

147 Upper Woodcote Road
Caversham
Reading
RG4 7JR

Bat Emergence Survey

Report ref.: R2520_BES_a

<i>Report Quality Control Information</i>	
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1 EXECUTIVE SUMMARY

- 1.1.1** John Wenman Ecological Consultancy LLP was instructed by Mr and Mrs Bhupinder and Tajinder Purewal to undertake a Bat Emergence Survey at 147 Upper Woodcote Road in Caversham, Reading. The survey was commissioned to accompany a householder application submitted to Reading Borough Council seeking consent for front and side rear extensions, a front porch addition and a part first floor extension (Application no.: 230726).
- 1.1.2** The Bat Emergence Survey follows a Preliminary Roost Assessment for bats (PRA) conducted by John Wenman Ecological Consultancy on the 10th July 2023 (Report ref.: R3486/a). The PRA identified potential roosting sites externally and assigned the property moderate suitability for roosting bats. In line with best practice guidance (Collins 2023), two dusk emergence surveys were carried out on the 1st and 22nd July 2024.
- 1.1.3** During the second emergence survey, one common pipistrelle (*Pipistrellus pipistrellus*) was observed emerging from behind the waney-edge cladding at the apex of the front gable. This survey data demonstrates that the waney-edge cladding on the front elevation of the house is used as a day roost by an individual common pipistrelle bat. The day roost holds site level importance and the loss of such a roost is not usually significant beyond the scale of the site (Reason & Wray 2023).
- 1.1.4** The survey data demonstrates that the householder application, which involves the removal of the waney-edge cladding on the front elevation, will result in the destruction of a common pipistrelle (*P. pipistrellus*) day roost and in the absence of mitigation measures, the works could cause disturbance, injury and/or death of bats.
- 1.1.5** A European Protected Species (EPS) mitigation licence will be required to allow the proposed works to proceed lawfully, and the survey findings establish that the site would qualify for registration under the “low impact” Bat Mitigation Class Licence WML-CL21 (BMCL). The mitigation strategy forms part of the EPS mitigation licence or BMCL application and is set out in **Section 7**. In the long-term, a replacement roosting site will be created by installing a 1FR Schwegler Bat Tube (or an approved functional equivalent) within the built fabric of a new dormer window on the front elevation – see proposed bat roost provision in **Figure 3** below.
- 1.1.6** This report contains information regarding a mobile species so it will likely be valid for up to 12 months only (CIEEM 2019b).

2 INTRODUCTION

2.1 Project Background

- 2.1.1** John Wenman Ecological Consultancy LLP was instructed by Mr and Mrs Bhupinder and Tajinder Purewal to undertake a Bat Emergence Survey at 147 Upper Woodcote Road in Caversham, Reading. The survey was commissioned to accompany a householder application submitted to Reading Borough Council seeking consent for front and side rear extensions, a front porch addition and a part first floor extension (Application no.: 230726).
- 2.1.2** The Bat Emergence Survey follows a Preliminary Roost Assessment for bats (PRA) conducted by John Wenman Ecological Consultancy on the 10th July 2023 (Report ref.: R3486/a). The PRA identified potential roosting sites externally and assigned the property moderate suitability for roosting bats. In line with best practice guidance (Collins 2023), a minimum of two dusk emergence surveys were recommended.

2.2 Site Location and Context

- 2.2.1** The property is a detached house situated to the west of Upper Woodcote Road at the junction with Blagrove Lane in Caversham, Reading (OS grid ref.: SU 69724 75978).
- 2.2.2** The house is surrounded by other residential properties and their associated gardens comprising scattered trees, shrubs and mown lawns. The landscape directly bordering the western boundary of the property is rural and falls within the Chilterns Area of Outstanding Natural Beauty (AONB); it consists of a golf course, ancient woodland and parkland, and the River Thames is situated just over 900m to the south of the property.

2.3 Report Objectives

- 2.3.1** The aim of the Bat Emergence Survey is to determine the presence or likely absence of roosting bats and to characterise the bat roost(/s) in cases where presence is confirmed. The emergence survey findings inform an impact assessment and mitigation strategy for the development proposals and ascertain whether a European Protected Species (EPS) mitigation licence would be required to allow the works to proceed lawfully.

3 LEGISLATIVE AND POLICY BACKGROUND

3.1 Relevant Legislation

3.1.1 In England and Wales, all bat species found in the wild are fully protected under the Wildlife & Countryside Act 1981 (as amended) (WCA) and Conservation of Habitats and Species Regulations 2017 (as amended); the regulations are commonly referred to as the Habitat Regulations and hereafter referred to as such. The Habitat Regulations refer to European Protected Species (EPS) and all species of bats in the United Kingdom (UK) are EPS. Although the UK left the European Union on the 31st January 2020 and is therefore no longer tied to European legislation, the Habitat Regulations have been retained in their current format.

3.1.2 The legal framework underpinned by the WCA and Habitat Regulations makes these specific actions an offence as follows:

- Deliberately kill, injure, capture or take a wild bat;
- Deliberately, intentionally or recklessly disturb bats; in particular any disturbance which is likely to impair their ability to survive, to breed or reproduce, to rear or nurture their young, to hibernate or migrate, or to significantly affect local distribution or abundance;
- Damage or destroy a place used by a bat for breeding or resting; and
- Intentionally or recklessly obstruct access to any place used by a bat for shelter or protection.

3.2 Planning Policy

3.2.1 The biodiversity duty imposed through the Environment Act 2021 states that Local Planning Authorities (LPAs) must consider what action they can take to conserve and enhance biodiversity in England. Government planning policy, such as the ODPM Circular 06/2005, requires LPAs to account for the conservation of protected species when considering and determining planning applications.

3.2.2 The ODPM Circular 06/2005 states that *'the presence of a protected species is a material consideration when a planning authority is considering a development proposal that, if carried out, would be likely to result in harm to the species or its habitat.'* This policy means that in instances where there is a reasonable likelihood of bats being present and affected by a development, surveys must be undertaken to inform a mitigation strategy to be agreed prior to granting planning permission.

