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Bat Survey

Carried out

At

Cliffe Farm
Cubley
Penistone
Sheffield

March 2011

SDC Projects

Details of Surveyor

Surveyor	Experience
Mr Eric Bennett	Licensed bat worker since 1988. Licensed by Natural England for all bat species in all counties. NE Licence No: 20110098

Record of revisions

Date	Details
7 March 2011	Original Report

Report of Bat Survey
Cliff Farm, Cubley.

1 Introduction

1.1 The survey was required in connection with proposals for the conversion of barns to residential use. The site was located off Mortimer Road at O.S. Grid Reference SE 245014.

2 Details of work proposed

2.1 Full details not known but in terms of potential impacts on protected species are likely to involve roof removal and replacement, work to external walls, repair of timber work and remedial timber treatment and the permanent loss of separate loft space.

3 Background to the special protection afforded to bats under UK and EC legislation.

3.1 Bats are highly specialised creatures and require a relatively narrow range of suitable conditions in order to sustain a viable population. Bats require an abundant supply of flying insect food in places where they can easily be caught and they need safe and reliable roosting sites, particularly during breeding and hibernation.

3.2 Bats are heavily dependent on buildings and trees for their roost sites and, therefore, extremely susceptible to disturbance from human activities ranging from simple maintenance work through major conversion and renovation schemes to building demolition. Development schemes can also isolate bat populations and sever roost sites from favoured feeding areas, by removing hedgerows and trees that bats use as commuting routes.

3.3 Bats are susceptible to disturbance and have been known to abandon roosts sites after instances of disturbance. The effects of disturbance are more pronounced at different times of year. Serious disturbance during breeding can result in the breeding females being killed or the abandonment and subsequent starvation of dependent young. Repeated disturbance during winter hibernation can result in the death of adult animals from starvation.

3.4 The level of protection afforded to bats in UK and European legislation reflects the fact that it is now generally accepted that bats have declined substantially, maybe by as much as 60% over recent years. Most species are declining and vulnerable and all are protected.

4 Details of Survey

4.1 Daytime survey by a single surveyor.

5 Methodology for the survey

5.1 A detailed internal and external inspection of the building was carried out to identify potential roost sites and access points and any signs of actual occupation such as droppings, discarded moth wings, staining etc.

5.2 A dusk emergence and activity survey was not carried out because of the season..

5.3 Assessment of site and surrounding habitats.

5.4 Search of existing bat roost records.

6 Description of habitats

6.1 The site was situated in a fairly exposed location above Cubley at an elevation of 285 metres ASL. The surroundings were open pasture for a distance around although the site itself contained a large number of mature trees.

