REPORT ON A BAT SURVEY AT TOLLGATE COTTAGE AND BLAKE LEE, LEEK ROAD, CHEADLE, STAFFS

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1.0 INTRODUCTION

1.1 A bat survey was requested at Tollgate Cottage and Blake Lee both on Leek Road, Cheadle, Staffordshire.

1.2 Plans are being submitted for the demolition of these properties and the building of a new residential property on this land.

Site description

Tollgate Cottage

1.3 This is a vacant old brick built two storey roadside cottage with redundant ancillary outbuildings.

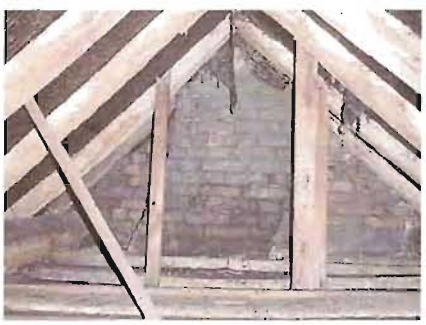




1.4 The cottage has a tile roof lined with old bitumen roofing felt.



1.5 There are vaulted ceilings in the 2 bedrooms but there is a small loft void above.





1.6 The ceiling has been completely removed from one of the bedrooms but the plasterboard ceiling is still attached above the other.





1.7 There is also a small mono-pitched roof void area above the ground floor area at the rear. This has a bitumen felt roof lining.



1.8 There are no cellars in the property

1.9 Externally the brick walls are painted white and rendered and there are no soffit/barge boards at the gable ends.



1.10 There are some gaps under the tiles and ridges.

1.11 There are a number of attached single storey outbuildings as shown overleaf in the simplified diagram and photographs.

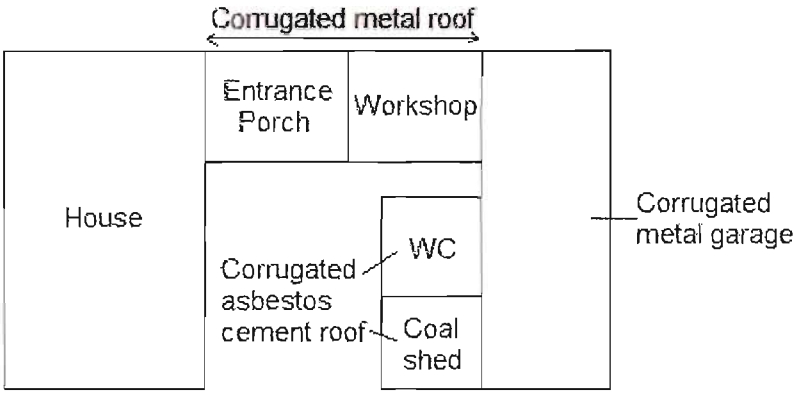


Diagram 1. Simplified diagram of attached outbuildings at Tollgate Cottage

1.12 The corrugated metal roof above the entrance porch and workshop is lined with tongue and groove boarding.



1.13 The brick built toilet and coal shed have an unlined corrugated asbestos cement roof.



1.14 The garage is made from single skin corrugated metal sheets.



1.15 There is also a line of detached outbuildings as shown in the simplified diagram and photographs below.



Corrugated metal workshop	Derelict wooden shed with no roof	Corrugated metal shed

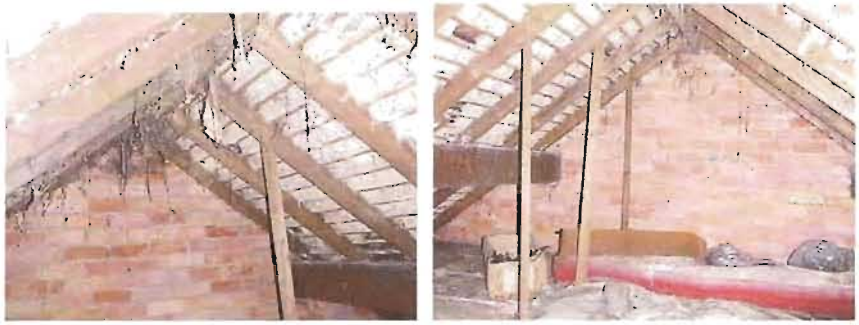
Diagram 2. Simplified diagram of detached outbuildings at Tollgate Cottage

Blake Lee

1.16 This is a detached brick-built house with a pitched tile roof constructed around the 1950's.



1.17 There is a loft void present and the tile roof is under-drawn with mortar (torching) and there is no roofing felt present.