3.3 Mitigation Licensing

3.3.1 The government's statutory nature conservation body, Natural England, is responsible for issuing European Protected Species (EPS) mitigation licences that would permit activities that would otherwise lead to an infringement of the Habitat Regulations. An EPS mitigation licence can be issued if the following three tests derived from Regulation 55 have been satisfied:

- (2)(e) – the derogation is for the purposes of *'preserving public health or public safety or other imperative reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment.'*
- (9)(a) – there is *'no satisfactory alternative'* to the derogation; and
- (9)(b) – *'the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.'*

3.3.2 LPAs have a statutory duty under Regulation 7(3)(e) of the Habitat Regulations to consider and determine whether these three tests are likely to be satisfied by planning proposals affecting EPS before granting planning permission. If an EPS mitigation licence is necessary, a licence can be sought once all the necessary planning consents have been granted. Natural England aims to issue a decision on licence applications within 30 working days of submission.

3.3.3 The Bat Mitigation Class Licence (BMCL) scheme allows ecologists to apply to become Registered Consultants to use this licence for low conservation status roosts, i.e. roosts comprising small numbers of seven commonly occurring species. A site registration form must be completed as a condition of the licence and submitted to Natural England at least three weeks before the licensable activities are due to start; Natural England aims to register sites within two weeks of submission.

3.3.4 Baseline survey information supporting EPS mitigation licence applications or BMCL site registrations must be up-to-date and have been completed within the current or most recent optimal season. A suitably experienced ecologist will be required to undertake a site walkover/check within three months prior to application/registration submission to confirm that conditions have not changed since the most recent survey.

4 SURVEY METHODOLOGY

4.1 Background Data Search

- 4.1.1** The Berks & South Bucks Bat Group were commissioned to undertake a search of their records within a 2 kilometre radius of the property.

4.2 Emergence Survey

- 4.2.1** In accordance with best practice guidance (Collins 2023), two dusk emergence surveys were conducted for the property on the 1st and 22nd July 2024 by experienced bat surveyors John Wenman (CL18: 2016-23859-CLS-CLS), Conor Watson ACIEEM (CL18: 2024-11877-CL18-BAT) and Sam Wenman. Two surveyors covered all aspects of the property during each survey – refer to emergence survey plan in **Section 5** below.

- 4.2.2** The equipment used during the survey included full-spectrum sampling bat detectors (Batlogger M; Batlogger M2; and EchoMeter Touch 2 Pro) and infrared/thermal imaging night vision aids (Nightfox Whisker binoculars; Sionyx Aurora Pro with infrared torch; and Sionyx Sport with infrared torch). A still shot of the darkest point of the survey has been included for all night vision aids in **Appendix 1**.

- 4.2.3** Each emergence survey started 15 minutes before sunset and continued for 1 hour and 30 minutes after sunset. The bat call recordings were processed and analysed using the BatExplorer computer software package and the night vision video footage was reviewed in VLC media player.

4.3 Survey Limitations and Report Validity

- 4.3.1** There were no significant constraints to the bat emergence surveys, which were undertaken during the optimal survey season, i.e. May to August, in conditions suitable for bat activity, i.e. dry and calm with air temperatures 10°C or above at sunset (Collins 2023).
- 4.3.2** This report contains information regarding a mobile species so it will likely be valid for up to 12 months only (CIEEM 2019b).

5 SURVEY RESULTS

5.1 Overview

- 5.1.1** The results from the Berks & South Bucks Bat Group data search are detailed below. The bat emergence survey findings are described, summarised in **Tables 1-4** and illustrated in **Figures 1, 2 & 3** below; the raw detector data is supplied in **Appendix 2**.

5.2 Background Data Search

- 5.2.1** The data search revealed that at least nine species have been recorded locally within the last 10 years: serotine (*Eptesicus serotinus*), Daubenton's (*Myotis daubentonii*), Natterer's (*Myotis nattereri*), Leisler's (*Nyctalus leisleri*), noctule (*Nyctalus noctula*), Nathusius' (*Myotis nathusii*), common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*) and brown long-eared (*Plecotus auritus*).
- 5.2.2** The nearest roost record (with at least 100m precision) is 0.5 kilometres away along Blagrove Lane where a voluntary roost visit found common pipistrelle (*P. pipistrellus*) on the 21st July 2015. The next closest roost record (with at least 100m precision) is 0.7 kilometres away on Upper Warren Avenue, where soprano pipistrelle bats (*P. pygmaeus*) were recorded emerging/re-entering in low numbers during surveys in June and July 2017. Another roost record (with at least 100m precision) is 0.7 kilometres away at Shepherds Lane where nine long-eared bat (*Plecotus* sp.) droppings were found in a roof space on the 4th September 2017.

5.3 Emergence Surveys

1st July 2024

- 5.3.1** No bats were recorded emerging from the property.

Table 1. Weather conditions and survey timings

Weather	Wind (BF0-12)	Cloud cover (oktas)	Rain	Temperature (°C)	
	Start	Finish			
	2-3	8/8	None	18	17
Start	21:09	Sunset	21:24	Finish	22:54

Table 2a. Surveyor recordings at location 1

Species	Recordings*	Emergences†	Time of first call (minutes after sunset)
Noctule	13	0	21:26 (2)
Common pipistrelle	18	0	21:36 (12)

