Bat emergence survey report

Ref: 752 BERS	**Barwick road, Dover.**
Client Name:	Oliver Davis Homes
Date of Completion:	03/10/22 v1
Principal Author:	Charlie Birch

	Name	Company	Role
REPORT AUTHOR	Charlie Birch	ECOassistance	Ecologist
REPORT REVIEW	Edward Clark	ECOassistance	Principal Ecologist
SITE SURVEYOR	Edward Clark	ECOassistance	Lead surveyor
SITE SURVEYOR	Jack Clark	ECOassistance	Assistant surveyor
SITE SURVEYOR	Matt Kelk	ECOassistance	Assistant surveyor
SITE SURVEYOR	Josh Griffiths	ECOassistance	Assistant surveyor
SITE SURVEYOR	Liana Clark	ECOassistance	Assistant surveyor
SITE SURVEYOR	Mike Rivarno	ECOassistance	Assistant surveyor
SITE SURVEYOR	Charlie Birch	ECOassistance	Assistant surveyor

Executive Summary

ECOassistance were commissioned to undertake two bat emergence or return surveys at a site adjacent to Barwick road in Dover.

The survey objectives were to determine whether bats are using the areas surrounding the building for foraging and commuting and/or whether the buildings on the site are being used as a place of rest or shelter by roosting bats.

The survey findings will be used to inform whether there are constraints relating to bats which might affect redevelopment of the site; and what levels of mitigation are required to ensure there is no impact on the conservation status of any bats present.

Levels of usage are characterised in line with National guidance publications.

The main findings of the surveys were as follows:

- Moderate levels of commuting and foraging bat activity were recorded;
- Light averse species are present;
- No bats were observed entering or exiting any part of the survey buildings;
- Bat safe lighting measures to mitigate the impact of any additional artificial lighting on bats foraging and commuting routes must be followed.

Contents

Introduction

ECOassistance were instructed by Oliver Davis Homes (Hereafter: the client) to undertake two bat emergence and/or re entry surveys (BERS) on buildings at a site adjacent to Barwick road, Dover, Kent[1] (Hereafter: the site).

Bat surveys inform planning applications where proposed works have the potential to impact bats, their roosts and foraging and commuting habitats, all of which are protected by law under The Conservation of Habitats and Species Regulations 2017. Bats and their roosts are also protected under the 1981 Wildlife & Countryside Act (as amended). More information on the relevant legislation protecting bats is presented in the appendix of this document.

The BERS follows on from a Preliminary Ecological Appraisal (PEA) carried out by Native Ecology in July 2022[2] . The PEA assessed buildings B1 and B2 on the site as having 'moderate' Bat Roost Potential (BRP) and building B3 as having 'low' BRP.

Buildings with moderate BRP require a minimum of two BERS to determine likely absence of roosting bats. Buildings with low BRP require a minimum of one BERS to determine likely absence of roosting bats. If bat roosts are identified then further BERS may be required to characterise the roost to a level that is satisfactory for the Local Planning Authority (LPA) to grant planning permission and/or for the purposes of applying for a mitigation licence from Natural England (NE) should one be needed.

BERS carried out by ECOassistance follow the most up-to-date published good practice guidance for survey effort and methodology.

The key objectives of the BERS were to:

- Assess the presence or likely absence of bat roosts within the buildings;
- Assess how bats are using the areas on and around the site for foraging and commuting;
- Characterise the roost size and type if present;
- Recommend further courses of action as required.

This report describes the survey findings.

[1] The grid reference for the approximate centre of the site is: TQR298420

[2] 1034_R01_Preliminary Ecological Appraisal

Methodology

The surveys were led by Edward Clark.

Edward has more than 10 years professional and voluntary experience surveying for bats and has extensive experience in site assessment including ground-based and aerial tree surveys and cave and bridge inspections. Edward is registered to use a Level 2 Class licence (2018-33670CLS-CLS) and has held site specific bat mitigation licenses.

