as it was deemed unsuitable to support the weight of a human given the missing/displaced ceiling joists & floor boards. This area of the barn was inspected with the aid of a surveyors ladder via an opening at the north western gable.
- 3.2 Inspections were undertaken with the aid of 1.5 million candlepower lamps fitted with infra-red filters, a surveyor's ladder, endoscopes, binoculars & cameras.
- 3.3 Weather conditions on the day of the initial survey were warm, dry and overcast. There were no limitations on visibility.

4. Site Description

- 4.1 The site is within a rural location on the edge of the village of Overton & is surrounded by semi improved pastureland grazed by sheep and cattle. The property accessed directly off Station Road (A539), Overton to Ruabon Road. (see map & Aerial views).
- 4.2 The building is a detached small 2 storey barn formerly used for chickens and currently used for the storage of logs. The barn is of a brick construction with the roof of softwood timber clad in natural slate. A brick built lean to abuts the south western elevation weatherproofed with a corrugated asbestos sheet roof.
- 4.3 The barn makes up the north-eastern aspect of the farmyard with the farmhouse to the north west & traditional brick built barns, with natural slate roofs to all other aspects. There are several modern agricultural buildings beyond the farmyard to the south-east. Beyond the farm buildings is semi improved pastureland grazed by sheep and cattle with mature hedgerows and post and wire fencing surrounding these.
- 4.4 The structure of the surveyed barn is in fair condition, however there are areas of potential for bats to utilize, in particular; open doors/windows, gaps under ridge tiles and roof slates and gaps /stress fractures in brickwork (see photographs Areas of potential for bats)
- 4.5 There are good foraging and flight lines in the form of hedgerows, tree lines & other buildings, which offer good linear features to the wider landscape.

Areas of potential for bats;



South East gable - open doors & windows and gaps in brickwork.



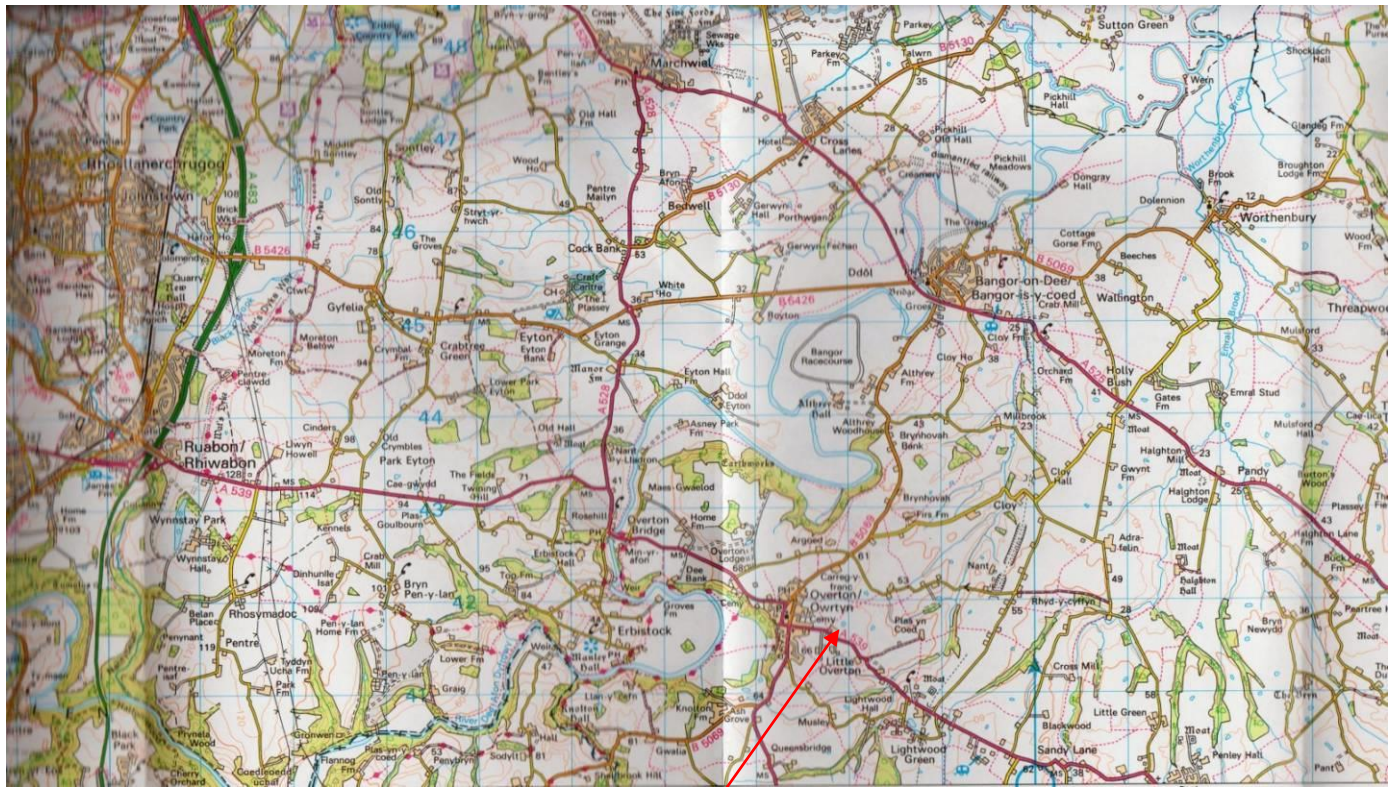
South west elevation - Beneath ridge tiles/ displaced roof slates and gaps around doors.