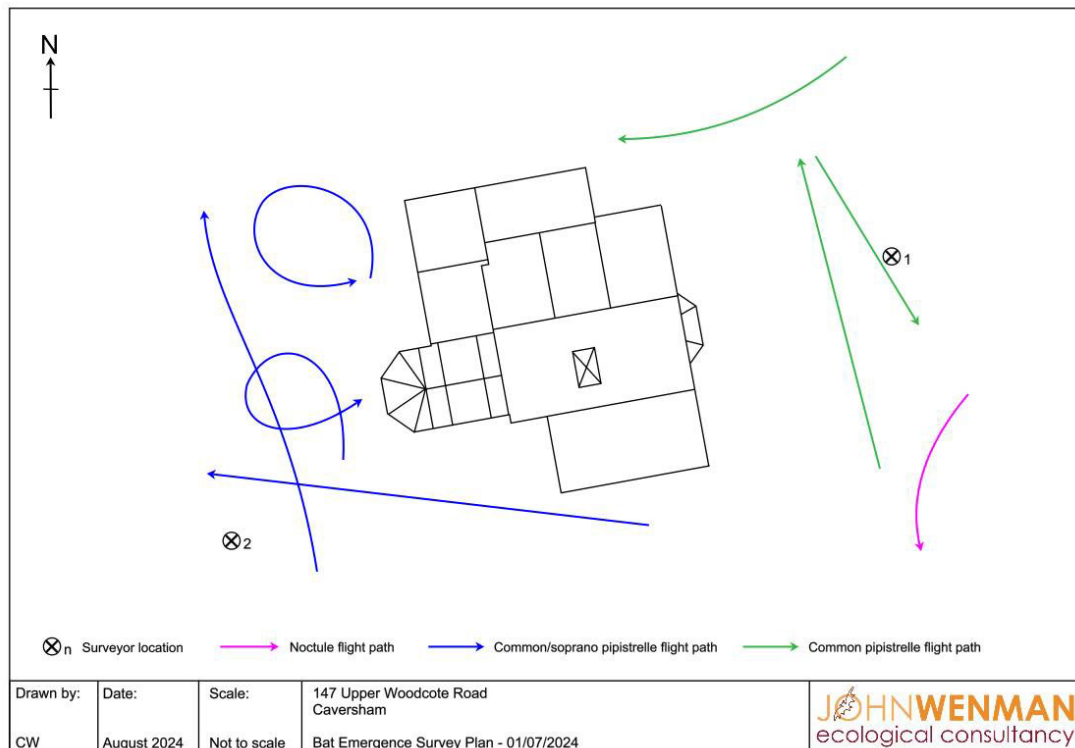
Table 2b. Surveyor recordings at location 2

Species	Recordings*	Emergences†	Time of first call (minutes after sunset)
Noctule	13	0	21:31 (7)
Soprano pipistrelle	30	0	21:35 (11)
Common pipistrelle	84	0	21:46 (22)
Myotis species	1	0	22:53 (89)

*recordings are the number of times that the detector was triggered when bat calls were detected.

†confirmed by direct observation and/or night vision aid.

5.3.2 Early noctule (*N. noctula*) recordings indicated that a roost is present in the local area. A soprano pipistrelle (*P. pygmaeus*) was recorded at 21:35 at surveyor location 2 and a common pipistrelle (*P. pipistrellus*) was recorded at 21:36 at surveyor location 1; both of these bats were considered likely to be roosting nearby. Noctule (*N. noctula*) and pipistrelle (*Pipistrellus* spp.) commuting and foraging activity was recorded throughout the survey, particularly in the rear garden at surveyor location 2. A *Myotis* species was recorded at surveyor location 2 at 22:53, just before the end of the survey.

Figure 1. Bat Emergence Survey Plan on 1st July 2024.

22nd July 2024

5.3.3 At 21:30, one common pipistrelle (*P. pipistrellus*) was observed emerging from behind the waney-edge cladding at the apex of the front gable (surveyor location 1).

Table 3. Weather conditions and survey timings

Weather	Wind (BF0-12)	Cloud cover (oktas)	Rain	Temperature (°C)	
	4	1/8	None	Start 20	Finish 19
Start	20:51	Sunset	21:06	Finish	22:36

Table 4a. Surveyor recordings at location 1

Species	Recordings*	Emergences†	Time of first call (minutes after sunset)
Common pipistrelle	37	1	21:18 (12)
Soprano pipistrelle	7	0	21:25 (19)
Noctule	13	0	21:29 (23)
Myotis species	6	0	22:01 (55)

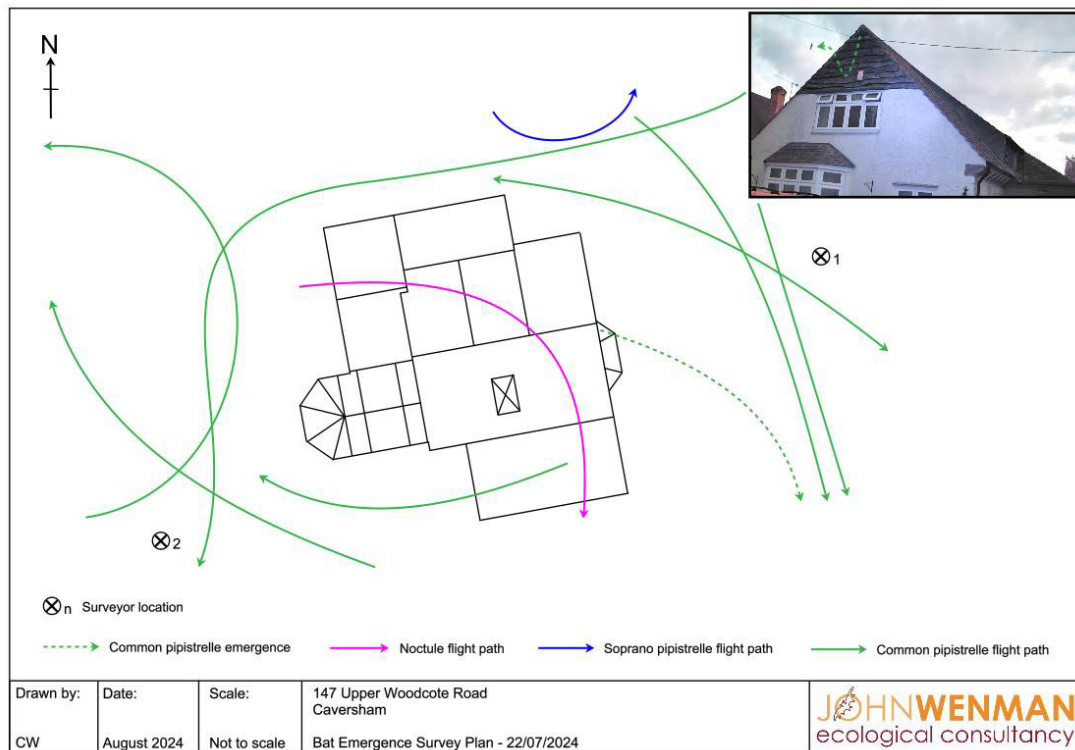
Table 4b. Surveyor recordings at location 2

Species	Recordings*	Emergences†	Time of first call (minutes after sunset)
Noctule	16	0	21:29 (23)
Common pipistrelle	67	0	21:33 (27)
Soprano pipistrelle	10	0	21:42 (36)

*recordings are the number of times that the detector was triggered when bat calls were detected.