Assistant surveyors included Charlie Birch, Matt Kelk, Jack Clark, Josh Griffiths, Mike Rivarno and Liana Clark who have all been carrying out bat surveys for ECOassistance and other local ecological consultancies for a total of more than 18 years combined.

Two emergence surveys were undertaken on the evenings of 05/08/22 and 03/09/22 in in accordance with good practice guidelines from 15 minutes before sunset until 90 minutes afterwards in favourable weather conditions.

In line with the recently published Bat Conservation Trust (BCT) Interim Guidance Note[1] extra surveyor/survey positions were created through the use of unmanned (Canon) infra-red camera systems with infra-red torches/illuminator rigs. In addition, Canon) infra-red camera systems with infra-red torches/illuminator rigs were deployed as night vison aids (NVAs) to the human surveyors.

Dusk emergence surveys were preferred to a combination of dusk and dawn surveys following the recommendation to 'transition away from the standard use of dawn surveys, particularly as a method for presence/absence surveys, in favour of dusk surveys supported by NVAs' as set out in the Interim Guidance Note. The guidance note supersedes the 3rd edition Good Practice Guidelines (Collins, 2016).

The surveyors used Elekon Batlogger M, Batlogger M2 and Echo Meter touch 2 and Echo Meter touch 2 Pro ultrasonic bat detectors alongside Canon XF100, Canon XF200, Canon XA11 and Canon XA20 infra red video cameras with Infra red lighting rigs.

Surveyors and camera rigs were positioned around the outside of the building ensuring as many aspects as possible were visible and that bats entering or exiting the structure would be readily observed. The surveyor and camera positions are shown in figure 1 and 2 below.

[1] Use of night vision aids for bat emergence surveys and further comment on dawn surveys Bat Conservation Trust (May 2022)

Figure 1:: Surveyor/camera positions and field of view (white dotted lines) for survey 1

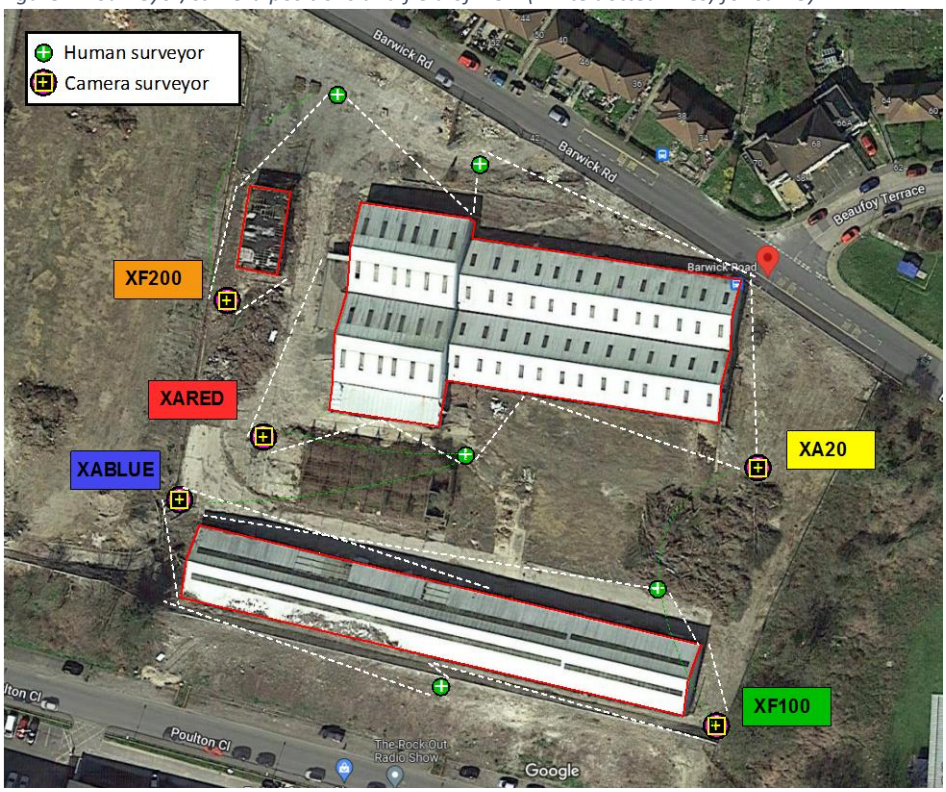

Figure 2: Surveyor/camera positions and field of view (white dotted lines) for survey 2