North west gable - Gaps / stress fractures in brickwork

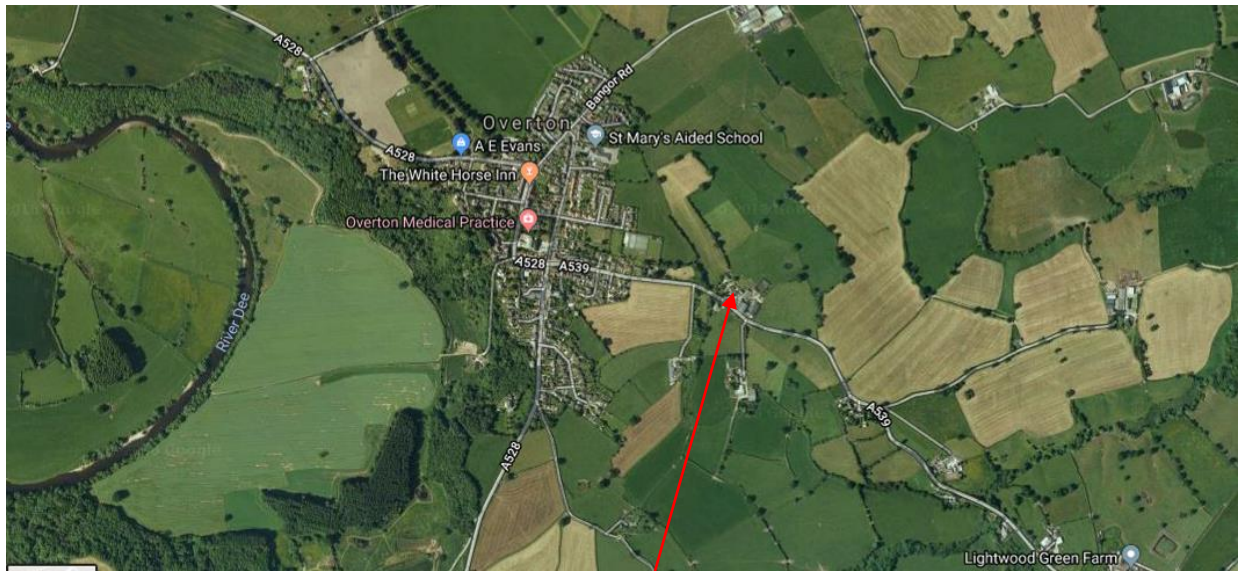


North east elevation - Beneath ridge tiles/ displaced roof slates, open doors & windows and gaps in brickwork.



Position of Little Overton Farm

Aerial Views



Position of Little Overton Farm Barn



5. Survey Methodology & Personnel

- 5.1 The surveyors first examined the outside of the barn. The purpose of this search was to locate any possible bat access/egress points and to note any bat droppings (faeces), or staining caused by urine or fur oil, where repeated access was taking place.
- 5.2 Following the external inspections, the interiors were inspected; the upper floor was deemed unsuitable to support the weight of a human given the missing/displaced ceiling joists/floor boards. This area of the barn was inspected off a surveyors ladder via an opening at the north western gable.
- 5.3 Equipment used for surveys: ladders, mirrors, 1.5 million candle power lamps (with infra-red attachment), heterodyne bat detectors, Anabat SD1 bat detectors, endoscopes, night vision scopes, camera & binoculars.
- 5.4 Personnel carrying out the surveys were:

Jonathan Sloan – Ecological Consultant

- NRW bat licence: 78079:OTH:CSAB:2018
- NRW barn owl licence: 78483:BTO:DBR:2018
- NRW Great Crested Newt licence: 76772:OTH:SA:2017
- BCT qualified “Surveying Barns, Buildings, Bridges, Trees & Bat Identification.
- Founder of Species Habitat Protection Group Powys (this is a charity dedicated to preserving habitats for wildlife _ Charity No:1129929). The Group staged “Llandinam Lives” which included presentations & walks for bats, barn owls, otters, badgers etc. in which the general public were given the opportunity to learn about survey methods in the field encompassing bat detectors, Anabat detection with a SD1 detector and downloading data onto computer for analysis. Recently the group were awarded winners of the WCVA Third Sector Environmental award. Jon has worked tirelessly over the past 24+ years striving to maintain bat/barn owl habitats. He is a member of Montgomeryshire Bat Group & BTO & liaises closely with NRW (CCW), SNPA& BBNPA. Jon has also worked in the building & restoration/renovation business for over 34 years and has devised and implemented appropriate mitigation into many developments.

Janet Jones - Licenced Ecologist

- Accredited agent on above bat and great Crested Newt licence
- NRW barn owl licence: 78878:OTH:DBE:2018
- BCT qualified “Bat identification”

- Many years experience in the field of both bats & Barn owls.
- Co-founder & chairman of the Species Habitat Protection Group Powys.
- Member of Montgomeryshire Bat Group.

6. Survey – Daytime

- 6.1 The initial survey was carried out on Wednesday 30th May 2018. The survey was carried out as described above. The surveyors noted locations where bats may gain access to the property i.e. open doors/windows, gaps under ridge tiles and roof slates and gaps /stress fractures in brickwork (see photographs Areas of potential for bats)
- 6.2 Given that the upper floor was deemed unsuitable to support the weight of a human, this area of the barn was inspected off a surveyors ladder via an opening at the north western gable & with the aid of 1.5 million candle power lamps & binoculars.
- 6.3 The exteriors of the barn were inspected thoroughly with the aid of 1.5 million candle power lamps, ladders, endoscopes & binoculars; no evidence of bats was noted at this time.

7. Survey – Evening & Dawn

- 7.1 Surveys for observation of any evening emergence were made on the evenings of Wednesday 30th May 2018 and Friday 22nd June 2018. The weather on the first evening (30/5/18) was dry, still and overcast. The temperature was 17°C at 21:00hrs dropping to 15.4°C at 22:55hrs sunset was at 21:25hrs.
The weather on the second evening (22/6/18) was dry and mostly clear with a little high cloud. The temperature was 14°C at 21:25hrs dropping to 7.9°C by 23:15hrs, sunset was at 21.42hrs.
- 7.2 A dawn re-entry survey was undertaken on Monday 23rd July 2018 from 03:30hrs to 05:15hrs the weather was dry with some cloud cover. The temperature was 16.4°C at 03:30hrs dropping to 16.1°C at 05:15hrs. Sunrise was at 05:15hrs. There was an abundance of insect life present during all surveys.
- 7.3 To assist in both the evening and dawn surveys heterodyne bat detectors were used, to ensure full coverage of all frequencies used by British bats, also night vision scopes. All areas of the barn were covered during the surveys. Anabat SD1 detectors were used both inside the upper floor and outside of the barn throughout the surveys.

- 7.4 On 30/5/18 at 21:34hrs a Common Pipistrelle bat (*Pipistrellus pipistrellus*) emerged from beneath a ridge tile of the south western elevation. At 21:37hrs a Common Pipistrelle bat accessed the barn via an open window of the upper door on the south eastern gable & emerged again at 21.43hrs. At 22.01hrs a Common Pipistrelle again entered & emerged from this opening. The survey commenced at 21.00hrs and ended at 22.55hrs, sunset was at 21.25hrs.
- 7.5 On 22/6/18 at 22:11hrs & 22.43hrs a Common Pipistrelle bat accessed & emerged the barn via the open door on the ground floor at the south-eastern gable. Between 22.29hrs – 22.46hrs 3 bats accessed & emerged via the open window of the upper door on the south eastern gable. This survey commenced at 21.25hrs and ended at 23.15hrs, sunset was at 21.42hrs.
- 7.6 During the dawn survey on 23/7/18, from the commencement of the survey until 04:55hrs Pipistrelle bats were observed commuting through the area, flying in and out of the agricultural building to the south of the surveyed barn and foraging around the slurry pit to the east of the barn. Between 04:03hrs and 04:49hrs 3 Common Pipistrelle bats were observed accessing the barn via an open window of the upper door on the south eastern gable. The dawn survey commenced at 03:30hrs and ended at 05.15hrs sunrise was at 05:15hrs.