†confirmed by direct observation and/or night vision aid.

- 5.3.4 A few common pipistrelle (*P. pipistrellus*) and soprano pipistrelle (*P. pygmaeus*) passes were recorded prior to the emergence and therefore were considered likely to be roosting nearby. Early noctule (*N. noctula*) recordings indicated that a roost is present in the local area.

Figure 2. Bat Emergence Survey Plan on 22nd July 2024.

6 DISCUSSION

6.1 Assessment of Bat Roost Status

6.1.1 During the second emergence survey, one common pipistrelle (*Pipistrellus pipistrellus*) was observed emerging from behind the waney-edge cladding at the apex of the front gable (surveyor location 1) – see **Figure 2** above. This survey data demonstrates that the waney-edge cladding on the front elevation of the house is used as a day roost by an individual common pipistrelle bat (*P. pipistrellus*).

6.1.2 Common pipistrelle (*P. pipistrellus*) is one of the most abundant and widespread bat species in Great Britain. This species occurs in almost any habitat type and is well adapted to the built environments; they are one of the species most regularly reported roosting in houses and churches (Mathews et al. 2018). The common pipistrelle (*P. pipistrellus*) day roost holds site level importance and the loss of such a roost is not usually significant beyond the scale of the site (Reason & Wray 2023).

6.2 Impact Assessment and Recommendations

6.2.1 The survey data demonstrates that the householder application (Application no.: 230726), which involves the removal of the waney-edge cladding on the front elevation (refer to planning drawings in **Appendix 3**), will result in the destruction of a common pipistrelle (*P. pipistrellus*) day roost and in the absence of mitigation measures, the works could cause disturbance, injury and/or death of bats.

6.2.2 A European Protected Species (EPS) mitigation licence will be required to allow the proposed works to proceed lawfully, and the survey findings establish that the site would qualify for registration under the “low impact” Bat Mitigation Class Licence WML-CL21 (BMCL). Under the terms of a full EPS mitigation licence or BMCL, mitigation measures will be adopted to avoid harming bats and compensation will be required in order to demonstrate that the ‘favourable conservation status’ of the local bat population will be maintained. The mitigation strategy forms part of the EPS mitigation licence or BMCL application and is set out in **Section 7** below.

7 MITIGATION STRATEGY

- 7.1.1** Before the licensable work commences, i.e. the removal of the waney-edge cladding on the front elevation, a European Protected Species (EPS) mitigation licence or confirmation of the registration of the site under the Bat Mitigation Class Licence WML-CL21 (BMCL) will be obtained; an EPS mitigation licence or BMCL can be sought once all necessary planning consents and pre-commencement wildlife and habitat conditions have been discharged.
- 7.1.2** The start of the licensable works to the property will be timed to avoid the winter hibernation period (mid-November to February inclusive) to minimise the risk of disturbing torpid bats. A general purpose woodcrete bat box, such as the 2F Schwegler Bat Box (or an approved functional equivalent), will be fixed to a mature tree or purpose-built pole on site before the licensable works begin and will be in place for a minimum of five years. **N.B. boxes can only be removed after five years if no evidence of use by bats is found but we recommend that they are retained as a permanent roost feature for bats.**
- 7.1.3** Prior to licensable works commencing, the licensed ecologist or 'Registered Consultant' (if working under the BMCL) will provide a toolbox talk to all contractors on site detailing that bats are present, the legislation protecting bats, the location of the bat roosts, good working practices, the measures that are required to protect bats during the work and what to do if bats are found. A copy of the licence will be available for inspection on site during all licensable works.
- 7.1.4** A 'soft strip' approach to the work will be adopted, i.e. the removal of the waney-edge cladding on the front elevation by gloved hands and handheld tools, under the supervision of the licensed ecologist or 'Registered Consultant'. If bats are discovered during the course of the work, the licensed ecologist or 'Registered Consultant' will capture the bats and transfer them directly to the bat box erected in advance of the works.
- 7.1.5** In the long-term, a replacement roosting site suitable for use as a common pipistrelle (*Pipistrellus pipistrellus*) day roost will be incorporated into the planning proposals. The replacement roosting site will be created by installing a 1FR Schwegler Bat Tube (or an approved functional equivalent) within the built fabric of a new dormer window on the front elevation – see proposed bat roost provision in **Figure 3** below.