1.18 There is old loft insulation on the floor.

1.19 There is a low, narrow, (flat out crawling size) roof void with a mono-pitch roof on the ground floor that runs along one side of the house and over the front porch.




1.20 This small loft void has no insulation but its roof is lined with bitumen roofing felt.

1.21 There is also a single storey flat roof extension at one side.

1.22 There are soffit/barge boards at eaves level but weatherboarding at the gable ends.





1.23 There is a detached brick built garage block with a pitched tile roof that is bitumen felt lined.




1.24 There is no loft void in the garage and it is open to the roof.



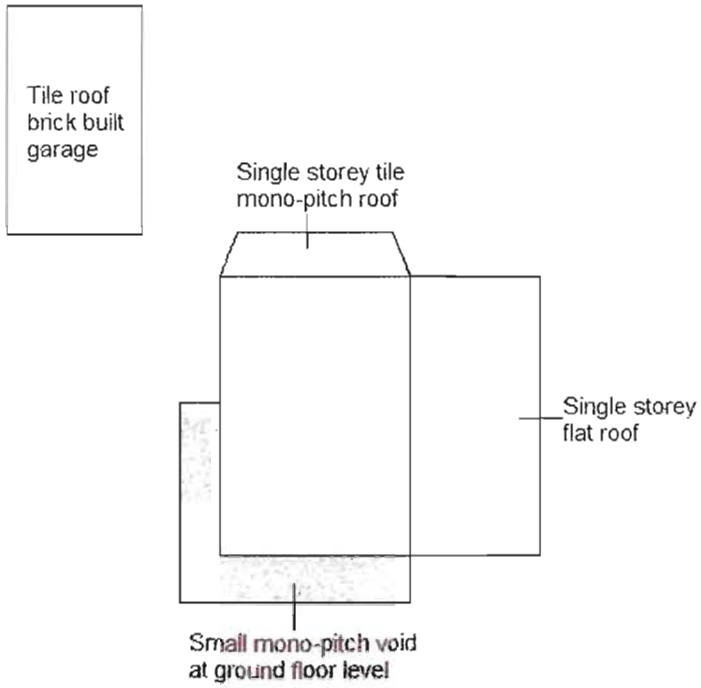


Diagram 3. Simplified diagram of Blake Lee house and garage

General Surrounding Area

1.25 The surrounding area is generally farmland (mainly stock grazing) with a number of small woodland areas and hedgerows leading down to the Churnet Valley. Linear landscape connectivity is relatively good.



Aims of the survey

1.26 To ascertain if bats use, or have previously used, the sites for roosting purposes.

1.27 To recommend any further actions necessary as a result of the survey findings.

Surveyor details

1.28 The survey was conducted by Mike Freeman. He is a professional wildlife consultant specialising in bats, badgers and birds. He has been a licensed bat worker since 1984 and a licensed bat worker trainer since 1989. He has been chairman of the Cheshire Bat Group since its formation in 1986 and is a voluntary Bat Warden for Natural England. He is an Associate member of the Institute of Ecology and Environmental Management (AIEEM).

2.0 LEGAL PROTECTION FOR BATS

2.1 All British species of bat are protected under Schedule 5 of the Wildlife and Countryside Act, 1981(as amended). They are also included in Schedule 2 the Conservation (Natural Habitats & c.) Regulations 1994 (as amended), which are the domestic implementation of the EC Habitats Directive. In the context of potential development activities affecting bats, this legislation makes it illegal to:

- deliberately kill, injure or capture (take) bats;
- deliberately disturb bats 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 or abundance of that species;
- damage or destroy a breeding site or resting place of such an animal;
- deliberately or recklessly disturb a bat while it occupies a place of shelter or protection.

In this sense a bat 'resting place' or roost has been interpreted to mean any structure or place which is used for shelter or protection, whether or not bats are present at the time. The protection applies to all European protected species, regardless of the stage of the life of the animal in question.