Bat Emergence/access points



South east gable - open upper and lower doorways.



South west elevation - beneath ridge tile.

7.7 Anabat SD1 detectors positioned inside the building during the survey periods recorded the following data;

30/05/18 (Dusk)

- Common Pipistrelle (*Pipistrellus pipistrellus*) - 6 very brief passes (all consistent with outside activity) - 22:09hrs - 22:41hrs

22/6/18 (Dusk)

- Common Pipistrelle (*Pipistrellus pipistrellus*) - 11 passes - 22:29hrs - 22:55hrs; 3 passes - 23:01hrs - 23:08hrs (all consistent with outside activity)

23/7/18 (Dawn)

- Common Pipistrelle (*Pipistrellus pipistrellus*) - 4 very brief passes - 03:34hrs - 03:48hrs; 5 passes - 04:13hrs - 04:30hrs (all consistent with outside activity)

7.8 The Anabat SD1 detectors positioned outside recorded the following data:

30/5/18 (Dusk)

Outside South East

- Common Pipistrelle (*Pipistrellus pipistrellus*) - 10 passes (with social calls) - 21:35hrs - 21:57hrs; 62 passes (with feeding buzzes) - 22:02hrs - 22:26hrs; 9 passes (with feeding buzzes) - 22:39hrs - 22:50hrs.
- Noctule (*Nyctalus noctula*) - 1 pass - 22:27hrs

Outside North East

- Common Pipistrelle (*Pipistrellus pipistrellus*) - 1 pass - 21:56hrs; 49 mostly brief passes - 22:01hrs - 22:25hrs; 8 brief passes - 22:37hrs - 22:43hrs.
- Noctule (*Nyctalus noctula*) - 1 pass - 22:26hrs
- Soprano Pipistrelle (*Pipistrellus pygmaeus*) - 3 passes - 21:46hrs - 21:55hrs.

22/6/18 (Dusk)

Outside South East

- Common Pipistrelle (*Pipistrellus pipistrellus*) - 15 passes - 22:13hrs - 22:20hrs; 97 passes - 22:26hrs - 22:56hrs; 5 passes - 23:02hrs - 23:09hrs. (Most with feeding buzzes and social calls)
- Soprano Pipistrelle (*Pipistrellus pygmaeus*) - 2 passes - 22:23hrs; 1 pass - 22:53hrs.
- Noctule (*Nyctalus noctula*) - 1 pass - 22:55hrs.

22/6/18 (Dusk)

Outside North East

- Soprano Pipistrelle (*Pipistrellus pygmaeus*) – 3 brief passes - 22:19hrs - 22:30hrs; 65 passes (with feeding buzzes and social calls) - 22:34hrs - 22:59hrs.
- Common Pipistrelle (*Pipistrellus pipistrellus*) - 8 passes - 22:30hrs - 22:36hrs; 1 pass - 22:37hrs.
- Noctule (*Nyctalus noctula*) - 1 pass - 22:19hrs; 1 pass - 22:39hrs.
- Myotis (*Myotis Sp.*) - 1 very brief pass - 22:36hrs.

23/7/18 (Dawn)

Outside South East

- Common Pipistrelle (*Pipistrellus pipistrellus*) – 1 pass - 03:59hrs; 27 passes (some very brief) - 04:09hrs - 04:47hrs.
- Soprano Pipistrelle (*Pipistrellus pygmaeus*) – 1 pass - 03:48hrs; 1 pass - 04:38.
- Myotis (*Myotis Sp.*) - 1 pass - 03:30hrs; 1 pass - 03:56hrs; 1 pass - 03:59hrs; 1 pass - 04:00hrs.

23/7/18 (Dawn)

Outside North East

- Common Pipistrelle (*Pipistrellus pipistrellus*) – 2 passes 03:37hrs - 03:43hrs; 7 passes (with feeding buzzes and social calls) - 04:14hrs - 04:25hrs; 7 very brief passes - 04:32hrs - 04:46hrs.
- Soprano Pipistrelle (*Pipistrellus pygmaeus*) – 2 passes - 03:54hrs - 03:59hrs; 4 very brief and faint passes - 04:32hrs - 04:52hrs.
- Myotis (*Myotis Sp.*) - 2 passes - 03:36hrs; 4 passes - 03:38hrs - 03:53hrs; 2 passes - 04:06hrs - 04:27hrs.

