Eric Bennett Consultancy Ltd

Protected species survey and advice

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Oaks Farm
Darton

Bat Survey

November 2010

Registered in England & Wales – Company Number 4907827

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: 20094155

Record of revisions

Date	Details
16 November 2010	Original Report

Report of Bat Survey
Oaks Farm, Darton

1 Introduction

1.1 The survey was required in connection with proposals for the renovation and alteration of the existing bungalow and the conversion of barns to residential use. The site was located on Oaks Wood Drive, Darton at O.S. Grid Reference SE 320100.

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 in the barns.

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 buildings were located in the heart of a modern residential area off Darton Lane. Land to the south of Darton lane was permanent pasture land with mature hedgerows. A small woodland area in public ownership was located adjacent to the site.

7 Results of daytime survey

7.1 The survey was carried out on 8th and 9th November 2010 and the results are set out in the following table.

Key	Description
A	Bungalow with stone walls and small clay tile roof covering. The building was oriented east –west with gables at both ends and on the south side. The east gable contained an external chimneystack. Flashing on the south side of the chimney was slightly raised providing a potentially attractive access for bats but there were no signs of actual use such as droppings and fur staining round the opening. The other two gables were well pointed with no suitable openings. The eaves had plastic fascias and soffits with the soffit/wall joint sealed with no suitable openings. Internally the loft was fully accessible and inspected. The roof was lined with traditional underfelt and the loft floor covered with clean insulation material. The inside gable walls and the loft floor below the ridge were checked but no signs of droppings or urine spotting etc. were found.
B	Two-storey stone barn with part stone slate and part blue slate roof. The barn was rectangular and oriented east –west but with the roof extending on the south side over an attached building. A flat roofed extension was attached to the south wall and a small pitched roof building attached to the west gable. The west gable verge was pointed but some gaps were present between the stone roof slates. A small rectangular "owl" window was located in the apex above a bricked-up window opening. The wall contained numerous open joints and cavities but no signs were found. The east gable was also pointed with no gaps. The upper parts of the gable wall were also pointed with open joints only at lower levels. The eaves walls were mainly masked by attached or adjacent buildings. On the south side a full eaves height timber doorway occupied most of the open wall. The adjacent walls were pointed but there was potential for gaps under the edge of the slates at wall top level. On the north side there was a similar door opening with glazed panels missing from the upper part allowing potential access to the inside of the barn. No signs of bats were found on any of the external surfaces. Internally the roof was supported on four queen-post trusses, the truss at the west end supported on a timber post. The ridge, purlins, truss cross-beams and door lintel timbers contained numerous socket holes, most passing right through the timbers but some enclosed as cavities. These were inspected and no signs of fur staining were found to suggest use by bats. The west wall and the north west corner were clad with corrugated sheet material. Stored timber on both sides of the access doors created a loft floor in practical terms. This was checked for signs of droppings or urine spotting that would indicate the presence of a bat roost in the ridge area or trusses but no signs were found. Similarly the internal gable walls were also checked for sings of droppings or discarded insect remains but none were found.

Key	Description
C	Small brick and render outbuilding with stone slate roof. The outer eaves were low at approximately 1.5 metres with large uncovered window openings. The roof was hipped at the outer end and with a central ridge breaking into the main barn roof slightly above eaves level. No signs were found externally. The roof was supported on a single king-post truss and cross beam. The ridge was relatively gappy and probably too drafty for bats but the inner apex appeared to offer some access to the barn roof. The window and door openings were uncovered. The floor and various surfaces were checked for signs of droppings, urine spotting or discarded insect remains but no signs were found.
D	Single-storey flat-roofed outbuilding with brick and render walls. The roof was an in-situ concrete slab. There was a large opening in the north wall and in the east wall. No suitable opportunities for bats and no signs found externally. Internally the roof was a flat concrete slab supported on steel beams. This provided no suitable roosting crevices apart from a few boards, electrical boxes etc which were checked and no signs found.
E	Two-storey stone barn with stone slate roof. The north gable was obstructed by barn B. The south gable was well pointed but gaps were present in the verge pointing, mostly quite large and probably more attractive to birds than bats. The roof at the rear (east side) extended over an attached building. The roof on the east side contained a number of holes and the whole of the ridge line was displaced and open. The west (yard) wall contained covered window and door openings on two floors. The walls were generally sound but some crevices, cracks and open joints were noted at the north end. The east wall was limited by the attached building but a large hole was noted in the wall at the north end and potential openings under the edge of roof tiles at wall top level. No signs of bats were found on any of the external surfaces. Internally the first floor was in two sections with a central staircase. The southern end contained an enclosed loft space with a single "A" frame truss with struts. No sockets or mortise joints were found. The ridge was open because of the displaced ridge tiles and most unlikely to be attractive to bats. The floor was clear and checked for signs of droppings, urine spotting or discarded insect remains. None were found. On the east side a ground floor area extended above the loft floor level and was connected to the loft space with an uncovered window opening. No signs were found in this area./ The northern end was more open and in poorer condition with larger roof gaps and the floor was unsafe to access directly but was easily visible from the stacked timber at the south end. No signs of droppings, urine spotting or discarded insect remains were found. The ground floor showed evidence of past use by nesting swallows but there were no signs of droppings etc to indicate recent use.
F	Small outbuilding, farm office. Stone walls with mono-pitch corrugated sheet roof covering. The edges were well pointed with no suitable openings. No signs found and not generally suitable. Roof lined with boarding internally. No opportunities for bats.

