



BAT ACTIVITY SURVEYS

BUILDINGS AT
MANOR FARM
LOWER ROAD
ERLESTOKE
SN10 5UE



Survey dates:	1 June 2023 6 July 2023 3 August 2023 24 August 2023
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Contract:	Q849



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1 Summary

- 1.1** The proposed work will have a significant negative impact on a known summer roost of Lesser Horseshoe bats present in an adjacent building.
- 1.2** These bats are using the buildings surveyed as dark flying space and as a route of roost access.
- 1.3** It is proposed to retain the roost in situ but the proposed work will result in damage to and modification of the roost.
- 1.4** A mitigation licence from Natural England will therefore be required.
- 1.5** No roosts of any other bat species were identified on survey and no bats other than Lesser Horseshoe bats were observed emerging during survey.
- 1.6** There is a moderate risk of disturbance to breeding birds.

2 Introduction

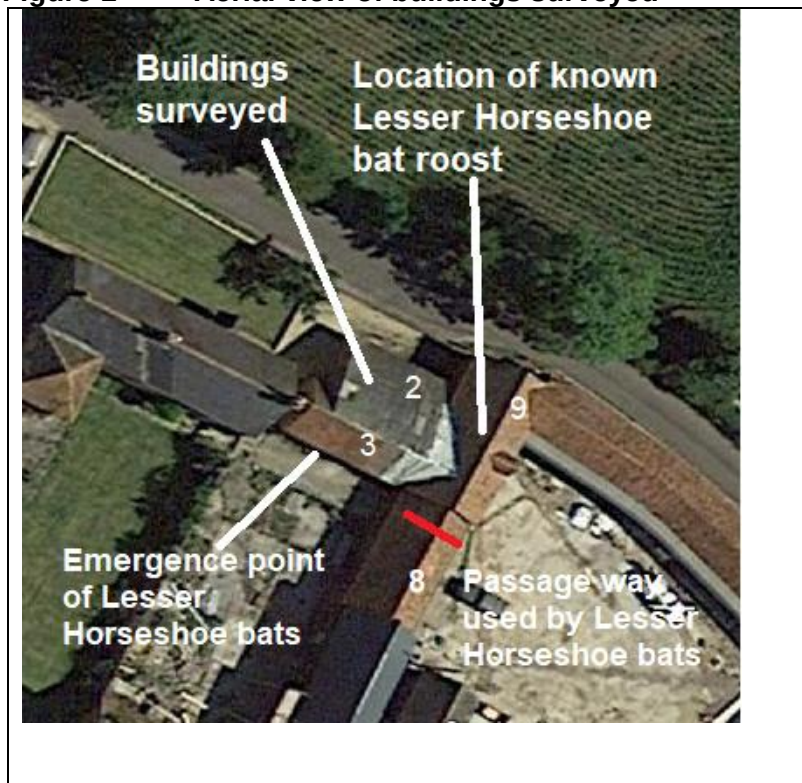
- 2.1** It is proposed to submit a planning application to convert the buildings surveyed to residential accommodation and a preliminary ecological appraisal was carried out on 1 June 2023 to support this application.
- 2.2** The preliminary ecological appraisal confirmed the suspected presence of bats including a likely summer Lesser Horseshoe bat roost in an adjacent building triggering the need for bat activity surveys.
- 2.3** Direct flying connectivity had been identified during the preliminary ecological appraisal on 1 June 2023 between the buildings surveyed and the roof void occupied by the known Lesser Horseshoe bat roost and with the interior of an adjacent lean-to.
- 2.4** The purpose of these surveys was therefore to determine the bat species present and to assess the potential impact of the proposed work.
- 2.5** Evening emergence surveys were carried out between and including June, July and August 2023. A further inspection of the roof void occupied by the Lesser Horseshoe bat roost was also performed in August 2023.
- 2.6** Bat activity surveys confirmed the continued presence of the known Lesser Horseshoe bat roost in the adjacent building but no other bat species were observed emerging although Common pipistrelles were active in the local area during these surveys.

3 Methodology

- 3.1** Emergence surveys were carried out during the period of time recommended for bat activity surveys (May to September) and in optimal weather conditions when bats were likely to be active and observed emerging.
- 3.2** Evening emergence surveyed commenced 30 minutes before and continued until after 2 hours following sunset.