The location, appearance, flight characteristics and time of sightings were recorded by the site surveyors on ECOassistance BERS results forms. Additional activity or any requisite amendments were added by the video reviewers to the results forms post survey. The survey results forms are presented in the Appendix.

Bat calls were automatically recorded by the detectors to enable sound analysis where needed and post-operative sound analysis was carried out by Edward Clark and Charlie Birch using Bat explorer and kaleidoscope software. Video review was carried out by Charlie Birch and Mike Rivarno using VLC media player.

The CIEEM bat mitigation guidelines (beta version 1.0) assessment criterior and BCT Good Practice Guidelines and professional judgement were used to assign a level of importance to any bat roosts identified and assess the importance of assemblages and commuting and foraging habitats in order to:

- predict the level of impact on bats.
- determine suitable and proportionate avoidance, mitigation and enhancement measures.

Constraints and Limitations

Long eared bats of the Plecotinae often do not echolocate, instead making use of their relatively good eyesight to navigate. As a result, long eared bats more than any other UK species are likely to be under recorded during activity or emergence and re-entry surveys.

It is difficult to identify some species of bats from recordings alone. This is particularly true when trying to differentiate between the two UK resident long eared *plecotus spp*. And myotis *Myotis spp*. bats.

- The long eared bats observed during this survey are presumed to be brown long eared bat due to the location of the site and the known distribution of both grey and brown long eared bats. Grey long eared bats *Plecotus austriacus* are not known to occur in Kent.
- The myotis bats recorded have not been identified to species level. Doing so would incur extra cost and would make no difference to the recommendations of this report. Knowing the exact species would be relevant if a derogation licence to impact a roost were required.
- It is assumed that any recordings of myotis came from the same bat. It is possible that more than one species of myotis fly over or near to the site but were this to be the case, it would make no difference to the recommendations of this report.

The use of infra red videography equipment has only recently been recommended as a replacement to human surveyors. As a result, surveyor experience using the technology is in general terms relatively low. However, the use of the equipment is already proving to be an improvement on established survey techniques and the results afford more certainty into the actual behaviour of the bats observed.

The timestamps on the video footage are sometimes incorrect. As all start times and emergence times are relative to sunset it makes little difference providing the start time of the cameras is known but this does slow down the report writing process.

Results

During the surveys four species of bat were recorded flying over or near to the site. These included common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus*, an unidentified myotis and brown long eared bat.

- The earliest bats were recorded 30 minutes after sunset during survey 1 and 13 minutes after sunset during survey 2.
- The BERS results indicate that bats are not using any part of the structure as a place of rest or shelter.
- The surveyors recorded possible emergences from the survey building but review of the IR video footage showed that these did not emerge.
- At least two light averse species were recorded flying over to or near to the site.

Conclusion and Recommendations

The surveys have shown that bats are not using any part of the structure for roosting with a level of survey effort in line with current guidance.

Bats, including light averse species, use the surrounding area for commuting and foraging.