7 Results of daytime survey

7.1 The survey was carried out on 1 March 2011 and the results are set out in the following table.

Ref	Description
A	A large two-storey stone barn with blue slate roof. The walls were generally well pointed with no suitable crevices noted on the yard (east) side. The outer (west) wall contained a regular series of large square openings –much too large to be attractive to bats. The yard wall contained a large full height arched opening and a number of ground and first floor doors and windows. There were potential gaps under the edge of roof slates at wall top level on both sides. Some vertical open joints were also noted around stone window mullions. Gables appeared to have no opportunities for bats. A single-storey lean-to with a stone slate roof was attached to the north gable. Internally there were two loft rooms at the south end accessed from external steps. These contained hay bales. The central part of the barn was open to the underside of the roof and also contained hay bales on a half loft at the north end. A separate area at the north end was viewable only through a window opening in the internal dividing wall. In all these areas the roof was supported on sawn timber trusses with no socket or mortice holes likely to be used by bats. The ridge and internal gable walls were very cobwebby indicating that bats were unlikely to be present. There were no signs of droppings, urine spotting or discarded insect remains on the floor or other surfaces.
B	Two-storey stone barn with stone slate roof. The front on the ground floor was open in two bays with a central stone column. The gable walls were finished with stone copings and small openings were noted in the pointing. The rear wall was plain with lots of open joints in the masonry and under the edge of the roof tiles at wall top level. The roof was partially collapsed in the south-west corner. Internally the loft was partially accessible on safety grounds but the whole floor area was visible from the stair head. The roof was supported on sawn timber trusses with no socket or mortice holes likely to be used by bats. The ridge and internal gable walls were very cobwebby indicating that bats were unlikely to be present. There were no signs of droppings, urine spotting or discarded insect remains on the floor or other surfaces.
C	Small single-storey stone barn with stone slate roof. Open joints were noted in the front gable wall and under the stone parapet copings. The eaves were too low to be likely to attract bats. Internally the barn was open to the underside of the roof slates and very cobwebby along the ridge indicating that bats were unlikely.
D	Pig sty and outside toilet built as a lean-to against the outside wall. Small stone structure substantially covered with thick ivy, particularly the toilet. No potential for bats. (Fig 5)
E	Single-storey stables with stone and brick walls and stone slate roof. There were some gaps in the gable verge pointing. The front (east) wall was plain and the yard wall contained three stable doors. The building was quite low and unlikely to be attractive to bats. Internally the roof was supported on sawn timber trusses containing no suitable sockets or joints which could provide suitable roosting crevices. The ridge and apexes of internal gable walls were cobwebby suggesting bats were unlikely. (Fig 5).

Ref	Description
F	Single-storey brick barn with a blue slate roof. A lean-to on the front wall had brick walls with profile steel roof sheets. The gables had timber fascias with large gaps behind, potentially allowing access to crevices under the roof although no signs were found. Internally the building was open to the underside of the roof with no underfelt. The ridge and inside gables were exceptionally cobwebby indicating that bats were very unlikely. (Fig 6)
G	Single-storey barn with blockwork walls and corrugated sheet roof. The gable was plain with a tight fascia. The eaves fairly low. Generally unsuitable for bats. Internally the ridge and gables were exceptionally cobwebby indicating that bats were very unlikely.

7.2 As a matter of course the buildings were also checked for the presence of other protected species such as Swallow and Barn Owl. No signs at all of Barn Owl were found but evidence of nesting swallows were found in most of the buildings.

7.3 Although the site contained a large number of mature trees, only six are proposed for removal because of their closeness to buildings. These were inspected and the results set out in the following table.

Ref	Species	Stem dia. Mm	Description
T1	Oak	500	Dead snag in crown No suitable crevices noted.
T2	Beech	900	No suitable crevices noted.
T3	Oak	650 Twin Stem	No suitable crevices noted.
T4	Sycamore	400	Leaning. No suitable crevices noted.
T5	Beech	600	No suitable crevices noted.
T6	Sycamore	500	No suitable crevices noted.

8 Results of dusk survey

8.1 A dusk survey was not carried out because of the season.

9 Existing local records

9.1 Barnsley Bat Group has the following records

Site Name	District	Roost Type	NGR	Species	Count	Date
Gledhill Avenue	Penistone	House	SE 241023	Pipistrelle	40	27/06/01
Wordsworth Avenue	Penistone	House	SE 243027	45 Pipistrelle		
Shelley Close 2	Penistone	House	SE248036	Pipistrelle	1+Dr	02/08/90
Keats Grove 3	Penistone	House	SE247036	Brandts	1	16/06/90
Rydal Close	Penistone	House	SE 249039	Pipistrelle	+Dr	05/07/01
Windermere Road	Penistone	House	SE 248038	Pipistrelle	1	13/07/97
Keats Grove 2	Penistone	House	SE247036	Pipistrelle	76	17/07/89
Shelley Close 1	Penistone	House	SE248035	Pipistrelle	39	30/06/90
Keats Grove 3	Penistone	House	SE247036	Pipistrelle	2	16/06/90
Keats Grove 1	Penistone	House	SE247036	Whiskered	8	31/07/87
Keats Grove 4	Penistone	House	SE247036	Pipistrelle	6	28/07/91
Keats Grove 1	Penistone	House	SE247036	Pipistrelle	31	31/07/87