- 3.3** Surveyors were positioned so that all elevations of the building were within the field of view and where potential bat roost features were visible. This included the potential route of access to the known Lesser Horseshoe bat roost.
- 3.4** No physical access was possible to the roof void of building 3 and the interior of the known bat roost due to the unsafe/fragile condition of the roof void floors. However it was possible to obtain photograph views and to confirm the presence of Lesser Horseshoe bats using an Elekon stereo handheld bat detector. Although this was a limitation of survey it is considered that the other survey methods used enabled an acceptable assessment of the status of bats in the building to be made.
- 4 Results (refer Appendix 1 Results of evening emergence surveys and further building survey)**

Figure 1 Aerial view of buildings surveyed



- 4.1** The bat activity surveys confirmed the continued presence of the summer Lesser Horseshoe bat roost and the roost access route to be through building 3 leaving through the door of that building on the southern elevation.
- 4.2** Lesser Horseshoe bats were also observed using the interior of building 2 as dark flying space prior to emergence. No potential flying access to the exterior was found on survey and no Lesser Horseshoe bats were observed emerging from building 2.
- 4.3** No other bats species were observed emerging from the buildings surveyed although Common pipistrelle were active in the local area during survey.
- 4.7** Lesser Horseshoe bats were also using building 2 (the lean-to) which has direct internal connectivity to the location of the known bat roost as dark flying space prior to emergence but were not observed emerging from this building.
- 4.5** On leaving the roost via building 3 Lesser Horseshoe bats appeared to be flying off to the south west and south east and also to the east through the passageway between buildings 8 and 9 and the open roof void above this.
- 4.6** No Lesser Horseshoe bats were observed or detected flying in the area to the north of the buildings during survey.

5 Discussion and analysis of results

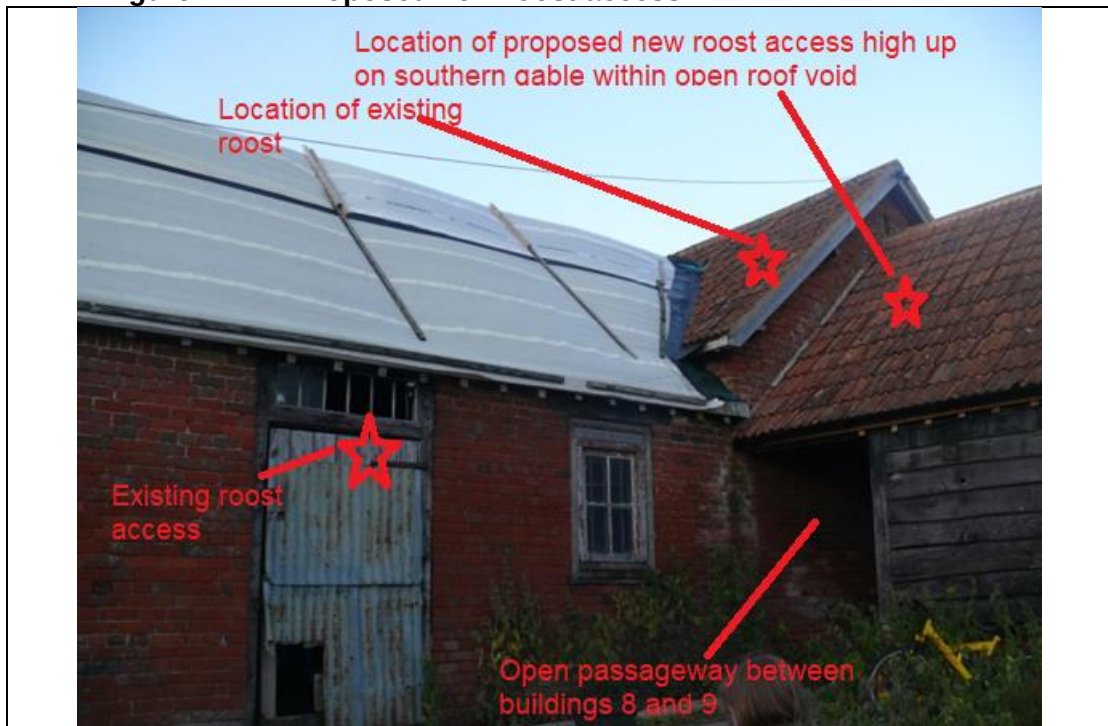
- 5.1** The Lesser Horseshoe bat roost remains present in building 9 and bats from this roost are using each of the buildings surveyed as dark flying space, for occasional roosting and as a roost access route.
- 5.2** This is a small summer roost of likely less than 20 bats and may be a maternity roost although it was not possible to confirm this. This is based on the number of Lesser Horseshoe bats observed emerging and the quantity and distribution of Lesser Horseshoe bat droppings seen on survey of the interior of the roost on 24 August 2023.
- 5.3** The habitat in the immediately surrounding area is not optimal for Lesser Horseshoe bats and this is a likely factor limiting the numbers of bats in the roost.
- 5.4** The proposed conversion of buildings 2 and 3 will have a significant impact on the Lesser Horseshoe bats by destroying the roost access route and areas used by Lesser Horseshoe bats as dark flying space.
- 5.5** The proposed building conversions will not result in any loss in area of the existing roost which measures 6 metres in length by 13 metres in width by 3 metres. This exceeds the minimum recommended dimensions for a Lesser Horseshoe bat roost of 2.8m in height and 5m in length and width.
- 5.6** Conversion of the buildings is also likely to result in spillage of domestic lighting onto an area not previously illuminated and particularly on the observed routes used by emerging Lesser Horseshoe bats during survey. Bats are light avoiders and spillage of domestic lighting can result in behaviour changes such as delayed emergence times which lessens the period of time available for feeding during the hours of darkness and changing and lengthening commuting routes to feeding areas in the surrounding countryside. These behaviour changes can have an adverse effect on bats by changing the energy gained/energy expended ratio resulting in less than optimal body condition. Lactating females which have to meet the demands of pregnancy and nutrition can be very vulnerable in these circumstances resulting in poor breeding success and survival of young.
- 5.7** No other bat species were observed emerging from the building although Common pipistrelles were present commuting through and feeding in the surrounding area during survey.