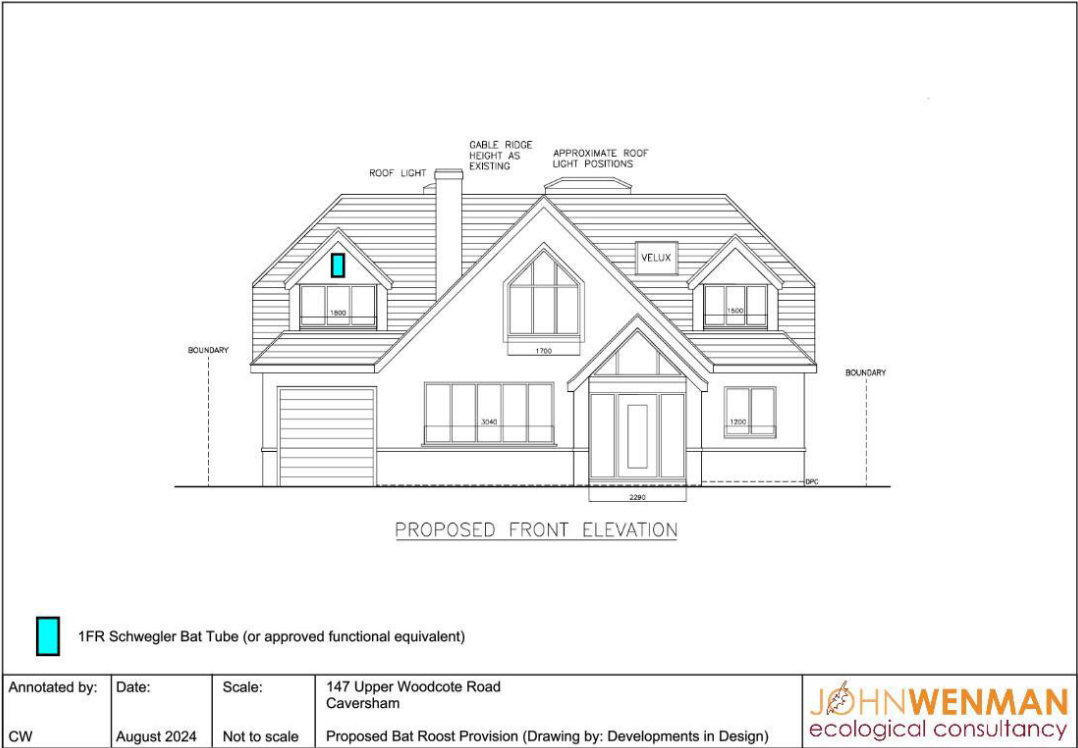


Figure 3. Proposed Bat Roost Provision.

8 REFERENCES

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APPENDIX 1 – DARKEST POINT OF SURVEY FOR NIGHT VISION AIDS

1st July 2024



Sionyx Aurora Pro at surveyor location 1.



Sionyx Sport at surveyor location 2.

22nd July 2024



Sionyx Aurora Pro at surveyor location 1.



Nightfox Whisker at surveyor location 2.

APPENDIX 2 – BAT EMERGENCE SURVEY RAW DATA TABLES

2nd July 2024

Surveyor location 1 – EchoMeter Touch 2 Pro

Time	Species
21:26:41	<i>Nyctalus noctula</i>
21:30:53	<i>Nyctalus noctula</i>
21:31:13	<i>Nyctalus noctula</i>
21:35:19	<i>Nyctalus noctula</i>
21:36:25	<i>Pipistrellus pipistrellus</i>
21:37:05	<i>Pipistrellus pipistrellus</i>
21:42:19	<i>Pipistrellus pipistrellus</i>
21:44:34	<i>Nyctalus noctula</i>
21:46:44	<i>Nyctalus noctula</i>
21:50:10	<i>Nyctalus noctula</i>
21:52:03	<i>Pipistrellus pipistrellus</i>
21:55:19	<i>Nyctalus noctula</i>
21:55:35	<i>Nyctalus noctula</i>
21:56:44	<i>Pipistrellus pipistrellus</i>
21:58:08	<i>Pipistrellus pipistrellus</i>

21:58:36	<i>Pipistrellus pipistrellus</i>
22:00:16	<i>Pipistrellus pipistrellus</i>
22:01:00	<i>Pipistrellus pipistrellus</i>
22:01:07	<i>Pipistrellus pipistrellus</i>
22:01:21	<i>Pipistrellus pipistrellus</i>
22:01:31	<i>Pipistrellus pipistrellus</i>
22:02:07	<i>Pipistrellus pipistrellus</i>
22:14:41	<i>Pipistrellus pipistrellus</i>
22:18:26	<i>Pipistrellus pipistrellus</i>
22:20:34	<i>Nyctalus noctula</i>
22:20:55	<i>Nyctalus noctula</i>
22:22:08	<i>Pipistrellus pipistrellus</i>
22:25:29	<i>Nyctalus noctula</i>
22:29:13	<i>Pipistrellus pipistrellus</i>
22:31:22	<i>Pipistrellus pipistrellus</i>
22:31:40	<i>Nyctalus noctula</i>

Surveyor location 2 – Batlogger M

Time	Species	Calls [#]
21:31:13	<i>Nyctalus noctula</i>	2
21:31:16	<i>Nyctalus noctula</i>	4
21:35:19	<i>Nyctalus noctula</i>	1
21:35:22	<i>Nyctalus noctula</i>	17
21:35:34	<i>Pipistrellus pygmaeus</i>	0*
21:35:36	<i>Pipistrellus pygmaeus</i>	3
21:40:46	<i>Pipistrellus pygmaeus</i>	4
21:46:06	<i>Pipistrellus pipistrellus</i>	0*
21:46:12	<i>Pipistrellus pipistrellus</i>	1
21:46:22	<i>Pipistrellus pipistrellus</i>	1
21:46:42	<i>Pipistrellus pipistrellus</i>	1
21:46:48	<i>Nyctalus noctula</i>	6
21:46:59	<i>Pipistrellus pipistrellus</i>	2
21:47:10	<i>Pipistrellus pipistrellus</i>	1
21:47:36	<i>Pipistrellus pipistrellus</i>	1
21:47:43	<i>Pipistrellus pipistrellus</i>	0*
21:47:49	<i>Pipistrellus pipistrellus</i>	2
21:48:27	<i>Pipistrellus pipistrellus</i>	1
21:48:30	<i>Pipistrellus pipistrellus</i>	0*
21:48:36	<i>Pipistrellus pipistrellus</i>	2
21:48:40	<i>Pipistrellus pipistrellus</i>	2
21:48:46	<i>Pipistrellus pipistrellus</i>	0*
21:49:10	<i>Pipistrellus pipistrellus</i>	1
21:49:17	<i>Pipistrellus pygmaeus</i>	9