There is potential for adverse impacts to the foraging and commuting routes of bats through additional artificial lighting. Commuting and foraging routes are protected by law and therefore any adverse effects from additional artificial lighting should be mitigated in accordance with guidance issued by the Bat Conservation Trust and Institute of Lighting Professionals (ILP, 2018). These are as follows:

1. The boundary vegetation should not be illuminated so that dark flight corridors for bats are retained.
2. Directional lighting should be used to avoid unwanted spill into surrounding habitats.
3. Any external lighting should be operated with motion sensors where possible.
4. Metal halide and fluorescent sources should not be used.
5. A warm white spectrum of lamp should be used. Blue light should not be used.
6. Internal luminaires that are in close proximity to windows should be recessed, where possible, to reduce external glare and light spill and/or low emissivity glass should be used in the windows.

Enhancements

Two multi purposes bat boxes and one tree hollow type bat box with space for bats to cluster of the woodcrete type can be installed upon trees or affixed to completed properties at between 3-4m height. Bat boxes should be affixed as near as possible to the site boundaries; facing outwards towards vegetated habitat outside of the site; with an unobstructed flight path to the entrance.

Bat friendly planting of native species should be incorporated into the site's biodiversity enhancement plan to ensure biodiversity net gain (BNG) through development.

References

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Appendix 1: Review of Protected Species UK Legislation and Policy

The level of protection afforded to protected species varies dependent on the associated legislation. A full list of protected species and their specific legal protection is provided within the Schedules and/or Sections of the associated legislation. Case law may further clarify the nature of the legal protection afforded to species.
The legal protection afforded to protected species overrides all planning decisions. European Protected Species (EPS) - and the Conservation of Habitats and Species Regulations 2010 (as amended)
European Protected Species (EPS) are afforded the highest level of protection through the Conservation of Habitats and Species Regulations 2017. EPS are also afforded legal protection by parts of the Wildlife and Countryside Act 1981 (as amended).
In general, any person and/or activity that:
- Damages or destroys a breeding or resting place of an EPS. (This is sometimes referred to as the strict liability or absolute offence);
Deliberately captures, injures or kills an EPS (including their eggs);
Deliberately disturbs an EPS, and in particular disturbance likely to impair animals' ability to survive, breed or nurture young, their ability to hibernate and migrate and disturbance likely to have a significant effect on local distribution and abundance; intentionally or recklessly disturbs an EPS while occupying a structure or place used for shelter and/or protection (Wildlife and Countryside Act 198)1 (as amended); and
Intentionally or recklessly obstructs access to any structure or place that an EPS uses for shelter or protection (Wildlife and Countryside Act 1981) (as amended). may be guilty of an offence.
The legislation applies to the egg, larval and adult life stages of great crested newts and to bat roosts even when they are not occupied.
Actions affecting multiple animals can be construed as separate offences and therefore penalties can be applied per animal impacted.
Under certain circumstances licences can be granted by the Statutory Nature Conservation Organisation (Natural England in England) to permit actions that would otherwise be unlawful.
There are some very specific defences associated with the Conservation of Habitats and Species Regulations 2017. However, these are unlikely to apply to construction related projects. The Sections of the Regulations provide further details of these defences.
The Wildlife and Countryside Act (1981) includes defence for those aspects of the legislation that apply to an EPS. These defences are unlikely to apply to construction related projects and do not apply to those acts included in the Conservation of Habitats and Species Regulations 2010 (as amended). The Schedules of the Act provide further details of defences.
Local authorities have obligations under sections 40 and 41 of the Natural Environment and Rural Communities Act (NERC) 2006 to have regard to the purpose of conserving biodiversity in carrying out their duties. The majority of EPS are listed on Section 41 the NERC Act.
The Natural Environment and Rural Communities Act 2006 (as amended)

Section 41 (S41) of the Natural Environment and Rural Communities (NERC) Act (2006) requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England. The S41 list is used to guide decision-makers, including local and regional authorities, in implementing their duty under Section 40 of the act to have regard to the conservation of biodiversity in England when carrying out their normal functions. S41 lists 56 habitats and 943 species of principal importance. Section 42 of the NERC Act relates to Wales.