6 Conclusions

- 6.1** There is a significant risk of negative impact on a small summer Lesser Horseshoe bat roost as a result of the proposed work which will destroy the roost access route and areas used by Lesser Horseshoe bats as dark flying space.
- 6.2** There is a significant risk of negative impact of spillage of domestic lighting on a small summer roost of Lesser Horseshoe bats and on other bat species.

7 Recommendations

Figure 2 Proposed new roost access



- 7.1 A full mitigation licence application must be submitted to Natural England to legalise modification of the bat roost. This can only be done following granting of planning permission.
- 7.2 This must contain details of how the new roost access will be created.
- 7.3 It is proposed to create new roost access high in the southern elevation of building 9 within the open roof void above the passageway which runs between buildings 8 and 9. This will be an opening of 300mm in width and 200 mm in height. This will provide a sheltered roost access route unlikely to be affected by spillage of domestic lighting and a dark area into which to emerge and fly before dispersing to the surrounding area. Lesser Horseshoe bats will often display what is known as light sampling and will emerge and return through flying access points until surrounding night time light levels are sufficiently low for safe commuting and for nocturnal insects to be flying.
- 7.4 Lesser Horseshoe bats were observed flying within this passageway and open roof void above during emergence surveys and so are familiar with this structure.
- 7.5 A lighting strategy for the site should be drawn up in accordance with Guidance Note 8 Bats and Artificial Lighting at night ILP/BCT 2023 <https://theilp.org.uk/publication/guidance-note-8-bats-and-artificial-lighting/>
- 7.6 A key element of this strategy should be the use of low transmittance glass to minimise the risk of spillage of domestic lighting on the routes used by Lesser Horseshoe bats emerging from the roost at dusk and careful design of external lighting.

8 APPENDICES

Appendix 1 Site photographs

Building 3	
	
Southern elevation of building 3 showing growth of colonising ivy, intersection of the roof with building 9 and passageway between buildings 8 and 9	Western gable end of building 3
	
Timber and corrugated metal door with timber frame and likely former ventilation gap above, also showing window	Undersurface of roof void of building 3 showing surrounding pitching gap
	
Undersurface of roof void of building 3 showing surrounding pitching gap	Gap between rafters of roof frame where the roof of building 3 intersects with the roof of building 9 (location of known Lesser Horseshoe bat roost)



Roof void of building 3 taken by inserting camera through pitching gap
Building 2