21:49:22	<i>Pipistrellus pipistrellus</i>	1
21:49:29	<i>Pipistrellus pipistrellus</i>	0*
21:49:32	<i>Pipistrellus pipistrellus</i>	3
21:49:32	<i>Pipistrellus pygmaeus</i>	2
21:49:59	<i>Pipistrellus pygmaeus</i>	6
21:49:59	<i>Pipistrellus pipistrellus</i>	3
21:49:59	<i>Pipistrellus pipistrellus</i>	1
21:50:07	<i>Pipistrellus pipistrellus</i>	0*
21:50:11	<i>Pipistrellus pipistrellus</i>	1
21:50:15	<i>Nyctalus noctula</i>	2
21:50:18	<i>Nyctalus noctula</i>	22
21:50:33	<i>Pipistrellus pipistrellus</i>	4
21:50:44	<i>Pipistrellus pipistrellus</i>	8
21:50:48	<i>Pipistrellus pipistrellus</i>	46
21:51:34	<i>Pipistrellus pipistrellus</i>	1
21:51:44	<i>Pipistrellus pipistrellus</i>	1
21:51:51	<i>Pipistrellus pygmaeus</i>	10
21:51:59	<i>Pipistrellus pipistrellus</i>	1
21:52:02	<i>Pipistrellus pipistrellus</i>	38
21:52:15	<i>Pipistrellus pipistrellus</i>	29
21:52:26	<i>Pipistrellus pipistrellus</i>	47
21:52:39	<i>Pipistrellus pipistrellus</i>	16
21:54:29	<i>Pipistrellus pipistrellus</i>	0*
21:55:20	<i>Nyctalus noctula</i>	7
21:55:26	<i>Nyctalus noctula</i>	19

21:55:39	<i>Nyctalus noctula</i>	4
21:55:41	<i>Pipistrellus pipistrellus</i>	0*
21:55:44	<i>Pipistrellus pipistrellus</i>	51
21:55:44	<i>Pipistrellus pygmaeus</i>	10
21:55:44	<i>Pipistrellus pipistrellus</i>	1
21:56:02	<i>Pipistrellus pipistrellus</i>	5
21:56:08	<i>Pipistrellus pipistrellus</i>	7
21:56:11	<i>Pipistrellus pipistrellus</i>	3
21:56:58	<i>Pipistrellus pipistrellus</i>	3
21:57:04	<i>Pipistrellus pipistrellus</i>	0*
21:57:07	<i>Pipistrellus pipistrellus</i>	1
21:57:18	<i>Pipistrellus pipistrellus</i>	27
21:57:37	<i>Pipistrellus pipistrellus</i>	44
21:57:51	<i>Pipistrellus pipistrellus</i>	34
21:58:05	<i>Pipistrellus pipistrellus</i>	1
21:58:22	<i>Pipistrellus pipistrellus</i>	25
21:58:22	<i>Pipistrellus pipistrellus</i>	1
21:58:40	<i>Pipistrellus pipistrellus</i>	22
21:58:56	<i>Pipistrellus pygmaeus</i>	7
21:58:56	<i>Pipistrellus pygmaeus</i>	1
21:59:47	<i>Pipistrellus pipistrellus</i>	0*
21:59:57	<i>Pipistrellus pipistrellus</i>	1
22:00:18	<i>Pipistrellus pipistrellus</i>	9
22:00:23	<i>Pipistrellus pipistrellus</i>	9
22:00:34	<i>Pipistrellus pipistrellus</i>	17
22:00:44	<i>Pipistrellus pipistrellus</i>	12
22:01:19	<i>Pipistrellus pygmaeus</i>	16
22:01:26	<i>Pipistrellus pygmaeus</i>	13
22:01:33	<i>Pipistrellus pygmaeus</i>	8
22:01:38	<i>Pipistrellus pygmaeus</i>	19
22:01:43	<i>Pipistrellus pygmaeus</i>	8
22:02:24	<i>Pipistrellus pipistrellus</i>	6
22:03:00	<i>Pipistrellus pygmaeus</i>	1
22:03:12	<i>Pipistrellus pipistrellus</i>	8
22:03:17	<i>Pipistrellus pipistrellus</i>	5
22:04:11	<i>Pipistrellus pipistrellus</i>	24
22:04:22	<i>Pipistrellus pipistrellus</i>	35
22:04:33	<i>Pipistrellus pipistrellus</i>	12
22:04:38	<i>Pipistrellus pipistrellus</i>	58
22:04:38	<i>Pipistrellus pipistrellus</i>	1
22:04:53	<i>Pipistrellus pipistrellus</i>	43
22:05:03	<i>Pipistrellus pipistrellus</i>	9

22:05:05	<i>Pipistrellus pipistrellus</i>	6
22:07:15	<i>Pipistrellus pygmaeus</i>	7
22:07:37	<i>Pipistrellus pipistrellus</i>	5
22:07:41	<i>Pipistrellus pipistrellus</i>	0*
22:08:03	<i>Pipistrellus pygmaeus</i>	26
22:08:16	<i>Pipistrellus pipistrellus</i>	3
22:08:24	<i>Pipistrellus pipistrellus</i>	5
22:08:27	<i>Pipistrellus pipistrellus</i>	17
22:08:50	<i>Pipistrellus pygmaeus</i>	7
22:08:54	<i>Pipistrellus pygmaeus</i>	22
22:08:54	<i>Pipistrellus pygmaeus</i>	1
22:09:02	<i>Pipistrellus pygmaeus</i>	49
22:12:30	<i>Pipistrellus pygmaeus</i>	12
22:12:50	<i>Pipistrellus pygmaeus</i>	37
22:13:05	<i>Pipistrellus pygmaeus</i>	3
22:13:08	<i>Pipistrellus pygmaeus</i>	21
22:19:07	<i>Pipistrellus pipistrellus</i>	17
22:19:50	<i>Pipistrellus pygmaeus</i>	1
22:20:41	<i>Nyctalus noctula</i>	6
22:21:22	<i>Pipistrellus pipistrellus</i>	1
22:22:13	<i>Pipistrellus pipistrellus</i>	13
22:25:27	<i>Nyctalus noctula</i>	2
22:25:31	<i>Nyctalus noctula</i>	8
22:28:30	<i>Pipistrellus pipistrellus</i>	1
22:28:33	<i>Pipistrellus pipistrellus</i>	23
22:30:58	<i>Pipistrellus pipistrellus</i>	9
22:31:11	<i>Pipistrellus pipistrellus</i>	28
22:31:26	<i>Pipistrellus pipistrellus</i>	2
22:31:28	<i>Pipistrellus pipistrellus</i>	4
22:36:15	<i>Pipistrellus pygmaeus</i>	1
22:37:25	<i>Pipistrellus pygmaeus</i>	3
22:37:28	<i>Pipistrellus pygmaeus</i>	13
22:43:38	<i>Pipistrellus pipistrellus</i>	3
22:43:41	<i>Pipistrellus pipistrellus</i>	3
22:45:13	<i>Pipistrellus pipistrellus</i>	10
22:47:39	<i>Pipistrellus pipistrellus</i>	2
22:53:28	<i>Myotis spec.</i>	21
0* - zero calls is when the software has not been able to recognise individual calls (distant or noise interference) and therefore cannot calculate the number of calls within the recording.		