10 Protected species legislation

10.1 Bats and their roosts are fully protected at all times (whether the bats are currently present or not). This protection comes from the Wildlife & Countryside Act 1981 (updated by the Countryside & Rights of Way Act 2000) and the Habitats Regulations 1994 (updated by the Conservation (Natural Habitats) (Amendment) Regulations 2007. Under this legislation it is an offence to deliberately kill, injure, capture or disturb bats or to damage, destroy or obstruct access to any place used by bats as a breeding site or resting place.

10.2 Under the habitats regulations, where bats may be affected by development proposals, a licence is required from Natural England. Published guidelines on the licence procedure indicate that if, on the basis of survey information and specialist knowledge of the species concerned, the proposed activity is reasonably likely to result in an offence then, a licence is required. If, on the other hand the proposed activity is reasonably unlikely to result in an offence, then a licence is not required.

10.3 All birds, their nests and eggs are protected under the Wildlife and Countryside Act 1981, during the breeding season. It is an offence to intentionally take, kill or injure any wild birds or destroy their nests and eggs. In addition some species have additional protection under schedule 1 of the act where it is an offence to disturb these birds whilst nest building or at a nest containing eggs or young or to disturb the dependent young of such a bird.

10.4 Barn Owls have special protection under schedule 1 of the Wildlife & Countryside Act 1981. The adult birds, their eggs and young are fully protected at all times but disturbance of the nest site (including the building or tree containing the nest site) would only be an offence during the breeding period (from start of egg laying until the last chick leaves the nest) usually between March and August, but could be longer. To constitute an offence, disturbance must be shown to be reckless. Disturbance may be deemed to be reckless if it is committed by someone who could be expected to know that the bird(s) might be present, but failed to check.

10.5 Licenses cannot be issued for removal of Barn Owls in order to facilitate development

11 Evaluation of survey results

11.1 A summary evaluation of the various buildings is given in the table below. There was no evidence at all to suggest the presence of "internal" flying species such as Brown Long-eared bat. The presence of these species would normally be indicated by the presence of droppings, urine spotting or discarded insect remains. Without disturbance these signs would remain for several years.

11.2 Two buildings, the main barn A and the open-fronted barn B showed potential roosting crevices on the external walls –both sides of barn A and mainly the rear eaves of barn B and also vertical wall joints around stone mullions in barn A. No signs of actual use were found.

11.3 Overall it is considered that a summer breeding roost is unlikely because of the exposed location. These roosts are more likely to be found in lower and more sheltered areas where foraging for breeding females is more reliable. Several such roosts are known from Penistone with one known breeding roost in Cubley approximately 800m from the site.

11.4 It is likely that single or small numbers of male bats might be present in crevices in the buildings during the active season or in hibernation.

11.5 None of the trees proposed for removal contained suitable roosting crevices for bats.

A - Main Barn	No evidence internally for species such as Brown Long-eared. Roof very cobwebby. Possible external roosting crevices for Pipistrelle at eaves level under the edge of roof slates on and in vertical joints round stone mullions.

B – Open fronted Barn	No evidence internally for species such as Brown Long-eared. Roof very cobwebby. Possible external roosting crevices for Pipistrelle at eaves level under the edge of roof slates.
C – Small Barn	Building unsuitable –too small & low
D – Pig Sty	Building unsuitable – too small & low
E - Stables	Roost unlikely-external walls quite low. Internal roof very cobwebby.
F- Brick Barn	Roost unlikely- gable verge gaps probably too large for bats. Internal roof very cobwebby.
G- Concrete Block Barn	Building unsuitable –No suitable roost sites.

12 Site & species status assessment

12.1 No evidence to suggest the presence of a roost and a summer breeding roost considered unlikely. Single or small numbers of male bats likely during the active season or in hibernation.