Northern elevation of building 2



Western elevation of building 2 showing
intersection with building 3



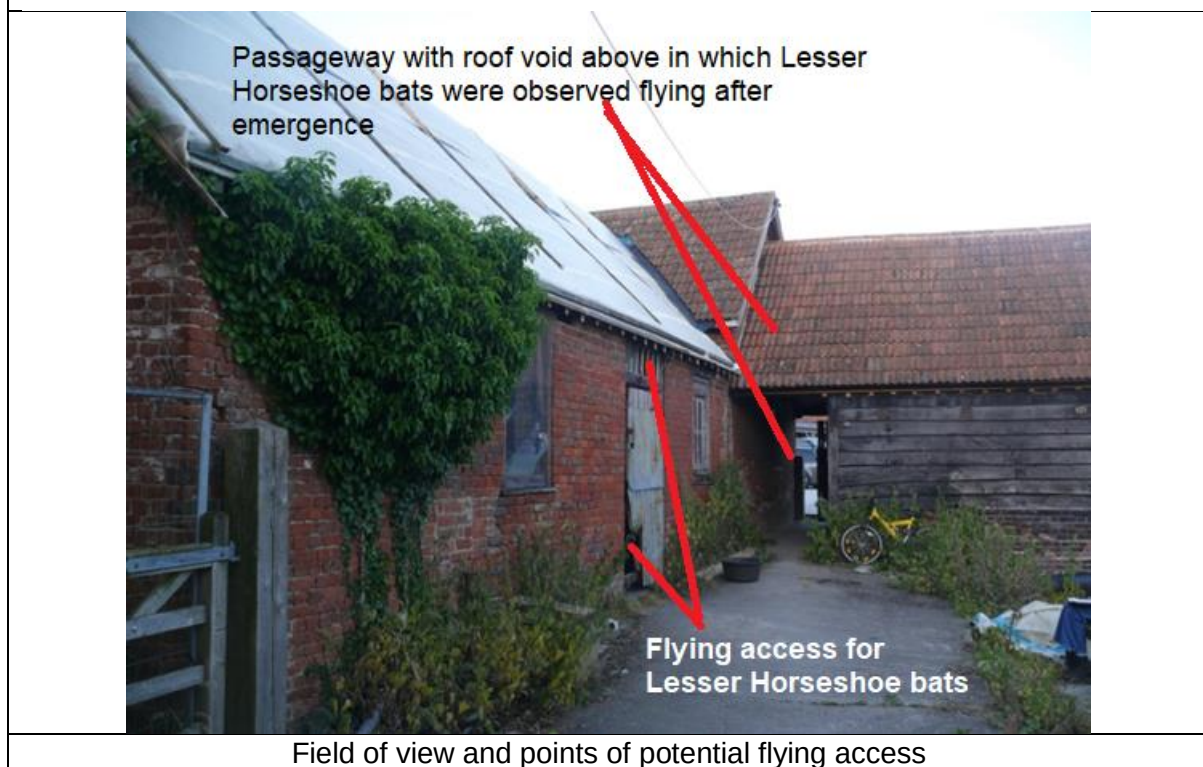
Eastern interior of building 2



Western interior of building 2

	
Unlined under surface of corrugated sheet metal roof covering and timber roof frame	Single skinned weatherboarding which tops the northern rear wall of building 2,
	
Light entering the dark interior of building 2 where corrugated metal roof sheet overlap	Intersection of roof frames of building 2, 3 and 9

Appendix 2 Results of bat activity surveys



Sunset time: 21:15	Start time: 20:45	Survey end time: 22:30	Temp: 20%	Wind force: 0	Cloud cover: 0	Precipitation: 0
No	Time	Species/frequency	Activity	Detected/seen	Comments	

1	21:48 hrs	Lesser Horseshoe bat 106kHz	Emerging	Detected and seen	First bat observed emerging
2	22:20 hrs	Lesser Horseshoe bat 106kHz	Emerging	Detected and seen	Last bat observed emerging