Wildlife and Countryside Act 1981 (as amended)

The level of protection afforded to species listed on the Wildlife and Countryside Act 1981 (as amended) varies considerably. 'Fully protected species', such as water vole, are afforded the highest level of protection. Any person who intentionally kills, injures, or takes 'fully protected species', or who intentionally or recklessly damages or destroys a structure or place used for shelter and/or protection, disturbs the animal whilst occupying a structure and/or place used for shelter and protection, or obstructs access to any structure and/or place used for shelter or protection is likely to have committed an offence. Other species, such as common reptiles, are afforded less protection and for these species it may only be an offence to intentionally or recklessly kill or injure animals.

All active bird nests, eggs and young are protected from intentional destruction. Schedule 1 listed birds are also protected from intentional and reckless disturbance whilst breeding.

Schedule 9 of The Wildlife and Countryside Act lists plant species for which it is an offence for a person to plant, or otherwise cause to grow in the wild. Schedule 9 also lists animals for which it is an offence to release into the wild. The National Planning Policy Framework

Planning policy requires new developments to take into consideration our local and national wildlife. With the objective to maintain or increase the viability of the site for wildlife. The existing proposals are considered to determine whether Habitat enhancements are offered and whether they are adequate to meet the policy requirements. Again, national, regional, county and borough policies are considered.

The National Planning Policy Framework states that the planning system should contribute to and enhance the natural and local environment by minimizing impacts on biodiversity and delivering net gains in biodiversity where possible. Ecological habitat enhancements measures need to be over and above any mitigation measures.

STATIC HUMAN SURVEYOR			
Site Name/Survey visit	Barwick Road 1	**Date**	05/08/2022
Start Time	20:20	**Surveyor**	CB
Sunset Time	20:35	**Detector number**	1818-3290
Finish Time	22:05	**Position Relative to Structure**	down the side of long barn
Weather Conditions pre sunset	80 cloud wind 1	**Detector Used**	Batlogger m
Camera start time (if applicable)	Xa Blue = 20:17, XF100 = 20:14	**Tablet ID colour (if applicable)**	NA
Air Temperature Start	18	**Air Temperature End**	16
Brief summary (fill out at end of survey)			

*Shorthand: Common Pipistrelle = P45; Soprano Pipistrelle = P55 Brown/Grey long eared = LE; All Myotis = myo followed by single letter; Greater Horseshoe - GHS; Greater Noctule = Noc; Leislers Noctule = Leis; Serotine = ser

**Shorthand - 'NS' = not seen; 'SNH' = seen not heard; 'E' = emergence; 'R' = return; 'F' = foraging; 'C' = commuting.

Time	Species*	Activity**	Notes including flight direction (if seen)
21:26	p45	C	from behind over head down the length of the barn
21:40	p45	Hns	1 pass
21:42	p45	C	from behind to over head down the length of the barn

STATIC HUMAN SURVEYOR

Site Name/Survey visit	Barwich Road	**Date**	05/08/2022
Start Time	20:20	**Surveyor**	JC
Sunset Time	20:35	**Detector number**	2150-0461
Finish Time	22:05	**Position Relative to Structure**	north
Weather Conditions pre sunset	20% cloud wind 0 rain 0	**Detector Used**	batlogger m2
Camera start time (if applicable)	see camera	**Tablet ID colour (if applicable)**	NA
Air Temperature Start	18	**Air Temperature End**	16
Brief summary (fill out at end of survey)			

*Shorthand: Common Pipistrelle = P45; Soprano Pipistrelle = P55 Brown/Grey long eared = LE; All Myotis = myo followed by single letter; Greater Horseshoe - GHS; Greater Noctule = Noc; Leislers Noctule = Leis; Serotine = ser

**Shorthand - 'NS' = not seen; 'SNH' = seen not heard; 'E' = emergence; 'R' = return; 'F' = foraging; 'C' = commuting.

Time	Species*	Activity**	Notes including flight direction (if seen)
21:19	p45	hns	2 passes
21:28	?(66hz)	hns	1 pass
21:28	p55		amended by sound analysis
21:41	p45	hns	1 pass
21:43	p55	hns	very distant
21:51	p45	hns	1 pass