Key	Description
G	Range of small single-storey outbuildings, sheds. Stone walls and pitched stone slate roof. The east gable verge was well pointed with no suitable openings. The apex of the wall contained a narrow rectangular ventilation slot. The north wall was plain with potential for openings under the edge of roof slates but generally too low at approximately 1.8 metres to be likely to be attractive to bats. The west wall contained two large sliding timber doors. There was a timber fascia to the eaves with no suitable openings. No signs of bats were found on any of the external surfaces. The roof was supported on three king-post trusses. The ridge was cobwebby. No signs of droppings, urine spotting or discarded insect remains were found on the floor or inside walls.

8 Results of dusk survey

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

9 *Existing local records*

9.1 Records in the immediate locality are limited. The following are known.

Site Name	District	Roost Type	NGR	Species	Count	Date
Birthwaite Hall	Darton	Mansion	SE300105	Pipistrelle	1	26/06/88
Church Street	Darton	Shop	SE 310099	Indet	+ Dr.	09/08/99
Windhill Avenue	Staincross	House	SE321112	indet	1	12/04/2005
Melvinia Crescent	Wilthorpe	House	SE338078	Pipistrelle	+ (21-50)	15/07/99
Monkey Tunnel	Wilthorpe	Tunnel	SE336080	Daubentons	5	05/09/02

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.

11 Evaluation of survey results

11.1 The survey produced no evidence to suggest the possible presence of a bat roost in any of the buildings. The house showed one potential opening under flashing at the chimneystack on the eastern gable but there were no signs of actual use.

11.2 Internally the barns showed some potential with socket holes in the main timbers of barn B in particular but no signs of actual use were found for species such as Brown Long-eared bat which favour the internal spaces of traditional barns. Droppings in particular can persist for several years in undisturbed areas where there is no weathering. Barn E was much less suitable because of the condition of the ridge area.

11.3 Barn C, because of the window openings had some potential but again there were no signs of actual use. The remaining buildings were either too small or of unsuitable construction to be attractive to bats.

11.4 The ground floor area of barn E showed signs of old swallows nests but no indications of recent use. The buildings were also checked for signs of species such as Barn Owl. These would be owl pellets, "whitewash" excreta staining or moulted feathers etc. No such signs were found.

11.5 Externally barns B and E had open joints, cracks etc in the mortar joints providing potential access to the rubble filled core of the walls. Bats will hibernate in such areas and the actual roosting location might be a distance from the opening and impossible to see externally.

12 Site & species status assessment

12.1 Overall no evidence to suggest the presence of a roost and overall a breeding roost is considered unlikely. The presence of small numbers of bats using stone crevices during the summer or for winter hibernation cannot be ruled out and some precautionary measures would be necessary.

13 Assessment of Impacts

13.1 No significant negative impacts are predicted.

Development effect	Scale of Impact without mitigation.			
	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 small numbers of 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 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.