13 Assessment of Impacts without Mitigation

13.1 Negative impacts are predicted to be low.

Development effect	Scale of Impact			
	Negligible	Low	Medium	High
Destruction of roost site	+			
Temporary loss of roost site during building works.	+			
Modification of roost site	+			
Risk of entombing bats during building work		+		
Risk of killing/injuring bats during roof stripping		+		
Temporary disturbance from building works during breeding season	+			
Temporary disturbance from building works outside the breeding season	+			
Post development interference	+			

14 Mitigation guidelines

14.1 Mitigation is required to avoid or reduce the impact of development proposals on the population of bats present, either roosting or feeding. Licences are normally required where a roost site is threatened in some way by a scheme, but might also be necessary where the viability of a roost is threatened by the removal of the availability of crucial feeding habitat.

14.2 Natural England in their published guidelines (Bat Mitigation Guidelines Jan 2004) defines the key principles involved. i.e. Mitigation involving changes to the scheme or altering the timing of work to reduce or remove impacts and Compensation, the creation of new replacement roosts or habitats.

14.3 Natural England also requires mitigation/compensation to be proportionate to the size of the impact and the importance of the population affected and as a principle:

- There should be no net loss of roost sites and that compensation should provide an enhanced resource since the adoption of new roost sites bay bats is not guaranteed.
- The scheme should aim to replace like with like in terms of the status of the site. i.e. male roost, maternity roost, hibernation roost etc.

- Compensation should ensure that the affected bat population could continue to function as before so attention may need to be given to surrounding habitats.

15 Mitigation proposals

15.1 In this case since there are no indications to suggest the presence of a bat roost, no formal mitigation measures are required although some simple precautionary measures are recommended in all cases because single male Pipistrelle bats can be found just about anywhere.

15.2 Purely as a precaution, roof stripping should not be carried out during the breeding season (May-August) unless the absence of bats has been confirmed by a dusk emergence survey. Care should also be taken during roof stripping lifting rather than sliding ridge tiles and checking beneath for signs of bats. If bats or droppings are found further advice should be sought immediately and work halted in that area.

15.3 Any timber treatment should be carried out using only safe Permethryn type chemicals on the Natural England list of approved safe chemicals. The work area should be checked for the presence of bats prior to application (including mortise joints) to ensure that bats are not directly sprayed with the chemical. Use of new pre-treated timber such as tanalised, is safe provided the treated timber has been allowed to dry before use.

15.4 Great care should be taken with masonry work and re-pointing walls. Bats will use crevices at any time of year but are more vulnerable during winter hibernation when they are unable to escape when disturbed. At this time they are likely to use sites deep in the rubble filled core of walls, gaining access through open joints etc. The roost site can be a considerable distance from the access point. For this reason where bats may be present this type of work should preferably not be done in the winter months with spring and autumn being the preferred seasons.

15.5 During the active season bats are likely to be disturbed by the erection of scaffolding, general building work disturbance etc and move to other sites. Work to crevices should therefore be started after a sustained period of disturbance in that part of the building.

- Shallow crevices where the full extent can be easily seen and that can clearly be seen to be empty may be filled.

- Any crevices that appear to extend into the rubble filled core of the wall or disappear behind other building stones and cannot be fully seen may be reduced by careful pointing leaving small permanent escape holes approx. 15x30mm in size at regular intervals accessing the core of the wall.

- Any such crevices that have to be fully filled and where permanent escape openings cannot be retained will need to be checked by a licensed batworker with an endoscope or similar instrument or by dusk emergence observations.

- Open joints at eaves level which extend under the edge of roof slates and openings below stone window cills should generally be retained for potential use by bats in the future. These should be identified in advance and clearly marked in order to prevent accidental filling.

15.6 It would be beneficial in conservation terms to retain some openings for bats in the converted buildings, particularly barn A (both long walls and south gable apex) and barn B (rear wall and both gable apex's) These need be no more than small un-pointed openings in gable apex locations approximately 15x50mm in size or unsealed openings behind fascias. Locations over doors and windows should be avoided.