STATIC HUMAN SURVEYOR

Site Name/Survey visit	Barwick Road	**Date**	05/08/2022
Start Time	20:20	**Surveyor**	Josh Griffiths

Sunset Time	20:35	**Detector number**	E2D02546
Finish Time	22:05	**Position Relative to Structure**	
Weather Conditions pre sunset	Cloud 80% wind 1	**Detector Used**	Em touch pro 2
Camera start time (if applicable)	NA	**Tablet ID colour (if applicable)**	Black
Air Temperature Start	18	**Air Temperature End**	16
Brief summary (fill out at end of survey)			

*Shorthand: Common Pipistrelle = P45; Soprano Pipistrelle = P55 Brown/Grey long eared = LE; All Myotis = myo followed by single letter; Greater Horseshoe - GHS; Greater Noctule = Noc; Leislers Noctule = Leis; Serotine = ser

**Shorthand - 'NS' = not seen; 'SNH' = seen not heard; 'E' = emergence; 'R' = return; 'F' = foraging; 'C' = commuting.

Time	Species*	Activity**	Notes including flight direction (if seen)
21:12	P45	F	Intermittent foraging
21:19	Myotis	F	Intermittent foraging

STATIC HUMAN SURVEYOR			
Site Name/Survey visit	Barwick Road	**Date**	05/08/2022
Start Time	20:20	**Surveyor**	Matt Kelk
Sunset Time	20:35	**Detector number**	2207-0519
Finish Time	10:05	**Position Relative to Structure**	North
Weather Conditions pre sunset	Wind 1, Cloud 50%, 18°c	**Detector Used**	Batlogger M2
Camera start time (if applicable)	N/a	**Tablet ID colour (if applicable)**	NA
Air Temperature Start	18°	**Air Temperature End**	16°c
Brief summary (fill out at end of survey)	Two sightings, of p55, no emergence.		

*Shorthand: Common Pipistrelle = P45; Soprano Pipistrelle = P55 Brown/Grey long eared = LE; All Myotis = myo followed by single letter; Greater Horseshoe - GHS; Greater Noctule = Noc; Leislers Noctule = Leis; Serotine = ser

**Shorthand - 'NS' = not seen; 'SNH' = seen not heard; 'E' = emergence; 'R' = return; 'F' = foraging; 'C' = commuting.

Time	Species*	Activity**	Notes including flight direction (if seen)
21:40	P55	F	Came over building from South to North, circled 3 times then travelled back the way it came
21:42	P55	F	Came over building from south to north then headed west towards Jack.

STATIC HUMAN SURVEYOR

Site Name/Survey visit	Barwick Road 1	**Date**	5th August 2022
Start Time	20:20	**Surveyor**	Mike
Sunset Time	20:35	**Detector number**	red
Finish Time	22:05	**Position Relative to Structure**	Center of site
Weather Conditions pre sunset	Wind 1 cloud 50	**Detector Used**	emtouch
Camera start time (if applicable)	see camera	**Tablet ID colour (if applicable)**	red
Air Temperature Start	18	**Air Temperature End**	16
Brief summary (fill out at end of survey)			

*Shorthand: Common Pipistrelle = P45; Soprano Pipistrelle = P55 Brown/Grey long eared = LE; All Myotis = myo followed by single letter; Greater Horseshoe - GHS; Greater Noctule = Noc; Leislers Noctule = Leis; Serotine = ser

**Shorthand - 'NS' = not seen; 'SNH' = seen not heard; 'E' = emergence; 'R' = return; 'F' = foraging; 'C' = commuting.

Time	Species*	Activity**	Notes including flight direction (if seen)
21:05	Le	C	Flying left to right over my position
21:19	P45	F	
21:36	P45	C	Right to left
21:38	P45	F	
21:45	P45	F	
21:47	P45	NS	
21:56	P45	NS	