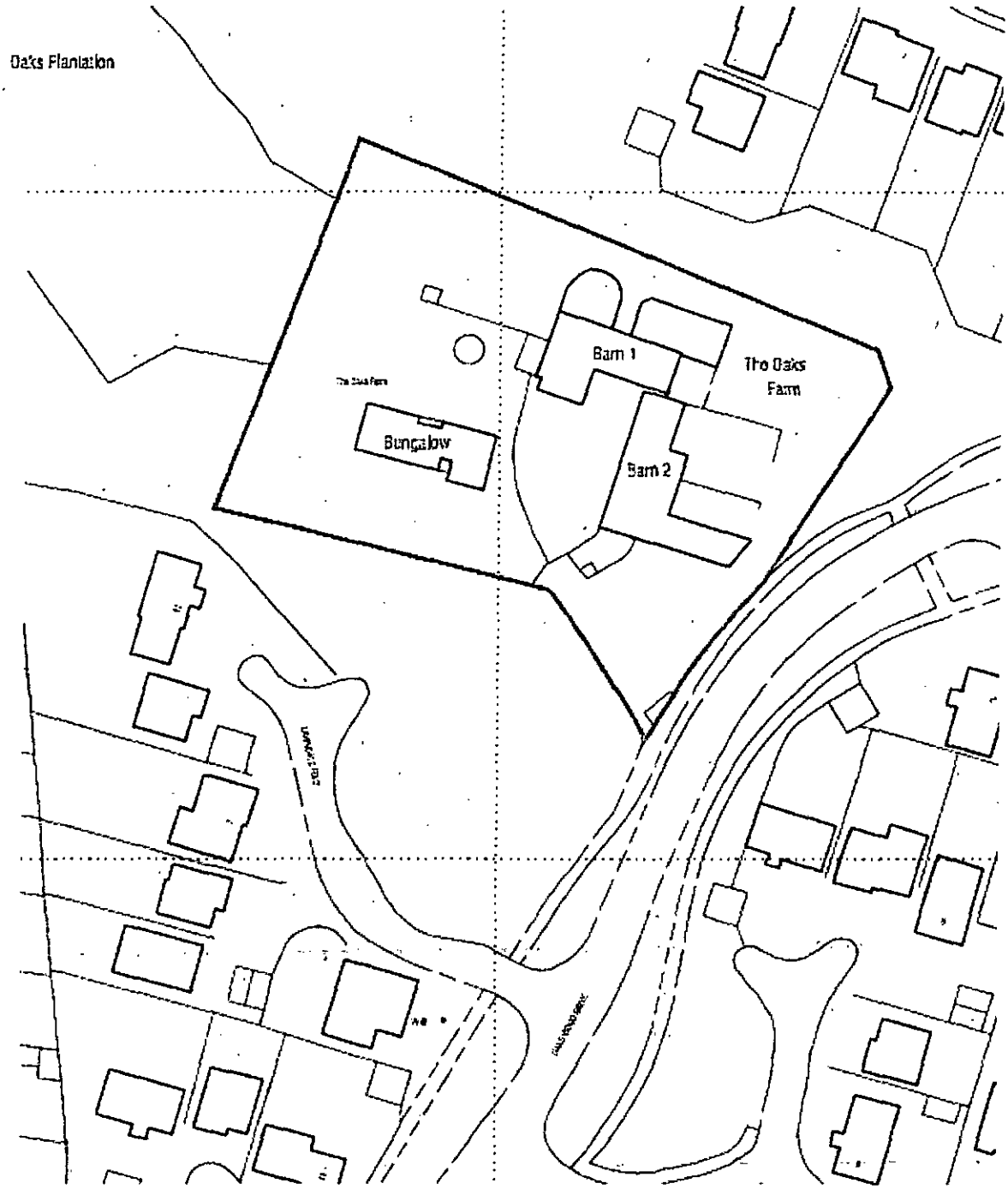
15.6 It would be beneficial in conservation terms to retain some openings for bats in the converted buildings. These need be no more than small un-pointed openings in gable apex locations approximately 15x50mm in size or similarly sized unsealed openings behind fascias. Locations over doors and windows should be avoided.