15.7 In general it is preferable to have completed any work before swallows return in spring or to cover openings to buildings where swallows might nest, prior to their return, to prevent nest building and disturbance during the summer. Where the birds have commenced nesting it would be an offence to destroy the nests etc.

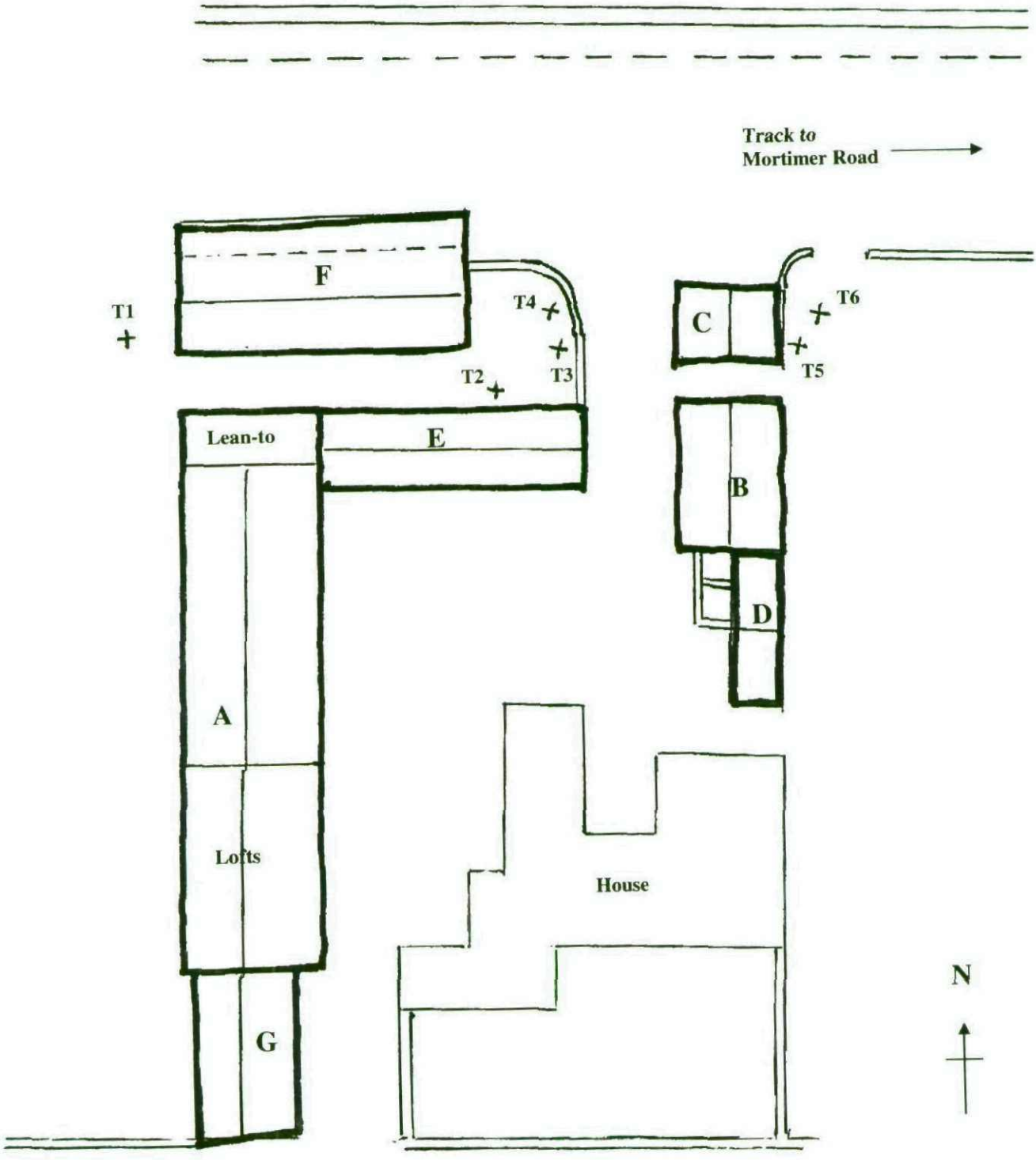
15.8 Because so many potential nest sites will be lost to the development, it would be advantageous to retain or provide some accessible outbuildings for the birds to use in the future.