STATIC HUMAN SURVEYOR			
Site Name/Survey visit	Barwick Road 2	**Date**	03/09/2022
Start Time	19:21	**Surveyor**	CB
Sunset Time	19:36	**Detector number**	1818-3290
Finish Time	21:06	**Position Relative to Structure**	as before
Weather Conditions pre sunset	cloud 20% , wind 1	**Detector Used**	Batlogger m
Camera start time (if applicable)	see camera	**Tablet ID colour (if applicable)**	na
Air Temperature Start	20	**Air Temperature End**	19
Brief summary (fill out at end of survey)	constantly lit from adjacent buildings		

*Shorthand: Common Pipistrelle = P45; Soprano Pipistrelle = P55 Brown/Grey long eared = LE; All Myotis = myo followed by single letter; Greater Horseshoe - GHS; Greater Noctule = Noc; Leislers Noctule = Leis; Serotine = ser

**Shorthand - 'NS' = not seen; 'SNH' = seen not heard; 'E' = emergence; 'R' = return; 'F' = foraging; 'C' = commuting.

Time	Species*	Activity**	Notes including flight direction (if seen)
20:20	p45	C	towards me, from down the side of the building
20:28	p45	Hns	Intermittent foraging

STATIC HUMAN SURVEYOR

Site Name/Survey visit	Barwick Road 2	**Date**	03/09/2022
Start Time	19:21	**Surveyor**	LC
Sunset Time	19:36	**Detector number**	2207-0519
Finish Time	21:06	**Position Relative to Structure**	
Weather Conditions pre sunset	Cloud 20 wind 2	**Detector Used**	Batlogger blue
Camera start time (if applicable)	29.26	**Tablet ID colour (if applicable)**	na
Air Temperature Start	20oc	**Air Temperature End**	19
Brief summary (fill out at end of survey)			

*Shorthand: Common Pipistrelle = P45; Soprano Pipistrelle = P55 Brown/Grey long eared = LE; All Myotis = myo followed by single letter; Greater Horseshoe - GHS; Greater Noctule = Noc; Leislers Noctule = Leis; Serotine = ser

**Shorthand - 'NS' = not seen; 'SNH' = seen not heard; 'E' = emergence; 'R' = return; 'F' = foraging; 'C' = commuting.

Time	Species*	Activity**	Notes including flight direction (if seen)
20.08	p55	F	
20.1	P55	Snh	
20.19	Ppip	C&f	From left of building
20.21	Ppip	C&f	2 together this second one joining 1st
20.28	?	C	Different noise on detector saw slightly larger bat
20:28	P45		amended by sound analysis
20.32	Ppip	C&f	Saw 3- 2 fly over and 1 on top of building roof
20.44	Myotis	C	
20:44	P45		amended by sound analysis
20.45	Pipistrell	C	
20.45	Ppip	C	
20.45	Myotis	Hns	
20.45	Ppyg	Hns	
20.46	Ppip	Hns	
20.51	Ppip	Hns	
20.52	Ppyg	Hns	
20.52	Myotis	Hns	
20.56	Ppip	Hns	Commuting continuous
20.57	Myotis	Hns	
20.58	Ppip	Hns	
20.59	Myotis		

STATIC HUMAN SURVEYOR

Site Name/Survey visit	Barwick Road 2	**Date**	03/09/2022
Start Time	19:21	**Surveyor**	JC
Sunset Time	19:36	**Detector number**	2150-0461
Finish Time	21:06	**Position Relative to Structure**	sw corner
Weather Conditions pre sunset	20% cloud wind 1 rain 0	**Detector Used**	batlogger m2
Camera start time (if applicable)	see cameras	**Tablet ID colour (if applicable)**	na
Air Temperature Start	20	**Air Temperature End**	19
Brief summary (fill out at end of survey)			