16 Conclusions & Recommendations

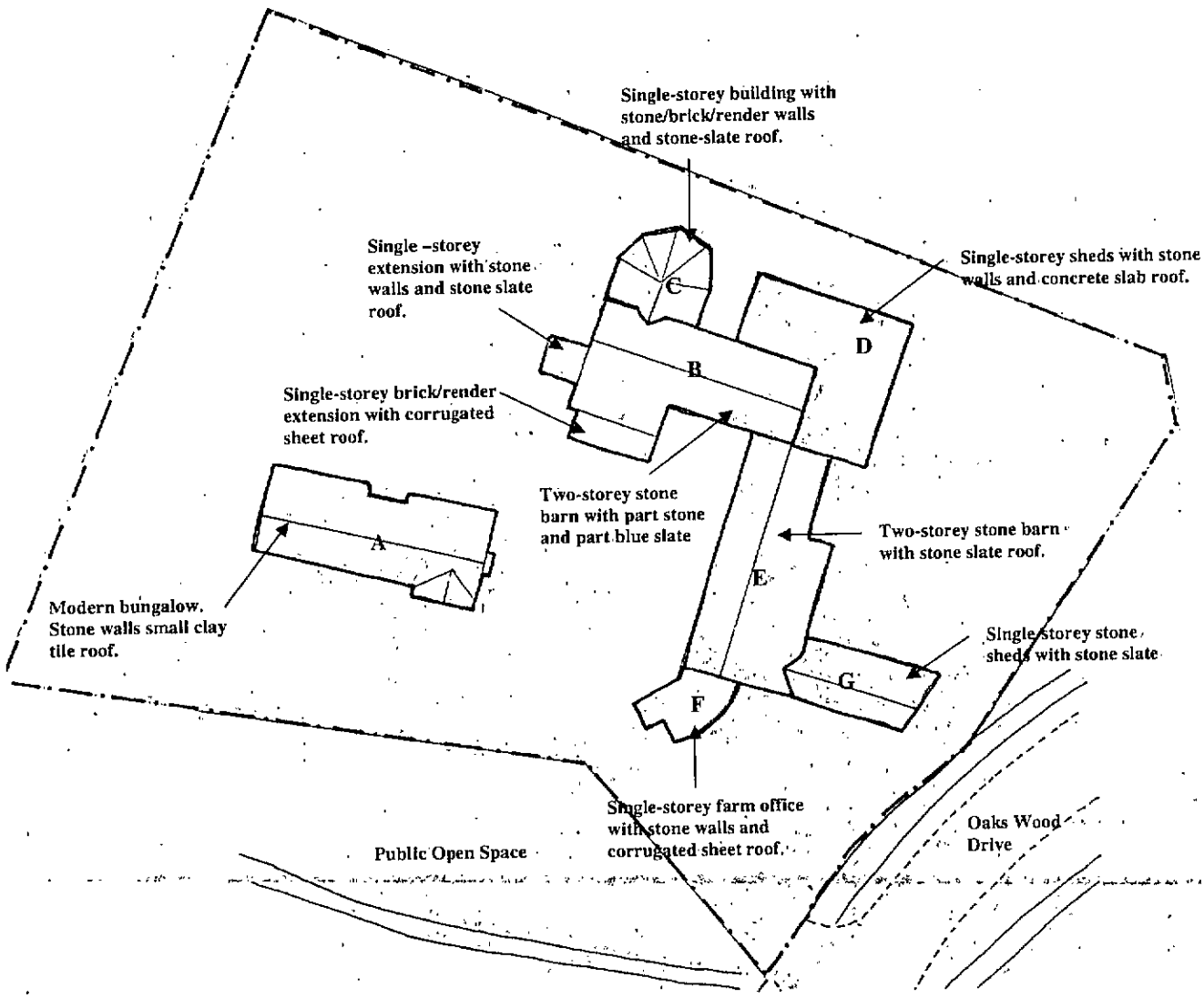
16.1 As things stand there is no evidence to suggest the presence of a bat roost and accordingly no need, therefore, to seek a Natural England license. It should be kept in mind, however, that if bats are subsequently discovered or suspected, (droppings appearing in patches on external walls, or audible sounds of scratching or chattering are heard, work should be stopped and further advice sought without delay. If however works are not likely to begin before next summer a dusk visit during the summer would be desirable to positively discount use by bats.