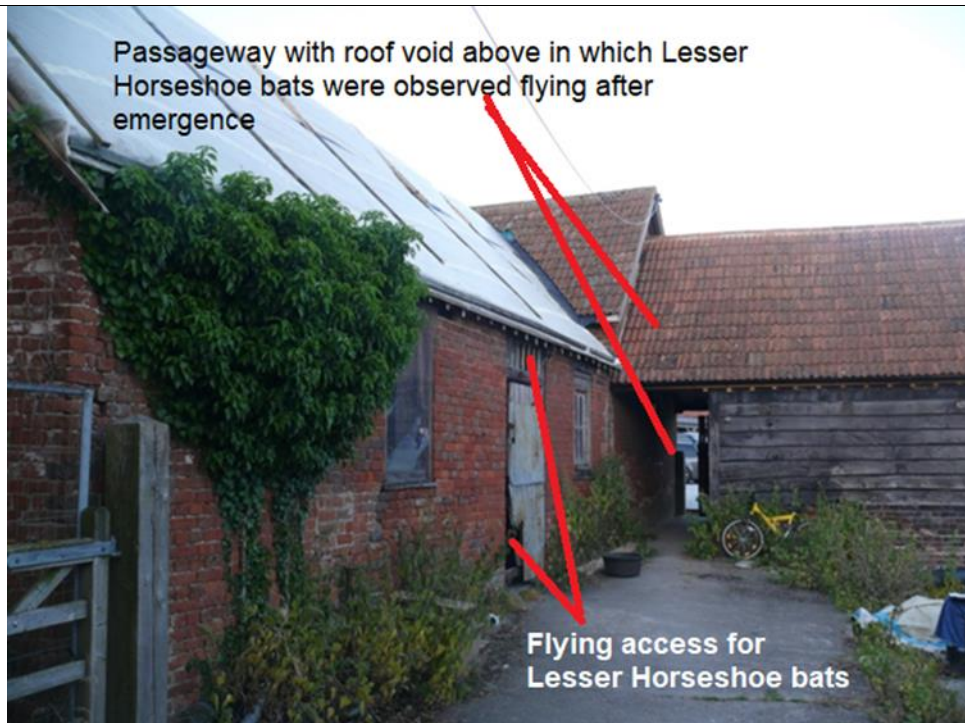
Observations: The focus of this survey was to confirm the route of flying access used by Lesser Horseshoe bats, estimate the number of bats present, their direction of flight following emergence and to determine if other bat species were roosting in the building surveyed.

Lesser Horseshoe bats commenced emerging at 21:48 hrs and this activity continued until 22:10 hrs. During this time 16 Lesser Horseshoe bats were counted out and 7 bats flew back into the building. Bats flew out and into the building using the ventilation gap at the top of the door and also the gap in the lower section created to allow access by domestic dogs.

Emerging Lesser Horseshoe bats flew off towards the west and to the east but also used the passageway which is open to the rafters in which to fly after emergence before flying off again towards the west across the adjacent parking area and to the west where the garden of the farmhouse is present.

No other bat species were observed emerging from the structure of the building, from the roof above the passage way or from the western roof slope where building 3 intersects with the roof of building 9 where the known bat roost is present in the roof void.

Building 3
Evening emergence survey
3 August 2023



Potential bat roost features and field of view

Sunset time: 20:53	Start time:20:30	Survey end time: 22:30	Temp: 20°C	Wind force: 0	Cloud cover: 0	Precipitation: 0
No	Time	Species/frequency	Activity	Detected/seen	Comments	

1	21:15 hrs	Lesser Horseshoe bat 106kHz	Emerging	Detected and seen	First bat observed emerging
2	22:00	Lesser Horseshoe bat 106kHz	Emerging	Detected and seen	Last bat observed emerging

Observations: Subsequent to the survey of 1 June 2023 the purpose of this survey was to confirm the continued presence of Lesser Horseshoe bats in the known roost, to estimate the numbers present and to determine if other bat species were present in the building.

Lesser Horseshoe bats again emerged from gaps in the door on the southern elevation and flew off to the south west and south east. Again bats spent some time flying in the passageway to the east before flying off from both the western and eastern openings of the passageway.

The pattern of bat emergence was similar to that of previous survey with bats flying in and out of the gaps in the door with 14 bats observed emerging and 5 re-entering the building.

No other bat species were observed emerging from the structure of the building, from the roof above the passage way or from the western roof slope where building 3 intersects with the roof of building 9 where the known bat roost is present in the roof void.

Survey of building 9 where known Lesser Horseshoe bat roost is present 24 August 2023



Eastern elevation of building showing dormer structure with timber doors which is the only means of physical access to the interior of roof void



Interior of roof void showing deposit of bat droppings on floor below the line of the central ridge beam



Intersection of roof frame with building 3 showing gaps between beams

An internal inspection of the roof void where the known Lesser Horseshoe bat roost is present was carried out. The purpose of the survey was to attempt a late summer estimate the number of bats present.