*Shorthand: Common Pipistrelle = P45; Soprano Pipistrelle = P55 Brown/Grey long eared = LE; All Myotis = myo followed by single letter; Greater Horseshoe - GHS; Greater Noctule = Noc; Leislers Noctule = Leis; Serotine = ser

**Shorthand - 'NS' = not seen; 'SNH' = seen not heard; 'E' = emergence; 'R' = return; 'F' = foraging; 'C' = commuting.

Time	Species*	Activity**	Notes including flight direction (if seen)
20:08	p55	e?	check camera flew from building on left foraged then flew into the building to my right
20:08		C	Confirmed as commuting, not an emergence using video analysis
20:10	p55	f	foraging between building entrances
20:19	p45	hns	1 pass
20:21	p45	hns	1 pass
20:23	p45	hns	1 pass
20:43	p55	hns	1 pass

STATIC HUMAN SURVEYOR

Site Name/Survey visit	Barwick Road 2	**Date**	03/09/2022
Start Time	19:21	**Surveyor**	Matt Kelk
Sunset Time	19:36	**Detector number**	2218-0607
Finish Time	21:06	**Position Relative to Structure**	North
Weather Conditions pre sunset	Wind 2, cloud 20%, rain 0	**Detector Used**	Batlogger M2
Camera start time (if applicable)		**Tablet ID colour (if applicable)**	
Air Temperature Start	20°c	**Air Temperature End**	17°
Brief summary (fill out at end of survey)	Lots of p45 foragaing. No emergence's		

*Shorthand: Common Pipistrelle = P45; Soprano Pipistrelle = P55 Brown/Grey long eared = LE; All Myotis = myo followed by single letter; Greater Horseshoe - GHS; Greater Noctule = Noc; Leislers Noctule = Leis; Serotine = ser

**Shorthand - 'NS' = not seen; 'SNH' = seen not heard; 'E' = emergence; 'R' = return; 'F' = foraging; 'C' = commuting.

Time	Species*	Activity**	Notes including flight direction (if seen)
20:09	P55	Hns	
20:11	P55	Hns	
20:12	P55	Hns	
20:19	P45	F	Seen flying back and forth north side of building. Intermittent
20:24	P45	F	Pretty much constant for 15mins
20:37	P45	F	A second one joined the previous one briefly flew over head away to the west

STATIC HUMAN SURVEYOR

Site Name/Survey visit	Barwick Road 2	**Date**	03/09/2022
Start Time	19:21	**Surveyor**	JG
Sunset Time	19:36	**Detector number**	2218-0602
Finish Time	21:06	**Position Relative to Structure**	alongside the long structure
Weather Conditions pre sunset	Wind2 cloud20	**Detector Used**	Batlogger m2
Camera start time (if applicable)		**Tablet ID colour (if applicable)**	
Air Temperature Start	20	**Air Temperature End**	19
Brief summary (fill out at end of survey)			

*Shorthand: Common Pipistrelle = P45; Soprano Pipistrelle = P55 Brown/Grey long eared = LE; All Myotis = myo followed by single letter; Greater Horseshoe - GHS; Greater Noctule = Noc; Leislers Noctule = Leis; Serotine = ser

**Shorthand - 'NS' = not seen; 'SNH' = seen not heard; 'E' = emergence; 'R' = return; 'F' = foraging; 'C' = commuting.

Time	Species*	Activity**	Notes including flight direction (if seen)
19:49	p45	C	Flew towards the foliage to my left
20:02	p45	F/E?	Flew out from building then back in , foraging for minutes
20:02		F	Confirmed as Foraging, not an emergence using video analysis
20:11	p45	C	Flew towards the forest on my left
20:12	p45	F	Foraging outside the building for (very big bat)
20:25	p45	F	
20:31	p45	F	Foraging outside the building for

Bat boxes suitable for pipistrelle and brown long eared bats

IR **video review** (taken at darkest part of the survey) and **sound analysis screenshots**