22nd July 2024

Surveyor location 1 – Batlogger M

Time	Species	Calls [#]
21:18:58	<i>Pipistrellus pipistrellus</i>	19
21:19:42	<i>Pipistrellus pipistrellus</i>	13
21:21:17	<i>Pipistrellus pipistrellus</i>	20
21:25:57	<i>Pipistrellus pygmaeus</i>	1
21:27:41	<i>Pipistrellus pipistrellus</i>	3
21:29:26	<i>Nyctalus noctula</i>	6
21:30:16	<i>Pipistrellus pipistrellus</i>	7
21:30:23	<i>Pipistrellus pipistrellus</i>	4
21:30:47	<i>Pipistrellus pipistrellus</i>	3
21:30:52	<i>Pipistrellus pipistrellus</i>	11
21:30:59	<i>Pipistrellus pipistrellus</i>	0*
21:31:17	<i>Pipistrellus pipistrellus</i>	3
21:32:53	<i>Pipistrellus pipistrellus</i>	9
21:33:13	<i>Nyctalus noctula</i>	9
21:33:17	<i>Nyctalus noctula</i>	18
21:33:31	<i>Nyctalus noctula</i>	1
21:35:19	<i>Nyctalus noctula</i>	15
21:35:51	<i>Pipistrellus pipistrellus</i>	13
21:36:15	<i>Nyctalus noctula</i>	1
21:36:18	<i>Nyctalus noctula</i>	4
21:36:25	<i>Nyctalus noctula</i>	1
21:37:38	<i>Pipistrellus pipistrellus</i>	0
21:37:50	<i>Pipistrellus pipistrellus</i>	12
21:38:21	<i>Pipistrellus pipistrellus</i>	5
21:39:49	<i>Pipistrellus pipistrellus</i>	1
21:43:20	<i>Nyctalus noctula</i>	16
21:43:32	<i>Nyctalus noctula</i>	11
21:47:41	<i>Nyctalus noctula</i>	17
21:54:18	<i>Pipistrellus pipistrellus</i>	14
21:54:27	<i>Pipistrellus pipistrellus</i>	1
21:54:29	<i>Pipistrellus pipistrellus</i>	20
21:55:13	<i>Pipistrellus pipistrellus</i>	26
21:57:07	<i>Nyctalus noctula</i>	5

21:58:04	<i>Pipistrellus pipistrellus</i>	9
21:59:30	<i>Pipistrellus pipistrellus</i>	19
22:00:17	<i>Pipistrellus pipistrellus</i>	3
22:00:19	<i>Pipistrellus pipistrellus</i>	2
22:01:05	<i>Pipistrellus pipistrellus</i>	11
22:01:12	<i>Myotis spec.</i>	3
22:01:47	<i>Myotis spec.</i>	28
22:03:59	<i>Pipistrellus pygmaeus</i>	12
22:05:39	<i>Myotis spec.</i>	23
22:07:37	<i>Myotis spec.</i>	18
22:07:47	<i>Myotis spec.</i>	15
22:07:56	<i>Myotis spec.</i>	4
22:14:53	<i>Pipistrellus pipistrellus</i>	1
22:14:55	<i>Pipistrellus pipistrellus</i>	14
22:16:20	<i>Pipistrellus pipistrellus</i>	16
22:16:45	<i>Pipistrellus pygmaeus</i>	0*
22:16:57	<i>Pipistrellus pygmaeus</i>	2
22:20:10	<i>Pipistrellus pipistrellus</i>	22
22:20:29	<i>Pipistrellus pygmaeus</i>	5
22:26:57	<i>Pipistrellus pipistrellus</i>	8
22:29:33	<i>Pipistrellus pipistrellus</i>	23
22:32:17	<i>Pipistrellus pygmaeus</i>	2
22:32:28	<i>Pipistrellus pipistrellus</i>	2
22:32:32	<i>Pipistrellus pipistrellus</i>	2
22:32:34	<i>Pipistrellus pipistrellus</i>	3
22:32:40	<i>Pipistrellus pygmaeus</i>	21
22:32:49	<i>Nyctalus noctula</i>	7
22:34:27	<i>Pipistrellus pipistrellus</i>	8
22:35:22	<i>Pipistrellus pipistrellus</i>	7
22:35:30	<i>Pipistrellus pipistrellus</i>	1

0* - zero calls is when the software has not been able to recognise individual calls (distant or noise interference) and therefore cannot calculate the number of calls within the recording.