16.2 The precautionary measures are recommended.

EM Bennett
16 November 2010



Oaks Farm, Darton
Bat Survey – November 2010.
Not to Scale



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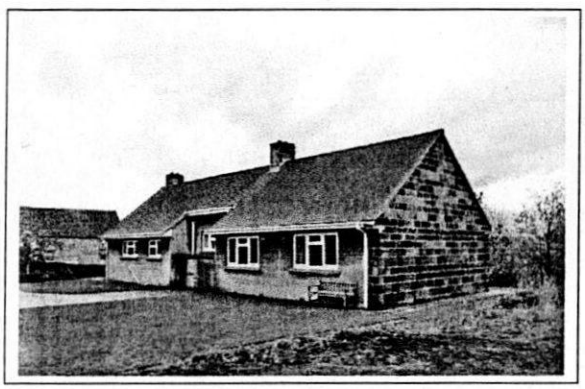
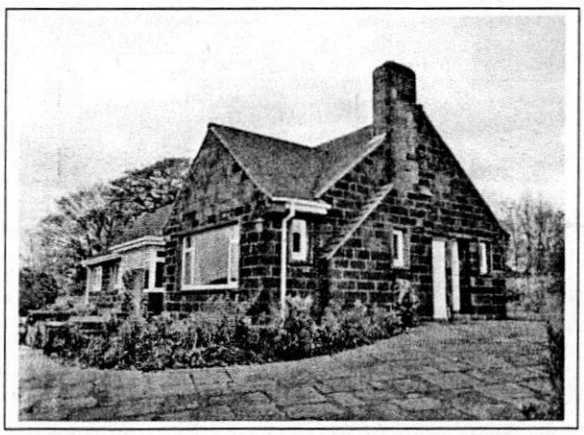
Oaks Farm, Darton
Bat Survey – November 2010.
Not to Scale

Oaks Farm, Darton
Bat Survey – November 2010.

FIG 1

Building A - Bungalow





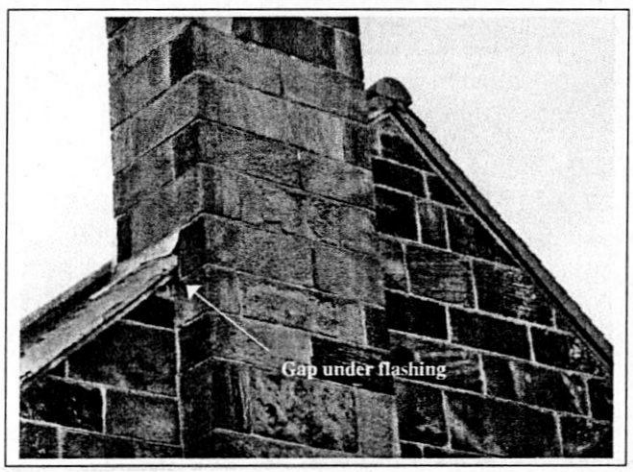


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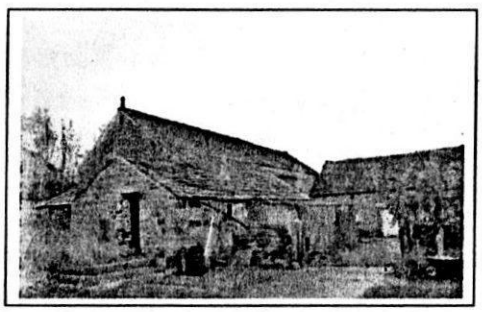
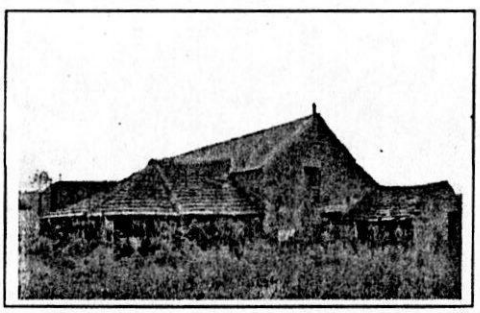
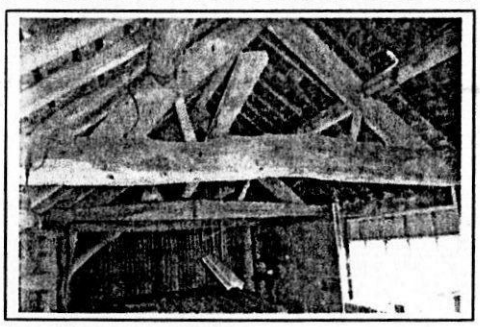
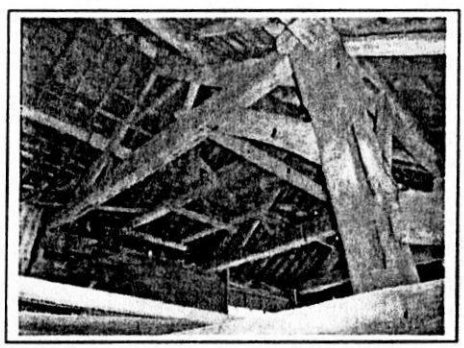
FIG 2