Access to the roof void was by means of a scaffold tower to the dormer structure with timber doors present on the eastern roof slope. These doors were carefully opened but it became clear that only a visual survey would be possible because of the fragile structure of the floor. This was covered by a thin opaque plastic sheet through which the out line of the unboarded floor joists could be seen.

Bat numbers were therefore estimated from the distribution and quantity of the bat droppings deposited on the roof void floor. During this survey the echolocation calls of Lesser Horseshoe bats were heard on an Elekon bat detector.

A thin line of bat droppings was present on the roof void floor below the line of the entral ridge beam suggesting that the roof void was being used regularly by low numbers of Lesser Horseshoe bats. This would be in keeping with the estimated number of bats observed emerging.

**Building 2 and western gable end of bulding 3
Evening emergence survey
1 June 2023**



Potential bat roost features and field of view



Sunset time: 21:15	Start time: 20:45	Survey end time: 22:30	Temp: 20%	Wind force: 0	Cloud cover: 0	Precipitation: 0
No	Time	Species/frequency	Activity	Detected/seen	Comments	
1	21:36	Serotine 23kHz	Commuting	Detected not seen	Heard distantly	
2	21:43	Common pipistrelle 45kHz	Commuting	Detected not seen	Flew south/north through gap between buildings	
3	21:41	Common pipistrelles x 3 45kHz	Commuting	Detected and seen	Flew through gap between buildings	
4	21:50	Common pipistrelle 45kHz	Feeding and flying	Detected and seen	Flew through gap between buildings and flew and fed for some time on the green to the north of the adjacent farmhouse alongside the road	
5	21:54	Lesser Horseshoe bats	Flying but not emerging	Detected and seen	Flying in the dark interior of the single storey lean-to	

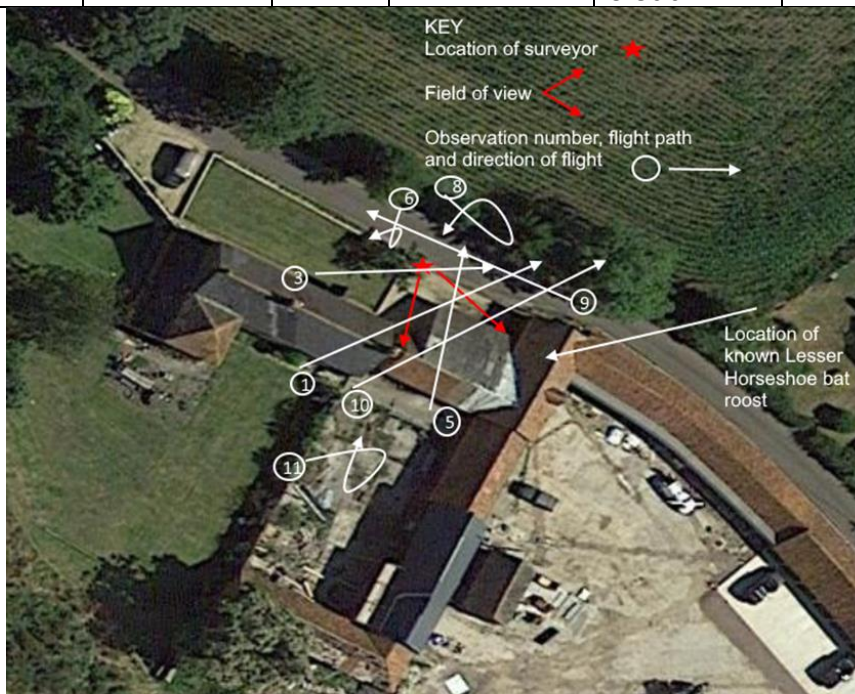
Observations: Bat activity levels were low and dominated by Common pipistrelles with a single Serotine bat detected during survey. Because of the direct connectivity of building 2 with the roof voids of buildings 2 and 9 a check was made prior to commencement of survey of the dark interior of building 2 for the physical presence of Lesser Horseshoes bats. None were found. However, during survey a brief check was made of the interior of building 2 and the echolocation calls of Lesser Horseshoe bats were immediately heard. A precise count was not possible but it was estimated that approximately 6 Lesser Horseshoe bats were flying with the dark interior and could be seen crossing the beam of a hand held torch. No Lesser Horseshoe bats were observed emerging and no other bat specie were observed emerging from any other part of the building structure.