8. Ecology of British Bats

- 8.1 There are at least 17 species of bats breeding in the United Kingdom, and based on current information at least 13 species may be present in the Wrexham Borough Council areas. Most of them are regarded as threatened due to a variety of factors including habitat loss and disturbance/damage to roosts, of these species a number regularly use barns and buildings at certain times of the year in order to find safe secure roost sites.
- 8.2 Bats are highly mobile flying mammals, which in the United Kingdom, feed entirely on insects. Having evolved over 70 million years, they have developed sophisticated mechanisms to allow them to effectively “see” in the dark by using sound. Called echolocation, this system allows them to track and hunt down small moving insects

whilst in flight, rather like radar does in a modern military fighter aircraft.

- 8.3 In winter, when their prey is scarce, British bats hibernate in cool parts of caves, buildings and tree cavities. They may wake occasionally and will feed if evening temperatures are greater than 7 degrees C, when flying insects will be active. Generally however, activity in winter is very limited and bats only become fully active in spring.
- 8.4 In late spring, female bats will gather together in maternity roosts in order to give birth and rear their single baby in June. Such maternity roosts are often near to foraging areas in order to minimise energy usage, as flight requires vast energy resources.
- 8.5 Whilst females form maternity colonies, usually in warmer roofs or trees, male bats tend to seek out cooler sites, which may not be so close to the foraging areas. Males are often solitary and do not exhibit the social behaviour that marks out females during the birthing period.
- 8.6 Several British bat species are known to rely heavily on barns and buildings to roost. Among the bat species which are present in this area, the most likely are Brown long-eared bat (*Plecotus auritus*), the Common pipistrelle bat (*Pipistrellus pipistrellus*), the Midge/soprano pipistrelle bat (*Pipistrellus pygmaeus*), the Natterer's bat (*Myotis nattereri*), Brandt's bat (*Myotis brandtii*), and the Whiskered bat (*Myotis mystacinus*), these will also roost in barns and buildings, exploiting the area between the ridge tiles and the ridge beam.

9. Relevant Legislation Bats

- 9.1 The marked decline of all British bats has resulted in their being given protection by law under The Wildlife & Countryside Act 1981. Schedule 5 of this act made it illegal to intentionally kill, injure or take any British bat. It also made it an offence to intentionally damage or destroy their place of rest (the roost).
- 9.2 Further all bat species are protected under Annex 1V of the European Communities Council Directive on the Conservation of Natural Habitats and Wild Fauna and Flora (The Habitats Directive), which is enforced in Britain by The Conservation of Habitats & Species Regulations 2017 (amended), and requires the United Kingdom government to provide bats with strict protection.
- 9.3 Schedule 12, Section 5a of the Countryside and Rights of Way Act 2000 makes a number of important changes to the Wildlife and Countryside Act 1981 (as amended). One of the most significant is the addition of the word "reckless" within

offences under Section 9 (4) of the Wildlife and Countryside Act. This covers all bat species.

- 9.4 In the case of a development involving the loss or modification of a barn or building which is being used by bats, it would be necessary to apply to Natural Resources Wales for a European Protected Species Development Licence. (See also section on Guidelines & Legislation).

10. Nesting Birds

- 10.1 a) The surveyors examined the outside of the barn. The purpose of these searches was to locate any possible access/egress points and to note any bird nests/splashings.
- b) Several active Swallow (*Hirundo rustica*) nests were observed within the barn (see Photographs - Evidence of nesting birds)



Swallow nests inside the barn

11. Habitat Assessment

- 11.1 Little Overton Farm is situated on the outskirts of the village of Overton. It is accessed directly off Station Road (A539), Overton to Ruabon road. (see map & Aerial views).
- 11.2 The barn is sited within a rural location, with further agricultural buildings and residential properties to most aspects. The farm has many other traditional farm buildings within the farmyard & more modern agricultural buildings beyond to the

south. The land beyond the barn, in particular to the north-east, is semi-improved pastureland grazed by sheep & cattle.

- 11.3 There are hedgerows & tree lines surrounding the site which offer good linear features for bats & connectivity to some areas of woodland to the north-east & south-west in the wider landscape.