Licensing Procedures

2.2 In the case of development works, exemption from the protection afforded for bats under section 39 of the Conservation (Natural Habitats, & c) Regulations 1994 can be granted by means of a licence from Natural England. Three tests must be satisfied before Natural England can issue a licence under Section 44 (2) (e) to permit otherwise prohibited acts:

(i) Section 44 (2) (e) states that licences may be granted by Natural England "*to preserve public health or public safety or other imperative reasons of overriding public interest including those of the social or economic nature and beneficial consequences of primary importance for the environment*".

(ii) Section 44 (3) (e) states that a licence may not be granted unless Natural England is satisfied "*that there is no satisfactory alternative*".

(iii) Under Section 44 (3) (b) a licence cannot be issued unless Natural England is satisfied that the action proposed "*will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range*".

3.0 BATS IN BUILDINGS

3.1 Buildings provide a choice of safe, dry places made from materials like timbers, bricks, stone, tiles and slates.

3.2 Buildings present a whole range of potential roost sites for bats e.g.: -
In walls:

- Behind external hanging tiles or weatherboarding
- In cavity spaces
- At top of solid walls

In eaves:

- Above soffit, or behind fascia and barge boarding

In roofs:

- In tunnel under ridge tiles
- Between underfelt and tiles or slates
- In roof space along ridge beam and at timber joints, at gable end or around chimneybreast.

3.3 The most obvious use of buildings by bats is between May and August, when the pregnant females gather in maternity roosts to give birth and raise their young.

3.4 Females and young often remain in one site all summer or move about using several roosts.

3.5 Most summer colonies will have dispersed by the autumn, though brown long-eared bats often appear early in the year (early April) and leave later (October or later). These bats occasionally use the roost throughout the entire year.

3.6 Buildings may also be used as temporary or "transitional roosts" by small numbers of adult and immature bats of both sexes, particularly in spring and autumn.

3.7 Many outbuildings are attractive to bats for temporary night-time roosts or as sheltered feeding perches. The latter are indicated by the presence of a lot of insect remains, particularly of moths or large beetles and some droppings.

3.8 Cool, undisturbed, humid places are important as hibernation sites. Most species will tuck themselves into small crevices e.g. between bricks/stonework, and can easily pass the winter there unnoticed.

3.9 Bats are usually concealed in crevices, behind roofing felt, in cavity walls, behind soffits and barge boards, in old timber joints or under ridge tiles and

are only occasionally seen out in the open in lofts. Consequently, the key identification feature is the presence of droppings. Sometimes droppings may be found on the outside of buildings e.g. on windows, walls or windowsills. On other occasion's droppings found in loft spaces beneath ridge-boards and around chimneys or gable ends is also typical of bats. Hibernating bats leave little or no field signs.

3.10 Bats are sometimes drawn to open water tanks in lofts in search of a drink. They fall into the tank, can't get out and eventually drown. Dead bats are often found in these 'open' tanks in roof spaces where bats habituate.

3.11 Another clue to the presence of bats is a characteristic odour. A polished or clean surface near a place where light enters may also indicate habitual usage by bats. Sometimes bats can be heard "chittering" but this is usually in warm summer weather or when they are about to leave the roost to forage at dusk.

3.12 The species most commonly occurring in buildings (usually modern houses in summer) are the two pipistrelle species (*Pipistrellus pipistrellus, Pipistrellus pygmaeus*). These highly gregarious small bats use buildings for breeding during the summer and, in general, the bats disperse during the autumn. They often roost behind soffits, in cavity walls or behind external cladding. In such cases droppings are often found on external surfaces below the roost entrance/exit. The most likely place to find droppings in the roof void are at the gable end wall and along the eaves. In some cases, the bats may roost beneath ridge tiles, on top of the ridge beam or under insulation close to the eaves. Pipistrelles are frequently found overwintering deep in the cracks, crevices and cavities of usually uninhabited buildings (e.g. barns) and in such cases they leave little or no field signs.

3.13 The brown long-eared bat (*Plecotus auritus*) is the second most common species in Britain but is the one most likely to be encountered in roof voids and may occasionally be seen clinging on to timbers near the apex of the roof. Like the pipistrelle, highest numbers may be seen on hot days between June and September when breeding colonies may be present. During the autumn and in cool weather, bats remain concealed in crevices or hollow walls but may appear on mild days or if disturbed. Brown long-eared bats tend to fly around in the open roof void and hang from the ridge during the night, so droppings are usually found scattered over the floor or concentrated in piles beneath favoured roosting areas, typically beneath the ridge beam. In hipped roofs, piles of droppings may also be found in the junction between two hips.