Surveyor location 2 – Batlogger M2

Time	Species	Calls [#]
21:29:27	<i>Nyctalus noctula</i>	3
21:33:20	<i>Nyctalus noctula</i>	7
21:33:28	<i>Pipistrellus pipistrellus</i>	2
21:33:28	<i>Nyctalus noctula</i>	1
21:35:16	<i>Nyctalus noctula</i>	2
21:35:23	<i>Nyctalus noctula</i>	6
21:35:56	<i>Pipistrellus pipistrellus</i>	6
21:36:17	<i>Nyctalus noctula</i>	3

21:37:10	<i>Pipistrellus pipistrellus</i>	1
21:37:28	<i>Pipistrellus pipistrellus</i>	4
21:37:30	<i>Pipistrellus pipistrellus</i>	10
21:37:39	<i>Pipistrellus pipistrellus</i>	8
21:37:54	<i>Pipistrellus pipistrellus</i>	0*
21:37:58	<i>Pipistrellus pipistrellus</i>	2
21:38:05	<i>Pipistrellus pipistrellus</i>	7
21:38:09	<i>Pipistrellus pipistrellus</i>	27
21:38:25	<i>Pipistrellus pipistrellus</i>	1

21:39:23	<i>Pipistrellus pipistrellus</i>	2
21:39:26	<i>Pipistrellus pipistrellus</i>	15
21:39:51	<i>Pipistrellus pipistrellus</i>	13
21:40:03	<i>Pipistrellus pipistrellus</i>	9
21:41:06	<i>Pipistrellus pipistrellus</i>	25
21:41:20	<i>Pipistrellus pipistrellus</i>	32
21:41:40	<i>Pipistrellus pipistrellus</i>	11
21:41:48	<i>Pipistrellus pipistrellus</i>	21
21:42:04	<i>Pipistrellus pygmaeus</i>	4
21:42:08	<i>Pipistrellus pipistrellus</i>	16
21:42:25	<i>Pipistrellus pipistrellus</i>	5
21:42:36	<i>Pipistrellus pipistrellus</i>	9
21:42:48	<i>Pipistrellus pipistrellus</i>	7
21:43:02	<i>Pipistrellus pipistrellus</i>	16
21:43:22	<i>Nyctalus noctula</i>	9
21:43:26	<i>Nyctalus noctula</i>	2
21:43:28	<i>Nyctalus noctula</i>	2
21:43:30	<i>Nyctalus noctula</i>	12
21:43:35	<i>Nyctalus noctula</i>	7
21:43:38	<i>Nyctalus noctula</i>	2
21:44:36	<i>Pipistrellus pipistrellus</i>	8
21:46:30	<i>Pipistrellus pipistrellus</i>	3
21:46:36	<i>Pipistrellus pipistrellus</i>	8
21:46:46	<i>Pipistrellus pipistrellus</i>	9
21:46:54	<i>Pipistrellus pipistrellus</i>	2
21:46:56	<i>Pipistrellus pipistrellus</i>	1
21:46:59	<i>Pipistrellus pipistrellus</i>	7
21:46:59	<i>Pipistrellus pygmaeus</i>	1
21:47:08	<i>Pipistrellus pipistrellus</i>	0*
21:47:15	<i>Pipistrellus pipistrellus</i>	10
21:47:31	<i>Pipistrellus pipistrellus</i>	2
21:47:42	<i>Nyctalus noctula</i>	4
21:47:44	<i>Nyctalus noctula</i>	16
21:47:44	<i>Pipistrellus pipistrellus</i>	6
21:48:16	<i>Pipistrellus pygmaeus</i>	3
21:48:50	<i>Pipistrellus pygmaeus</i>	15
21:49:04	<i>Pipistrellus pipistrellus</i>	1
21:49:13	<i>Pipistrellus pipistrellus</i>	5
21:49:18	<i>Pipistrellus pipistrellus</i>	20
21:49:28	<i>Pipistrellus pipistrellus</i>	30
21:49:43	<i>Pipistrellus pygmaeus</i>	5
21:49:47	<i>Pipistrellus pipistrellus</i>	1
21:50:18	<i>Pipistrellus pipistrellus</i>	10
21:50:25	<i>Pipistrellus pygmaeus</i>	10
21:50:48	<i>Pipistrellus pipistrellus</i>	6
21:51:06	<i>Pipistrellus pipistrellus</i>	6
21:51:20	<i>Pipistrellus pygmaeus</i>	2

21:51:25	<i>Pipistrellus pipistrellus</i>	7
21:52:12	<i>Pipistrellus pipistrellus</i>	13
21:52:53	<i>Pipistrellus pipistrellus</i>	7
21:53:03	<i>Pipistrellus pipistrellus</i>	20
21:54:00	<i>Pipistrellus pygmaeus</i>	15
21:54:17	<i>Pipistrellus pipistrellus</i>	14
21:54:22	<i>Pipistrellus pipistrellus</i>	14
21:54:26	<i>Pipistrellus pipistrellus</i>	2
21:54:29	<i>Pipistrellus pipistrellus</i>	17
21:54:41	<i>Pipistrellus pipistrellus</i>	3
21:54:54	<i>Pipistrellus pipistrellus</i>	5
21:55:20	<i>Pipistrellus pipistrellus</i>	6
21:55:44	<i>Pipistrellus pipistrellus</i>	23
21:58:23	<i>Pipistrellus pipistrellus</i>	2
21:59:31	<i>Pipistrellus pipistrellus</i>	23
22:00:16	<i>Pipistrellus pipistrellus</i>	30
22:03:03	<i>Pipistrellus pipistrellus</i>	0*
22:13:58	<i>Pipistrellus pipistrellus</i>	25
22:16:26	<i>Pipistrellus pipistrellus</i>	12
22:20:16	<i>Pipistrellus pipistrellus</i>	19
22:21:46	<i>Pipistrellus pipistrellus</i>	6
22:24:48	<i>Pipistrellus pipistrellus</i>	7
22:25:45	<i>Pipistrellus pipistrellus</i>	7
22:26:12	<i>Pipistrellus pygmaeus</i>	3
22:26:16	<i>Pipistrellus pygmaeus</i>	8
22:26:38	<i>Pipistrellus pipistrellus</i>	11
22:31:19	<i>Pipistrellus pipistrellus</i>	8
22:32:50	<i>Nyctalus noctula</i>	5
22:32:54	<i>Nyctalus noctula</i>	6

0* - zero calls is when the software has not been able to recognise individual calls (distant or noise interference) and therefore cannot calculate the number of calls within the recording.

APPENDIX 3 – PLANNING DRAWINGS