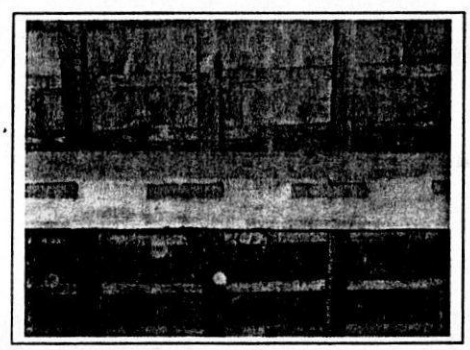
Barn B











Oaks Farm, Darton
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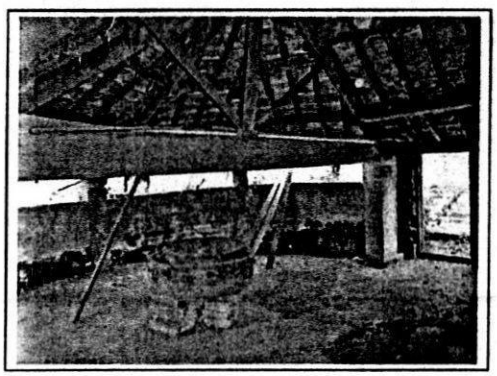
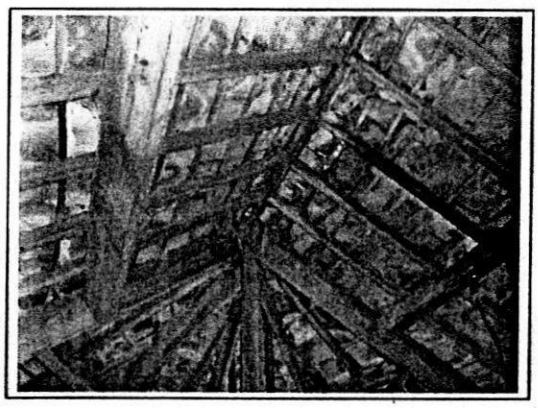
FIG 3

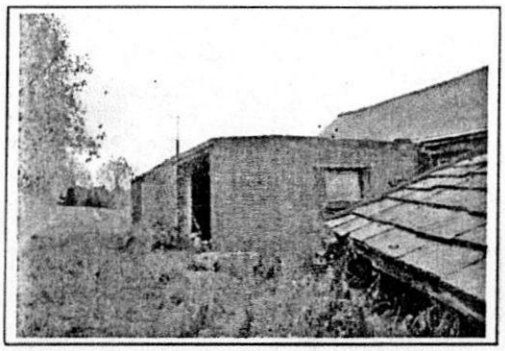
Barn C

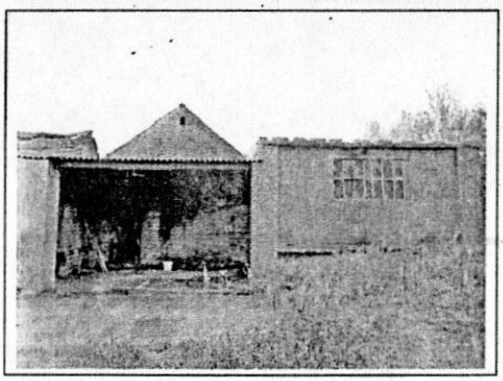




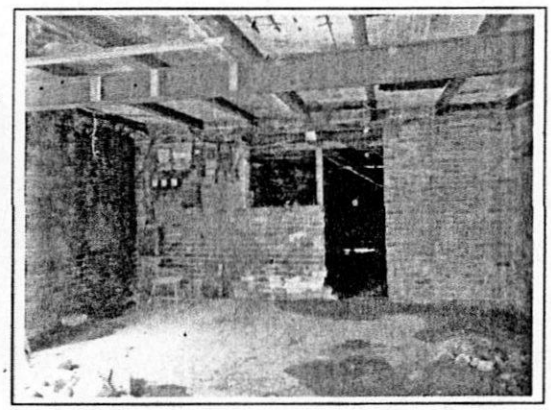
Oaks Farm, Darton
Rat Survey – November 2010.