3.14 A number of other species - serotine (*Eptesicus serotinus*), greater horseshoe bat (*Rhinolophus ferrumequinum*) and lesser horseshoe (*Rhinolophus hipposideros*) are dependent on roofs but are not found locally in the area, though there has been the occasional record of serotine in the North West.

3.15 Whiskered (*Myotis mystacinus*), Brandt's (*Myotis brandtii*), Natterer's (*Myotis nattereri)* and Daubenton's (*Myotis daubentonii*) bats may be present in the area and may be found in roofs but they are not particularly common in such sites. Roosting position is variable but they will be found in the same sorts of places as other species.

3.16 There are six different types of bat roost (A M HUTSON 1993)

(i) Spring gathering roosts
(ii) Maternity roosts
(iii) Mating roosts
(iv) Night roosts and feeding roosts
(v) Prehibernal roosts
(vi) Hibernation roosts

Bats regularly move from site to site even within the above categories.

4.0 METHODOLOGY

4.1 The buildings were searched internally and externally during daylight hours for evidence of bat usage as detailed in Section 3.0 above.

4.2 Ladders, a powerful hand lamp and a fibre optic endoscope were used as aids.

4.3 Additionally some of the buildings were surveyed at dusk for emerging bats.

4.4 Night vision binoculars and a portable tuneable heterodyne bat detector were used as aids in locating and identifying flying bats.

5.0 TIMING OF THE SURVEY

5.1 The survey was conducted on the 3rd September 2009.

5.2 The daytime weather was windy with showers and bright periods – some of the showers were heavy at times. The daytime temperature was around 16° C.

5.3 The evening weather was dry and clear but breezy. The temperature at 20.00hrs was 13° C and at 21.30hrs 11° C.

6.0 LIMITATIONS OF THE SURVEY

6.1 Whilst both properties were surveyed during daylight hours only Blake Lee was surveyed for emerging bats as this property had the most potential.

6.2 This was a 'one-off' survey with both the daytime and evening surveys conducted on the same day. In view of this it can only give a snapshot of bat activity at that time under those weather conditions. However, on saying this, any historical evidence of previous bat usage should have been picked up by any field signs found during the daytime survey.

7.0 RESULTS

Daytime Survey

7.1 No evidence of bat roosting was found in any of the buildings at either property.

7.2 All roof voids were searched throughout and all buildings both internally and externally.

Evening Survey

7.3 No bats were seen to emerge from Blake Lee but one or two single bats were noted flying in the garden of the property as follows:

- 20.26hrs A common pipistrelle passed giving social calls.
- 20.50hrs A possible brown long eared bat was seen and heard over the hedge on the west side of the house.
- 20.58hrs A common pipistrelle passed.
- 21.04hrs A common pipistrelle was heard social calling.

8.0 CONCLUSIONS

8.1 No evidence was found to suggest that bats roost in either of the two properties surveyed.

8.2 Blake Lee was considered to have more potential roost sites due to its construction than Tollgate Cottage.

8.3 None of the outbuildings appeared to be suitable for bats except perhaps the garage at Blake Lee.

8.4 Tollgate Cottage is also well lit from the street lamps at night which may also have a deterrent effect on bat roosting.



8.5 However, bats do fly around the properties and the general habitat is considered to be quite good for bats.

9.0 IMPLICATIONS AND RECOMMENDATIONS

9.1 As no evidence of bat roosting was found then a Natural England licence is not currently required before the buildings are demolished. However, if a roost is subsequently found the situation may change and a licence be required.

9.2 As bats do frequent the area it should be recognised that single or small numbers of bats can enter structures unnoticed and only stay for very brief periods. In view of this, and to follow good practice, it is recommended that all ridges, tiles and soffits are removed by hand during demolition.

9.3 In the unlikely event that bats are accidentally found during building operations work must cease immediately in that area, the bats left alone and a bat consultant contacted for advice.

9.4 Site workers should not handle bats on health and safety grounds. If this is absolutely unavoidable (unlikely) then thick leather gloves should be worn to avoid getting bitten.