**Building 2 and western gable end of building 3
Evening emergence survey
6 July 2023**



Field of view and potential bat roost features

Sunset time: 21:20	Start time: 20:45	Survey end time: 23:00	Temp: 18°C	Wind force: 0	Cloud cover: 50% high light cloud	Precipitation: 0
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No	Time	Species/frequency	Activity	Detected/seen	Comments
1	21:40	Common pipistrelle 45kHz	Commuting	Detected and seen	Flew from behind farmhouse

2	21:47	Common pipistrelle 45kHz	Commuting	Detected	Heard distantly
3	21:50	Common pipistrelle 45kHz	Commuting	Detected and seen	Flew from behind farmhouse
4	21:54	Noctule 18kHz	Commuting	Detected	Heard distantly
5	21:58	Common pipistrelle 45kHz	Commuting	Detected and seen	Flew in above barn
6	22:00	Common pipistrelle 45kHz	Feeding	Detected and seen	Feeding around surveyor
7	22:01	Common pipistrelle 45kHz	Commuting	Detected	Heard in local area
8	22:02	Common pipistrelle 45kHz	Feeding	Detected and seen	Feeding around surveyor
9	22:05	Common pipistrelle 45kHz	Feeding	Detected and seen	Feeding along the road
10	22:05	Common pipistrelle 45kHz	Commuting	Detected and seen	Flew in between buildings
11	22:08	Common pipistrelle 45kHz	Feeding	Detected and seen	Feeding in garden area

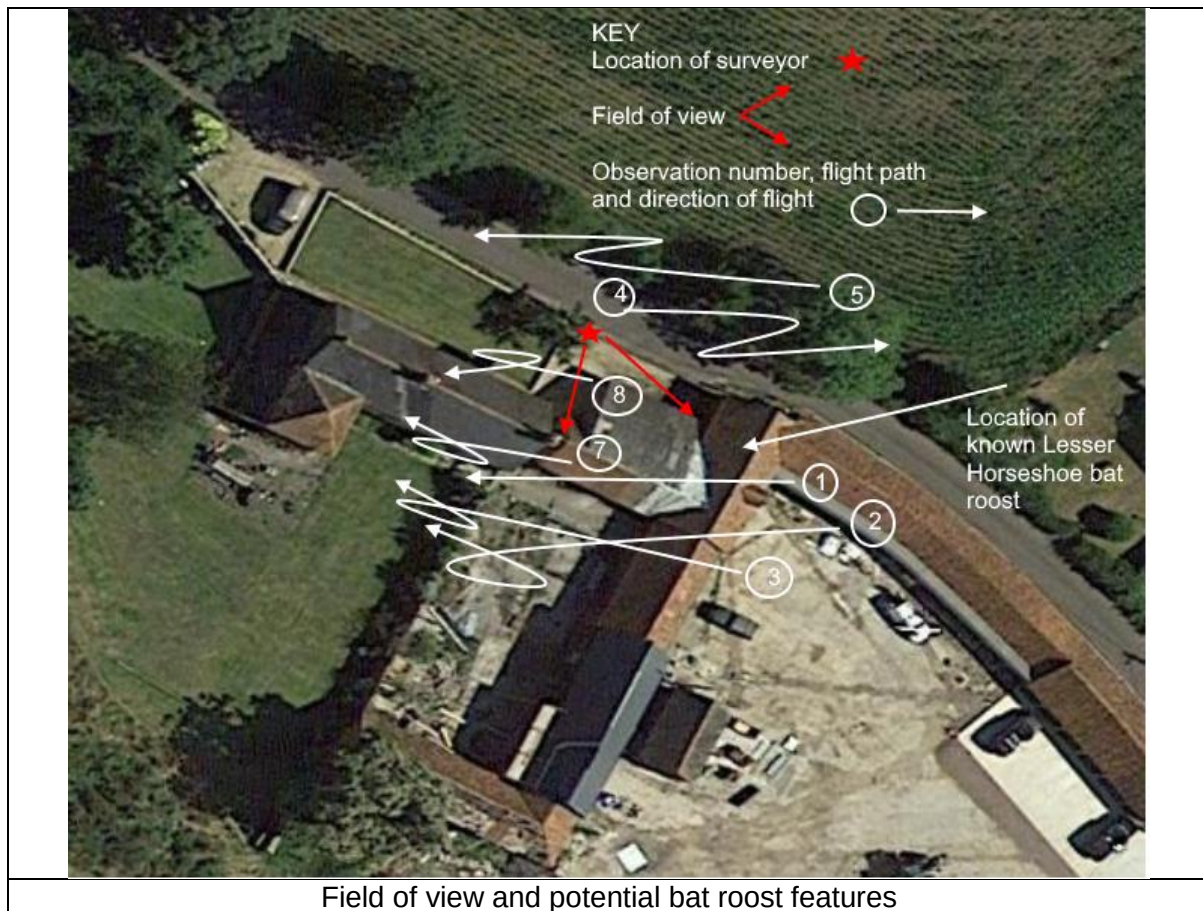
Observations: Survey was dominated by Common pipistrelle with high levels of activity. These bats appeared to fly into the site from the south west. No bats were observed emerging from any part of the building structure.