12. Mitigation

Bats and their roosts are legally protected under the Wildlife and Countryside Act(1981) (as amended) and the Conservation of Habitats & Species Regulations 2017 (amended). Their roosts are also protected even if there are no bats present. Given the presence of 5-6 Common Pipistrelle bats observed/detected accessing the barn at the south eastern gable/aspect (see Survey Evening and Dawn), it is suggested that the following mitigation features be incorporated in to subsequent detailed plans of the proposed conversion works in order to compensate for the destruction of the existing roosts. Proposed bat mitigation must be included within subsequent detailed plans prior to submitting to planning department (mitigation has been shown on photographs as no plans were available at the time of writing this report).

A European Protected Species (EPS) licence will need to be applied for and obtained from Natural Resources Wales (NRW) prior to works to the property. As part of the licence application, a method statement needs to be prepared. This will detail how and when development works can take place to minimise disturbance to bats and will include the design of suitable mitigation features such as roost provision, to ensure no loss of roost space, etc. An EPS licence cannot be applied for until planning permission has been granted.

12.1 Specific Bat Provision

- a) 3 Double crevice bat boxes will be erected on the exterior of suitable trees/buildings prior to any works commencing. These boxes will be positioned approximately 12ft above ground level with the entrances facing south-east or south-west (see Diagram 1 "Example of a Double crevice bat box"). Advice on positioning will be given by ecologist.
- b) In order to provide possible extra roosting for the crevice seeking bats in the area, it is suggested creating 4 bat slits in both gables of the converted barn. Slits with minimum dimensions of 150mm by 15mm should be provided in each gable and all should be free from internal obstructions (i.e. felt/rafters) and permit the bats to access the area above the gable end walls (Photographs 1 - 3 "Bat access points.")

- c) All gable end ridge tiles will also have a mortar free access cavity for bats to utilise. This will be created by a wooden slug insert (15mm x 25mm) positioned within the end mortar bedding and can be removed when mortar has gone off/ green. This will ensure an access point for bats to the cavity above the ridge beam (Photographs 1 -3 "Bat access points.")
- d) In order to provide possible extra roosting for the crevice seeking bats in the area, it is suggested that a bat slate be positioned underneath the ridge tile on the north east elevation see (Photographs 1 - 3 "Bat access points and Diagrams 2A "Bat Slate" & 2B "Bat slate for slate roof"), these to be free from internal obstruction i.e. felt/cement mortar bedding. This will allow bats to access the underside of the ridge tiles on top of the ridge beams.

12.2 Artificial lighting is highly disturbing to some bat species. Any external lighting features for the development should be located with consideration for bats. Ideally lights would be confined to those areas where human access is occurring and where health and safety considerations demand such lights. Any such lights should be angled downwards to illuminate the walking areas only and should be placed at no more than 2.5m above the ground level. In addition such lights should be on automatic timers so that they switch off after a few minutes and do not stay on all night. Motion sensors are acceptable.

12.3 Materials & Treatments

- a) Wherever possible the use of natural untreated products should be utilised. However recognising that this is not always possible given the various building and fire regulations, care should be exercised in the use of any materials and chemicals (advice available from NRW).
- b) Ideally any replacement roof timbers would be made of untreated wood. Tanalised wood in particular contains copper arsenic which is toxic to bats and should be avoided. As it will be necessary to treat the replacement timbers to avoid problems of rotting, only chemicals on the Natural Resources Wales approved list should be used (available from NRW).
- c) With respect to the possible protective treatment of the existing or replacement timbers to guard against wood worm or other timber pests, again it will be essential to ensure that only those remedial treatments which are not toxic to bats be utilised. Again only chemicals listed on the NRW approved list should be used.

- d) The old type of bitumen under slating felt, (Type 747 1F or similar) will be used where bat mitigation is provided, this being less harmful to bats than new types of breathable roofing membranes & will allow bats to grip & hang from safely.