16 Conclusions & Recommendations

16.1 As things stand there is no evidence to suggest the presence of a bat roost and accordingly no need, therefore, to seek a Natural England license. It should be kept in mind, however, that if bats are subsequently discovered or suspected, (droppings appearing in patches on external walls, or audible sounds of scratching or chattering are heard, work should be stopped and further advice sought without delay.

16.2 The precautionary measures are recommended.

EM Bennett
7 March 2011.



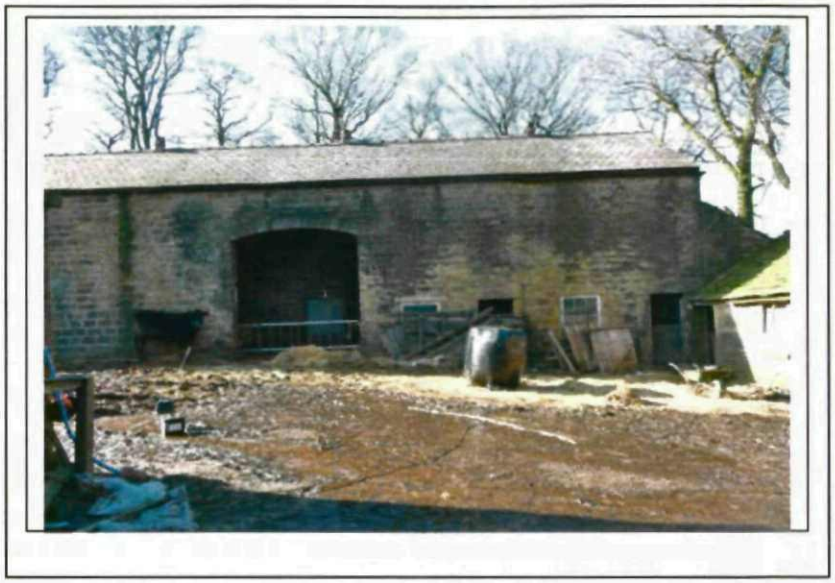
Cliff Farm, Cubley
Bat Survey – March 2011.

Barn A

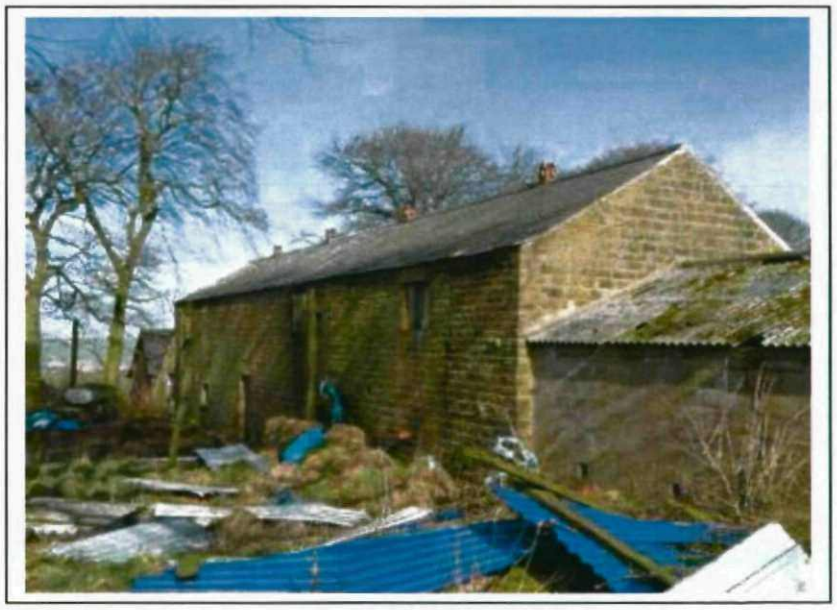
Cliff Farm, Cubley
Bat Survey – March 2011.