Again Lesser Horseshoe bats were observed and detected with the dark building interior but none were observed emerging.

**Building 2 and western gable end of building 3
Evening emergence survey
3 August 2023**



Potential bat roost features and field of view



No	Time	Species/frequency	Activity	Detected/seen	Comments
Sunset time: 20:53	Start time: 20:30	Survey end time: 22:30	Temp: 20°C	Wind force: 0 Cloud cover: 0	Precipitation: 0
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4	21:50	Common pipistrelles x 2 45kHz	Feeding and flying	Detected and seen	Flew through gap between buildings and flew and fed for some time on the green to the north of the adjacent farmhouse alongside the road
5	21:54	Lesser Horseshoe bats	Flying but not emerging	Detected and seen	Flying in the dark interior of the

					single storey lean-to
Observations: No bats were observed emerging from the single storey lean but again Lesser Horseshoe bats were observed flying and detected within the dark interior. None of these bats emerged from the building. These bats appear to be entering the single storey lean-to to fly through intersections of the roof frame of building 2 with the roof frame of the building where the known Lesser Horseshoe bat roost is present.					

Appendix 3 Summary of legislation relating to bats

All species of British bat are listed in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and Schedule 2 of the European Conservation (Natural Habitats etc.) Regulations 1994. As well as giving full protection from intentional and deliberate killing, injuring, disturbing and taking of bats, the cited legislation protects bat breeding and resting places (roosts) from damage, destruction and preventing access to such places. The legislation regarding roosts applies irrespective of whether the bats are present or not. The Countryside and Rights of Way Act 2000 added the word “reckless” to existing protection against “intentional and deliberate” actions. □The law requires that reasonable effort be made to ensure that any actions, plans or projects do not detrimentally affect bats or their roosts. Proposed developments that affect bats or bat roosts may require a licence from Natural England. The threshold above which a person will commit the offence of deliberately disturbing bats has been raised. Now, a person will commit an offence only if he deliberately disturbs such animals in a way as to be likely significantly to affect (a) the ability of any significant groups of animals of that species to survive, breed, or rear or nurture their young, or (b) the local distribution of abundance of that species. However, the recent amendments to the Habitat Regulations have also removed many of the defences. This includes the commonly relied upon ‘incidental result defence’, which previously covered acts that were the incidental result of an otherwise lawful activity and which could not reasonably have been avoided. If the work cannot be done in a manner that does not affect the bats and their roosts, and a licence is needed, the licence application must include a Method Statement detailing measures to be taken to avoid, mitigate or compensate for any potential impacts upon bats. Note that Natural England requires 30 working days to process licence applications. These are usually applied for upon granting of planning permission – although, due to a recent change in licensing arrangements, licences can now be applied for in advance of planning permission but the Method Statement in the licence (which is a legally binding document) must concur with the detail of the planning permission.

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All reasonable effort was taken to ensure an accurate assessment of the situation at the time of the survey. However, the absence of recorded presence or sign should not be taken as an absolute guarantee that the site was not being used by a particular species. There is also no guarantee that any particular species will not use the site at any time in the future. Survey results may be weather or seasonally dependent. Any interpretation of legislation is based on our understanding and experience of the law. The relevant statutory authority can provide a more definitive interpretation.

This report is the responsibility of Chalkhill Environmental Consultants. It should be noted, that whilst every effort is made to meet the client's brief, no site investigation can ensure complete assessment or prediction of the natural environment.