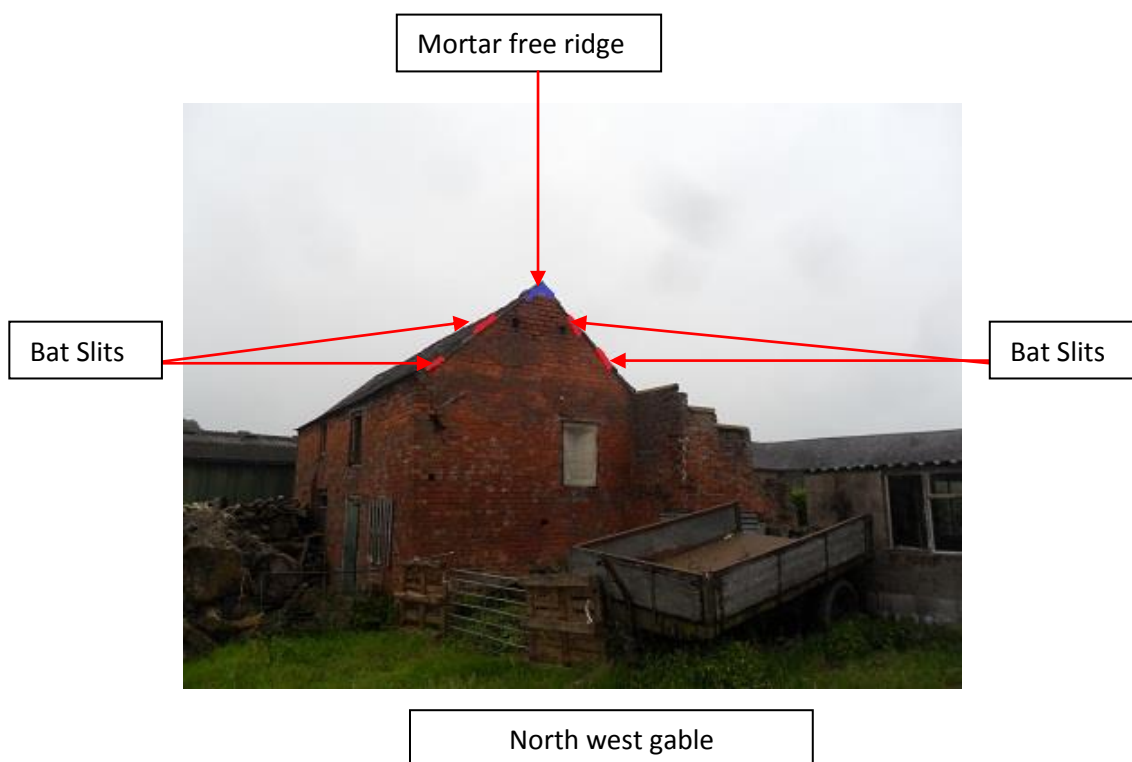
12.4 Timing

- a) 3 Bat boxes will be positioned on adjacent buildings/trees prior to any works on site are undertaken.
- b) Given that there was a small number of Pipistrelle bats emerging/accessing the barn during the surveys, it will be necessary for a European Protected Species licence (EPS) to be obtained prior to the development commencing as the present roost sites will be destroyed. N.B. application for a bat licence cannot be undertaken until planning consent has been granted. The licensing process can take a minimum of 30 working days after submission to NRW. It is important to note that the bat survey report accompanying the EPS licence application must be a maximum of 2 years old otherwise re-surveying may be necessary.
- c) The preferred time for any roofing work would be mid-September – April when bats are not thought to be present. During the removal of the roof coverings a licensed ecologist will be on site to undertake a watching brief when areas of potential are being removed (i.e. ridge tiles & slating to gable ends). If any bats are found these should be removed and relocated on site (by ecologist). The ecologist will also give a tool box talk to contractors to explain bat legislation & guidelines and explain the bat mitigation strategy for the converted barn.
- d) Inspection of the bat access points within the development will be carried out by the ecologist once they have been completed & passed as fit for purpose.

DIAGRAM 1 “Example of a double crevice bat box”



Photographs 1 -3 Bat access points.





South east gable



North east elevation

Diagram 2A "Bat slate"

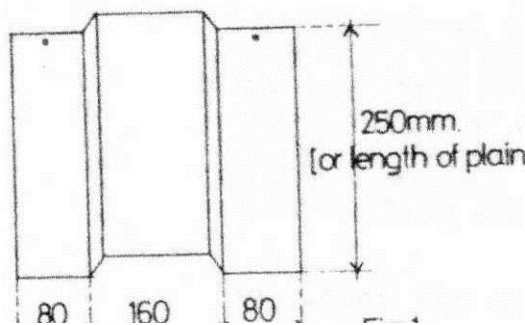
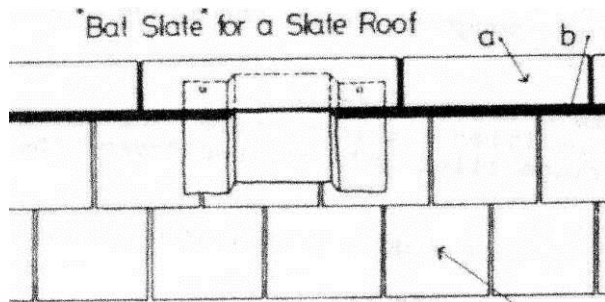