FIG 1









Barn A - Internal

Cliff Farm, Cubley
Bat Survey – March 2011.

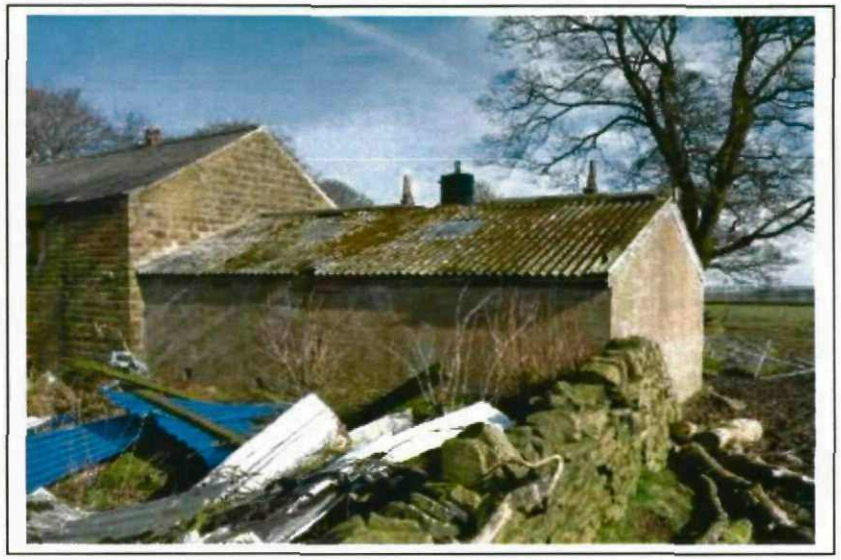
FIG 2

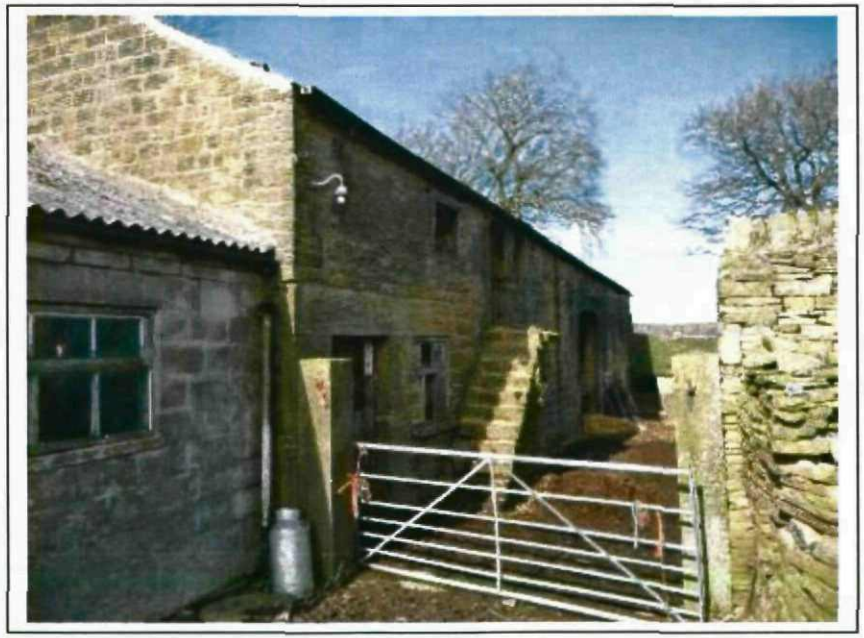












Cliff Farm, Cubley
Bat Survey – March 2011

FIG 7

Barn G