FIG 4





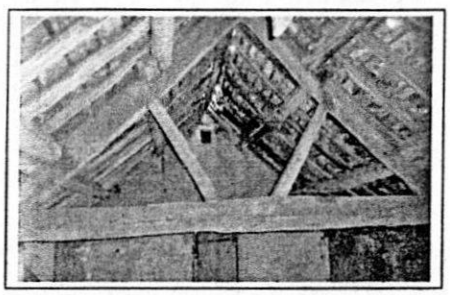
Barn D

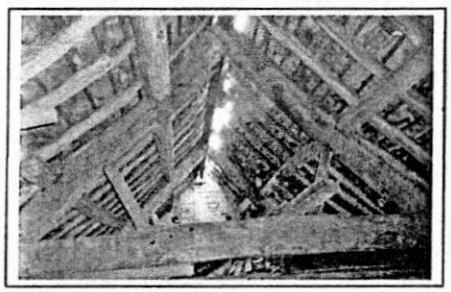


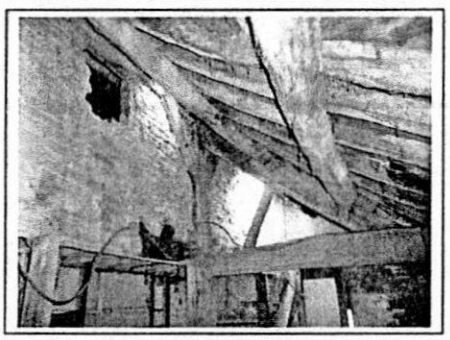
Oaks Farm, Darton
Bat Survey – November 2010.

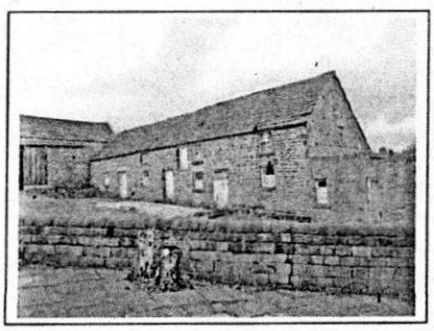
FIG 5

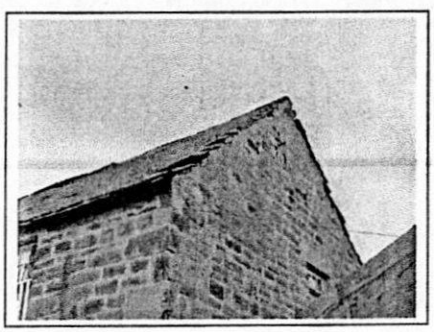
Barn E











East wall

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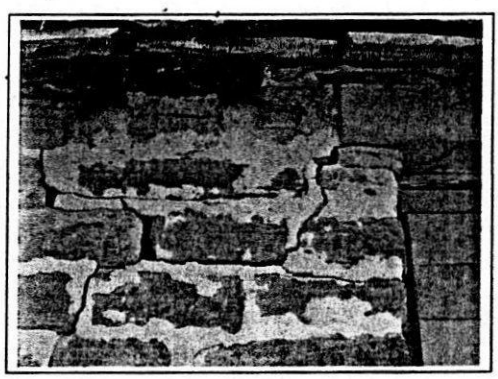
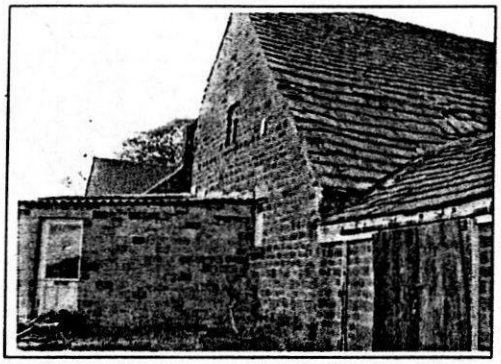
FIG 6

Barn E



West (courtyard) wall



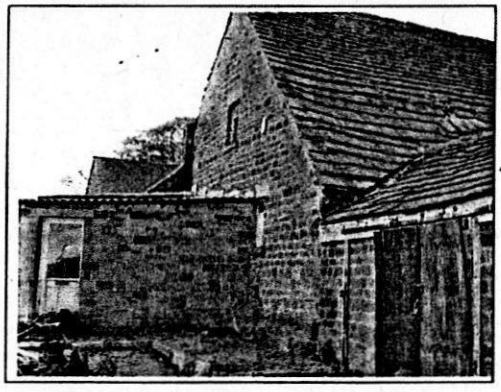


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FIG 7

Buildings F & G