Diagram 2B "Bat slate for slate roof"



Bat slate dimensions can be amended to suit slate size used on development

13. Conclusion;

- 13.1 5-6 Common Pipistrelle bat were observed accessing/emerging the south eastern gable/aspect of the barn (see Survey - Evening and Dawn) suggesting a summer roost for the species, probably non-breeding females and/or solitary males.. It is therefore suggested mitigation is necessary in order to compensate for the destruction of these roosts and enhance the possibilities of further roosting sites for crevice seeking bats in the area.
- 13.2 With some provision being made for bats in the development, as suggested above, this will be a positive step in maintaining/enhancing the site for the bats in the area.
- 13.3 It is our professional opinion that the proposed development is highly unlikely to have any significant impact upon bats providing the above recommendations are adhered to and subsequently made a condition of planning.
- 13.4 An EPS licence will be necessary for the development works on the barn, given the presence of bats and the proposed destruction of roost sites. Roosts are legally protected even if bats are not present.
- 13.5 It is highly recommended that mitigation/enhancements be discussed with a licensed ecologist and drawn into the subsequent detailed plans for development at the earliest possible stage. All mitigation has been outlined in this report but will require more detail within the method statement which accompanies the licence application.
- 13.6 N.B. the licence application process can be lengthy (up to 3 months and sometimes longer) so it is therefore recommended that a licence be applied for when it becomes apparent (i.e. that planning permissions are in place, etc) that works can start in 3-4 months time. Works will not be able to start during the summer roosting season (i.e. April to September).

14. Photographs



South western elevation



South eastern gable



North eastern elevation



North western gable



Interior - North east



Interior - lean to at the south western elevation

Habitat



South West



South East



North East



North West



Access



Farmyard

15. Bat Guidelines and Legislation

Legislation

All bats are protected under the Wildlife and Countryside Act 1981 (as amended) and under Regulation 41 of the Conservation of Habitats and Species Regulations 2017 (amended). Under this legislation it is an offence to:

- Intentionally kill, injure or capture a bat
- Deliberately disturb bats
- Damage, destroy or obstruct access to roosts (a bat roost is defined as any structure or place which is used for shelter or protection, whether or not bats are present)

The potential fine for each offence is £5,000. If more than one bat is involved, the fine is £5,000 per bat. An offender can also be imprisoned for six months. Defences exist within the legislation should an offence occur as the result of an otherwise legal operation and could not have been reasonably avoided.

Guidance for developers

Prior to the commencement of works, a survey of all potential bat roosts (both in trees and buildings) should be undertaken by an experienced ecologist or bat worker. Woodpecker holes, rot holes/cavities, loose bark, dense ivy, existing bat or bird boxes, roof spaces, wall cavities, bridges and tunnels all represent potential bat roosting sites.

All accessible roost sites should be examined for evidence which may indicate the presence of bats, where available, any records provided by NRW, local bat groups or other conservation bodies should be used to supplement survey data.

Where bats are known or suspected to occur in close proximity to proposed operations (through survey data or records from other organisations), a licensed ecologist or bat worker will need to consult with the relevant statutory body, NRW, with regard to licensing requirements. The ecologist or bat worker will also be required to devise appropriate working methods and all subsequent work must be carried out under their close supervision. Works on hibernation roosts can only be undertaken between May and September. Works on maternity roosts should be undertaken between November and March but may be able to start in mid September and carry on until May.

Where impacts on bats are unavoidable mitigation will be required as part of the development licence issued by NRW. Losses of bat roosts must be compensated for by the provision of new artificial roosting sites (e.g. bat boxes) and planting of new foraging habitat. Mitigation measures will need to be designed on a site-specific basis and only in consultation with an expert. All mitigation proposals must be agreed with NRW and put in place prior to the commencement of works. Mitigation works can take several months to complete and in some cases may extend into the following year.

If bats are unexpectedly discovered during the course of operations, all works should cease immediately, and an ecologist or bat worker should be employed who will contact NRW.

Any loose bats should be returned to the roost and any openings closed until the ecologist or bat worker arrives. Injured bats should be placed in a secure but well ventilated box (bats should be handled as little as possible, and gloves worn).

Any dead bats should be retained for inspection. Appropriate mitigation proposals will then have to be devised and agreed with NRW and works may have to be delayed until mitigation can be carried out at the appropriate time of year.

Jon Sloan
Ecological Consultants
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